ScottishPower Renewables

Harestanes West Windfarm

Environmental Impact Assessment Report

Volume 2

Chapter 7: Landscape and Visual Impact Assessment

December 2024

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Abbreviations

CAA	Civil Aviation Authority
CLVIA	Cumulative Landscape and Visual Impact Assessment
CZTV	Cumulative Zone of Theoretical Visibility
DGC	Dumfries and Galloway Council
DGWLCS	The Dumfries and Galloway Council's Wind Energy Development Supplementary Guidance and Capacity Study Landscape Capacity Study, 2020
ECU	Energy Consents Unit
GDL	Garden and Designed Landscape
GLVIA 3	Guidelines for Landscape and Visual Impact Assessment, 3rd Edition
NS LCT	NatureScot Landscape Character Type
NSA	National Scenic Area
LCT	Landscape Character Type
RSA	Regional Scenic Area
RVAA	Residential Visual Amenity Assessment
ZTV	Zone of Theoretical Visibility

7. Landscape and Visual Impact Assessment

7.1. Executive Summary

1. The proposed Development takes account of local guidance within the Dumfries and Galloway Council's Windfarm Landscape Capacity Study 2020 for very large wind energy development within Landscape Character Type (LCT) '18a Foothills with Forest' at Ae. The proposed Development would respect the main features of the Site and local area. As the proposed Development has been designed to be set back into the undulating plateau, the extent of visibility would be limited in extent. Overall, the design of the proposed Development has responded to many of the sensitivities identified within the Dumfries and Galloway Council's Windfarm Landscape Capacity Study, 2020 (DGWLCS) and minimised impacts through design and embedded mitigation.

2. The proposed Development would be larger than the adjacent windfarm developments at Harestanes, Minnygap and Dalswinton but the intervening landform and setback into the in foothills and forestry would reduce some of these impacts. With regard to the pattern of windfarm development, the proposed Development would be contained within the existing corridor of development and would read as an intensification of this group.

3. '**Significant**' construction/decommissioning phase visual effects would be limited to those recreational receptors within the Forest of Ae, on the core path Ae-Gawin Moor and within the Queensberry area of the Southern Uplands.

4. The extent of operational effects on landscape character would be limited by the Site being located within commercial forestry and setback into the upland area. '**Significant**' effects would be contained within approximately 7 km within; the host 'Ae' unit of Landscape Character Type (LCT) '18a Foothills with Forest'; the adjacent LCT '19 Southern Uplands' to the north; and LCT '16 Upland Fringe (Ae Fringe unit)' to the southeast. Beyond this the effects would be '**Not Significant**' on other landscape receptors.

5. The nearest visual receptors significantly affected during the operational phase would be those living and visiting Ae, the Forest of Ae, Loch Ettrick and core paths within 5 km, and Queensberry. There would also be '**Significant**' effects for those living to the south and southeast at Ae Bridgend/ Parkgate, Auchencairn and Kirkton, Shieldhill and Templand and those using the A701.

6. The residential visual amenity assessment considered the effects for private residents at properties within 2 km of the proposed Development. The assessment found that none of these properties would breach the Residential Amenity Threshold.

7. The effects on nationally designated landscapes, including the Nith Estuary National Scenic Area or any Wild Land Areas, were determined to be '**Not Significant'**. However, there was one '**Significant**' effect identified on a localised part of the nearest Thornhill Uplands Regional Scenic Area, which would be experienced during operation of the proposed Development. No other 'Significant' effects were reported for other designated landscapes.

8. The cumulative assessment assesses the effect resulting from the addition of Harestanes West Windfarm to the different cumulative scenarios. As there were no consented but unbuilt developments within a 15 km radius, it focussed on the effects with Scenario 3 (fully consented baseline with other windfarm developments in planning. It is important to differentiate between the assessment of cumulative effects arising from the proposed Development with projects that are operational/under construction (Scenario 1 baseline) or consented, which can be considered as part of a scenario with some certainty; and those that are still proposed and about which there can be little certainty. Given the location of the other cumulative proposals and their areas of influence, the main receptors likely to experience cumulative impacts would be located either within the upland landscapes, or to the south and east.

9. In Scenario 3 with the other proposed development of Harestanes South Windfarm Extension (4.1 km away), this development would also be located within the Forest of Ae unit of the Foothills with Forest LCT 18a and would appear as a direct extension of the Harestanes group, whereas Harestanes West Windfarm would be perceived between Dalswinton Windfarm and Harestanes Windfarm. Assuming this Harestanes South was present in the landscape along with the operational baseline, the addition of Harestanes West Windfarm would result in some localised increased impacts to landscape character and the Thornhills RSA 8, but no changes in level of effect from Scenario 1. Similarly, for those recreational users within the Forest of Ae, from settlements and long distance paths to the south and east and road users on the A701, the addition of Harestanes West Windfarm would result in some localised increased impacts to the view for visual receptors, but no changes in level of effect reported with Scenario 1.

10. In Scenario 3 with the other proposed developments of Daer (9.6 km away) and Rivox (11.3 km away), these two developments would be located within the Forest of Ae unit of the Foothills with Forest LCT 18a and adjacent Southern Uplands LCT and would appear as a single cluster if both were constructed. Assuming these two sites were present in the landscape along with the operational baseline, the addition of Harestanes West would result in some localised increased impacts to landscape character and the Thornhill Uplands Regional Scenic Area, but no changes in level of effect from Scenario 1. Similarly, for those settlements and long distance paths to the south and east and road users on the A701, the addition of Harestanes West would result in some localised increased impacts to the view for visual receptors, but no changes in level of effect reported with Scenario 1.

11. The proposed Development would require visible aviation lighting on the nacelles of 7 of the 12 turbines and no tower lights, having agreed a reduced lighting scheme with the CAA. A range of additional embedded mitigation measures have also been committed to in relation to minimising the night-time impacts including a reduced intensity light (from 2000 candela to 200 candela) in good visibility on the nacelle, vertical directional intensity to limit brightness below the turbines and a timer to ensure the impacts only occur at night. With the exception of vertical directional intensity, all embedded mitigation is included in the assessment of night-time impacts. Given the extent of mitigation incorporated into the proposed Development, 'Significant' impacts on the landscape or visual effects identified at night would be limited to a localised part of the adjacent Southern Uplands LCT, visual receptors in the village of Ae, Ae Bridgend/ Parkgate, Auchencairn/Kirkton Shieldhill, and Templand, as well as recreational receptors in the southern Lowther Hills. Overall, the 'Significant' impacts are considered to be localised and would be contained within a 7-12 km radius for all landscape and visual impacts.

12. The changes arising from a project may engender positive or negative responses depending on individual perceptions regarding the merits of renewable energy. However, the assessment has taken a precautionary approach in considering that effects on the landscape and on views, which would result from the construction and operation of the proposed Development, would be adverse; however, many people would not consider the effects to be adverse.

7.2.Introduction

13. This Chapter of the Harestanes West Windfarm (hereafter the 'proposed Development') Environmental Impact Assessment Report (EIA Report) describes and evaluates the baseline condition and effects on the landscape and visual resource.

14. To inform the landscape and visual impact assessment (LVIA) site visits were made to various locations within the study area including, but not restricted to, representative viewpoints, by Stephenson Halliday's assessment team from November 2023 – September 2024.This assessment defines:

- the existing landscape and visual baseline environments;
- assesses their sensitivity to change; describes the key landscape and visual related aspects of the proposed Development; and
- describes the nature of the anticipated changes and assesses the effects arising during construction and once completed.

15. This Chapter is also supported by figures and visualisations as follows:

- **Volume 3a: EIA Report Figures 7.1 to 7.19;**
- **Volume 3b: EIA Report Figures, Visualisations for Viewpoints 1-19;**
- **Volume 3c: Visualisations (Illustrative wirelines)**
- **Volume 4: EIA Report Technical Appendices**:
  - **Technical Appendix 7.1: LVIA Methodology;**
  - **Technical Appendix 7.2: Visuals Methodology;**
  - **Technical Appendix 7.3: Viewpoint Analysis;**
  - **Technical Appendix 7.4: Landscape Sensitivity;** and
  - **Technical Appendix 7.5: Residential Visual Amenity Assessment**.

7.2.1.Site and Proposals

16. The proposed Development is located across foothills within the western part of the Forest of Ae. These coniferous forestry-clad foothills are found south of the Lowther Hills that curve to the northwest. They sit between the River Annan to the east and River Nith to the west, tributaries of which form a criss-crossing network of glens within the foothills and uplands. The two rivers run largely parallel from the northwest to the southeast down to the Solway Firth.

17. South of the Forest of Ae the upper dales associated with the Rivers Nith and Annan open out to become mid-dales and later wider dales as the rivers flow out to the firth. Agricultural land use dominates these dales utilising the fertile riverbanks and gentler gradients. Riparian vegetation, policy woodland, hedges with occasional hedgerow tress and small blocks of coniferous woodland break up the field pattern.

18. The proposed Development would comprise 12 three-bladed horizontal axis wind turbines, six with a maximum tip height of height of 220 m and six with a maximum tip height of 200 m, with associated infrastructure with an installed capacity of around 84 megawatts (MW) as well as associated infrastructure and access tracks. Is it anticipated the proposed Development would be decommissioned after 40 year operational life.

7.3.Legislation and Policy Context

7.3.1.National Planning Policy

19. Relevant national planning policy is set out in **Chapter 4: Renewable Energy and Planning Policy** of this EIA Report and Policy 11 is of particular relevance to the proposed Development. Policy 11 e) ii) states that '*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;*'

7.3.2.Local Policy

20. The Site (as defined by the Application Boundary) and therefore the proposed Development, are located wholly within the Dumfries and Galloway Council (DGC) administrative area. Current local planning policy is described in the Dumfries & Galloway Local Development Plan 2 (LDP2), (adopted October 2019). Information on Planning Policy is provided in **Chapter 4**. Policies relevant to this assessment include:

- Policy OP1: 'Development Considerations' – which requires that: "*Development proposals should respect, protect and/or enhance the region's rich landscape character, and scenic qualities, including features and sites identified for their landscape qualities or wild land character as identified on the 2014 Scottish National Heritage map (or any subsequent revised or amended map) of wild land areas. They should also reflect the scale and local distinctiveness of the landscape.*"
- Policy IN1: 'Renewable Energy' – which states (inter alia) that: "*The Council will support development proposals for all renewable energy generation and/or storage which are located, sited and designed appropriately. The acceptability of any proposed development will be assessed against the following considerations:*
  - *landscape and visual impact;*
  - *cumulative impact; and*
  - *impact on local communities and individual dwellings, including visual impact, residential amenity, noise and shadow flicker;...*"
- Policy IN2: Wind Energy – which sets out considerations for such developments, including "*The extent to which ... significant detrimental landscape or visual impacts*" are avoided; and design considerations including scale, character and respecting site features. "Visual

dominance" is also identified as a consideration in respect of effects on communities, dwellings and local amenity. The policy notes that further development management considerations are set out within supplementary guidance (SG) on Wind Energy Development.

21. There are a number of policies relating to designated landscapes. Policies relevant to local landscape designations include:

- Policy NE2: Regional Scenic Areas – this policy indicates that: "*development … which affects Regional Scenic Areas, may be supported where the Council is satisfied that …the factors taken into account in designating the area would not be significantly adversely affected* ".
- Policy NE3 Wild Land Areas - states that: "*Development which would affect the Merrick Wild Land Area in Galloway and the Talla Hart Fell Wild Land Area north of Moffat would not be supported unless the Council is satisfied that it is demonstrated that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation*."
- Policy HE6: Gardens and Designed Landscapes – this policy indicates that "*development that protects or enhances the significant elements, specific qualities, character, integrity and setting, including key views to and from, gardens and designed landscapes…*" will be supported.

7.3.3.Local Guidance

22. In addition to the policy documents identified above, there are relevant local guidance and baseline documents as follows:

- Dumfries and Galloway Council (February 2020) Wind Energy Development: Development Management Considerations, Supplementary Guidance for Local Development Plan 2.
- This guidance includes Appendix C 'Dumfries & Galloway Wind Farm Landscape Capacity Study' (DGWLCS) which informs the assessment of relative landscape sensitivity within Dumfries and Galloway. This is the same document as the previous DGWLCS from May 2017 but with a list of updates on the first two pages; and
- Dumfries and Galloway Council (January 2018) Regional Scenic Areas Technical Paper which informs the assessment of effects on RSA designations in Dumfries and Galloway.

7.3.4.Guidance

23. The LVIA has been undertaken in accordance with the following sources of guidance:

- Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA 3). Landscape Institute (LI) and the Institute for Environmental Management and Assessment (IEMA) 2013.
- Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment Third edition, Technical Guidance Note LITGN-2024-01, August 2024;
- Landscape Sensitivity Assessment Guidance, NatureScot, April 2022;
- An Approach to Landscape Character Assessment. Natural England 2014;

- An Approach to Landscape Sensitivity Assessment. Natural England 2019;
- Technical Guidance Note 2/19 Residential Visual Amenity Assessment. Landscape Institute 2019;
- Technical Guidance Note 02/21 Assessing landscape value outside national designations. Landscape Institute 2021;
- Pre-application and scoping advice for onshore wind farms, NatureScot February 2024;
- Visual Representation of Wind Farms (Version 2.2). Scottish Natural Heritage 2017;
- Assessing the Cumulative Impact of Onshore Wind turbine developments. Scottish Natural Heritage March 2021;
- Spatial Planning for Onshore Wind Turbines – Natural Heritage Considerations. Scottish Natural Heritage 2015;
- The Special Qualities of the National Scenic Areas. (Commissioned Report No.374) Scottish Natural Heritage 2010;
- Siting and Designing Wind Farms in the Landscape. Version 3. Scottish Natural Heritage 2017; and
- Guidance for Assessing the Effects on Special Landscape Qualities (AESLQ) - Consultative Draft, NatureScot, July 2024.

7.4.Consultation

24. Information regarding Scoping and consultation is included in **Chapter 6: Scoping and Consultation**. A formal Scoping Report was submitted in March 2023 and a Scoping Opinion issued by ECU in November 2023. Following this, further consultation was undertaken with NatureScot (NS) and Dumfries and Galloway Council (DGC) in order to refine the scope of assessment. As stated in the ECU Scoping Opinion there was no response from DGC on any landscape and visual matters Key consultation responses are detailed in **Table 7.1** below.

Table 7.1 – Summary of Consultation

Subject	Issue	How this is addressed
Harestanes West Scoping Report 16.03.23	The scope of landscape and visual assessment considered the potential effects and receptors.	The scope is as set out in Table 4.2 in Section 4.8 of the Scoping Report with the following exceptions: The impacts on Garden and Designed Landscapes and Non-Inventory GDLs (Dumfries and Galloway) are considered in **Chapter 11: Archaeology and Cultural Heritage**. However, where they are significant tourist attractions, they are considered as recreational receptors.
NatureScot Scoping response dated 17.04.23	NatureScot was satisfied with the proposed viewpoints and scope of LVIA potential receptors set out in Table 4.2 in Section 4.8 of the Scoping Report.	Scope of LVIA is as per the scope set out and agreed at Scoping.

Subject	Issue	How this is addressed
Meeting with NatureScot 25.08.23	At the meeting with NatureScot, they asked us to consider the potential for significant effects on the Nith Estuary NSA, even if just at a high level. Agreed that impacts on the Dark Sky Park were not required given the distance of over 40 km away.	Assessment of Nith Estuary NSA is included within **Section 7.8**.
ECU, NatureScot and DGC separate email dated 16.08.24 with response from NatureScot 02.09.24	NatureScot broadly agreed with the scope of the cumulative and night-time assessments set out. This included a cumulative cut-off was 31 July 2024, list of cumulative sites within the detailed assessment and list of dawn/dusk photomontages. No response from DGC.	Cumulative and Night-time assessments follows the scope set out.
DGC Gatecheck response un-dated but ECU received 17.10.2024	DGC agreed the night-time viewpoints suggested and requested a further viewpoint on A76 at Closeburn and that night visuals are modelled at 2000cd rather than 200cd. RVAA study area agreed and requested wirelines and plans for each property. No comments regarding the cumulative scope proposed but spotted an error in the display of Harestanes South Windfarm Extension layout.	The additional night-time viewpoint at Closeburn would not have any visibility of the lights, therefore a proxy location has been added on the A76 at Thornhill. Material requested for RVAA has been included in **Technical Appendix 7.5**. with visualisations in **Volume 3c** Harestanes South Windfarm Extension layout has been corrected to 8 turbines proposed.

7.5.Methodology

7.5.1.Introduction

25. The detail of the LVIA methodology is described in Technical Appendix 7.1. A summary of the primary judgements is provided in the following sections.

7.5.2.Sensitivity

26. Sensitivity is judged by taking into account the component judgments about the value and susceptibility of the receptor. A slightly greater weight is given to susceptibility in judging sensitivity of visual receptors as indicated by

27.

28. Table 7.2 and Table 7.3. Where sensitivity is judged to lie between levels, an intermediate assessment will be adopted.

Table 7.2 – Landscape Sensitivity

Value	Susceptibility			
		High	**Medium**	**Low**
	National	High	High/Medium	Medium
	Regional	High/Medium	Medium	Medium/Low
	Community	Medium	Medium/Low	Low

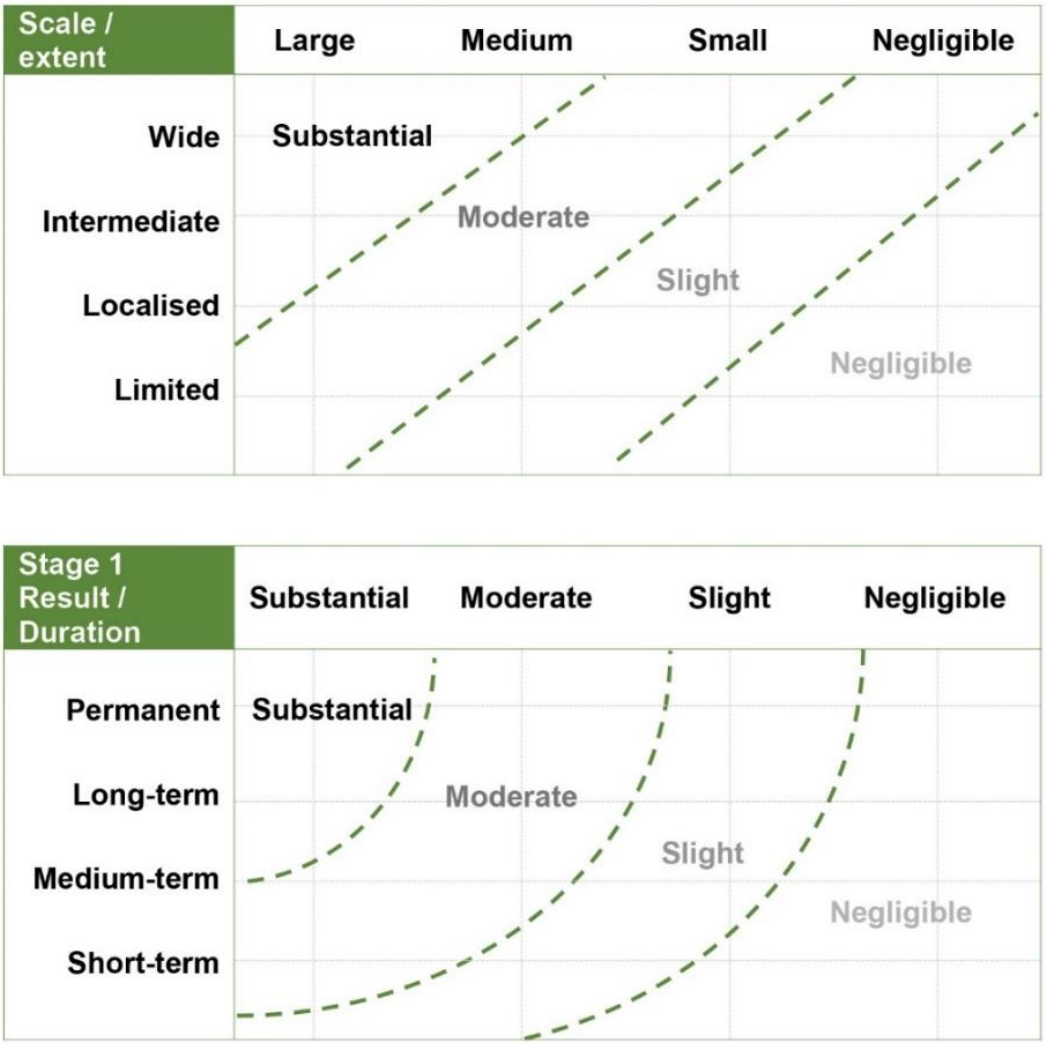
Table 7.3 – Visual Sensitivity

Value	Susceptibility			
		High	**Medium**	**Low**
	National	High	High/Medium	Medium
	Regional	High/Medium	High/Medium	Medium/Low
	Community	Medium	Medium/Low	Low

7.5.3.Magnitude

29. Scale of effect is the first factor in determining magnitude, which may be higher if the effect is particularly widespread and/or long lasting, or lower if it is constrained in geographic extent and/or timescale. Table 7.4 illustrates how this judgement is considered as a two-step process. Firstly, scale and extent are considered, for which the outcomes are illustrated by the first part of the table. The second part of the table illustrates the influence of duration on this initial judgement. Where magnitude is judged to lie between levels, an intermediate assessment will be adopted.

Table 7.4 – Magnitude of Effect



7.5.4.Significance of Effects

30. The significance of any identified landscape or visual effect is assessed as 'Major', 'Moderate', 'Minor' or 'Negligible'. These categories are based on the consideration of sensitivity with the predicted magnitude of change as illustrated by **Table 7.5**.This is not used as a prescriptive tool and illustrates the typical outcomes, allowing for the exercise of professional judgement. In some instances, a particular parameter may be considered as having a determining effect on the analysis.

Table 7.5. – Significance of Effects

Receptor Sensitivity	Magnitude of Effect				
		Substantial	**Moderate**	**Slight**	**Negligible**
	High	Major	Major/Moderate	Moderate	Minor
	Medium	Major/Moderate	Moderate	Moderate/ Minor	Minor/Negligible
	Low	Moderate	Moderate/ Minor	Minor	Negligible

7.5.5.Nature of Effects: Beneficial/Adverse

31. Landscape and visual effects can be beneficial or adverse and, in some instances, may be considered neutral. Taking a precautionary stance, changes to rural landscapes involving construction of man-made objects of a large scale are generally, considered to be adverse.

32. With regard to the visual effects of windfarms, it is important to recognise the differing views revealed by extensive available research and to take into account that for the same development, some may view the impact as adverse, some as beneficial and yet others as neutral. This depends to some extent on the viewer's predisposition towards landscape change but also their opinion regarding the principle of renewable energy developments, including windfarms, in the landscape. Taking a precautionary approach in making an assessment of the 'worst-case scenario', this assessment considers that all effects on views which would result from the construction and operation of the proposed Development to be adverse, unless specified otherwise in the text. It should be noted however that many people would not consider the effects to be adverse.

7.5.6.Cumulative Assessment

33. Cumulative assessment relates to the assessment of the effects of more than one development The Cumulative Landscape and Visual Impact Assessment (CLVIA) is presented in full in **Section 8** of the CLVIA describes the likely combined cumulative effects of the proposed Development in association with operational, consented and other proposed developments.

34. It is important to differentiate between the assessment of cumulative effects arising from the proposed Development with other developments that are:

- **Scenario 1:** Operational or under construction, which have been included as part of the baseline assessed in the LVIA chapter;
- **Scenario 2**: Consented, which can be considered as part of a scenario with some certainty; and
- **Scenario 3**: Proposed, of which there can be little certainty.

35. The approach to the CLVIA follows NatureScot guidance (2021). As such, it focuses upon those wind turbine developments that have the potential to give rise to significant cumulative effects and those likely to influence decision making, rather than an assessment of every potential cumulative effect. Scoping and pre-planning windfarms which have little or no fixed proposals, are not considered within the detailed assessment, in line with NatureScot's cumulative guidance. However, their locations are noted on **Figures 7.4** and **7.5**.

36. Following a review of the cumulative search area, it was agreed with NatureScot and DGC during the scope refinement in August 2024 that the potential for significant cumulative effects would be contained within a 15 km radius. The list of wind energy sites to be considered within the cumulative assessment listed in **Table 7.6** The agreed cumulative data cut-off date is 31 July 2024.

Table 7.6 – Cumulative Windfarms Within 15 km – 31 July 2024

Windfarm	Status	Number of Turbines	Tip Height (m)	Approximate Distance from Site (km)
Dalswinton Windfarm	Operational	15	110	0.6
Harestanes Windfarm	Operational	68	125	3.1
Minnygap Windfarm	Operational	10	125	6.7
Harestanes South Windfarm Extension	In planning	8	200	4.1
Daer Windfarm	In planning	17	180	9.6
Rivox Windfarm	In planning	29	200-230	11.3

7.5.7.Night-time Assessment

37. The proposed Development includes aviation lighting for which an assessment of potential night-time impacts is included in **Section 9.** There is a distinction between light pollution or nuisance and the effect of lighting on the character and amenity of the landscape at night. This is not a technical lighting assessment but focusses on the night-time effects as a result of the introduction of new artificial lighting within the landscape, with consequent effects on the night character and visual amenity of the area.

38. In this context, effects on landscape character are almost exclusively concerned with perceptions of darkness and remoteness as most of the key characteristic constituent elements of landscapes are generally obscured after dark. The existing light environment and landscape designations is illustrated in **Figure 7.3.** The detailed Night-time Assessment is contained in **Section 9**.

39. For visual receptors, the value attached to night-time views is considered to be low unless there is a particular feature that can be best appreciated in the hours of darkness. The susceptibility of visual receptors also differs at night reflecting the different activities people undertake in the hours of darkness, such as stargazing. As a result, the receptors for night-time impacts may be different from those which experience day-time impacts.

40. Cumulative night-time impacts will also be included for receptors identified.

7.5.8.Residential Visual Amenity

41. As set out within LI Technical Guidance Note 02/19 'Residential Visual Amenity Assessment (RVAA)':

42. "*Changes in views and visual amenity are considered in the planning process. In respect of private views and visual amenity, it is widely known that, no one has 'a right to a view." … "It is not uncommon for significant adverse effects on views and visual amenity to be experienced by people at their place of residence as a result of introducing a new development into the landscape. In itself this does not necessarily cause particular planning concern. However, there are situations where the effect on the outlook / visual amenity of*

a residential property is so great that it is not generally considered to be in the public interest to permit such conditions to occur where they did not exist before."

43. The methodology and assessment of effects on residential visual amenity for the most affected properties within 2 km is included in **Technical Appendix 7.5**.

7.5.9.Distances

44. Where distances are given in the assessment, these are approximate distances from the nearest wind turbine to the nearest part of the receptor in question, unless explicitly stated otherwise.

7.5.10.Visual Aids

45. Photographs of the existing views and photomontages showing the proposed Development are shown in **Volume 3: Visualisations**. The method of visualisation selected has been informed by Landscape Institute, NatureScot's 'Visual Representation of Wind Farms - Guidance' (Version 2.2) and Technical Guidance Note 06/19 'Visual Representation of Development Proposals'.

46. The methodology for production for the photomontage visualisations and figures is including in **Technical Appendix 7.2**.

7.5.11.Study Area(s)

47. It is accepted practice within landscape and visual assessment work that the extent of the study area for a development proposal is broadly defined by the visual envelope of the proposed Development. An initial study area of 45 km has been used, as illustrated by **Figure 7.1** in line with NatureScot guidance.

48. More detailed study areas have been agreed for the detailed cumulative assessment and residential visual amenity, as noted above.

7.6.Baseline Conditions

7.6.1.Introduction

49. An overview of the baseline study results is provided in this section with the full baseline description of the individual landscape and visual receptors in the assessment where it is relevant for ease of reference.

50. This section identifies those landscape and visual receptors which merit detailed consideration in the assessment of effects, and those which are not taken forward for further assessment as effects "*have been judged unlikely to occur or so insignificant that it is not essential to consider them further*" (GLVIA3, para. 3.19).

51. Both this baseline section and the effects section describe landscape character and visual receptors before considering designated areas as it is common for designations to encompass both character and visual considerations within their special qualities or purposes of designation.

7.6.2.ZTV Study

52. A Zone of Theoretical Visibility (ZTV) study was generated based on the wind turbines of the proposed Development. The analysis was carried out using a topographic model, shown on **Figures 7.7** and **7.9**, and incorporating the screening effects of forestry, woodland and buildings, shown on **Figures 7.8** and **7.10**, to show potential visibility of the proposed turbines. Other elements of the proposed Development such as tracks and compounds are not included within the ZTV study. The model does not take into account any localised features such as small clusters of trees, hedgerows or individual trees which may result in additional screening. The vegetation (woodlands and forestry) which has been included in the ZTV with screening is identified on the ZTV.

53. The ZTV study was used to aid the identification of those landscape and visual receptors that are likely to be most affected by the proposed Development and those that do not require detailed consideration. It should be noted that in many areas woodlands included within the ZTV may comprise active forestry, resulting in the felling and replanting of some areas modelled in the ZTV study, including those found across the Site. Whilst the felling cycle will alter the heights of different areas of forestry over time, altering localised visual effects, the wider pattern will remain relatively constant.

54. The Tip, Hub Height and Screening ZTVs for the proposed wind turbines shows that the main area of visibility extends to:

- The very southern tip of the Lowther Hills (including Gana Hill and Queensbury) to the north of the Site;
- Thornhill Uplands and Upland Fringe, west of Thornhill, to the west of the Site;
- A wedge shape of visibility from Ae to Lockerbie as the valley opens out to the southeast; and
- The Lower Dale and Upland Fringe landscapes that surround Dumfries, to the south.

55. There would also be some visibility from the following:

- Distant visibility from the Solway Firth and Coastal Flats landscapes to the south;
- Limited visibility along key routes in the Drumlin Pastures to the southwest; and
- Limited and distant visibility in more upland and uninhabited landscapes (20-24 km) to the northwest and northeast.

56. Extent of screening by landform and forestry would restrict visibility within the Foothills within Forest landscape.

57. In comparison of the tip and hub height ZTVs there would be a reduced extent of visibility along the A76 corridor.

58. Effects on landscape or visual receptors outside the areas of visibility shown on the ZTV study would not be affected and are not assessed.

7.6.3.Landscape Character

59. The current Landscape Character Assessment covering the Site and study area is the NatureScot Landscape Character Types dataset, 2019.

60. The Dumfries and Galloway Council's Windfarm Landscape Capacity Study, 2020 (DGWLCS) provides a landscape character and relative sensitivity assessment of the county's landscapes.

61. The DGWLCS has been used for reporting effects on landscape character and is used alongside the NatureScot landscape descriptions. Within the study area there is little difference between the LCT boundaries of the two assessments. The DGWLCS landscape character types are illustrated on **Figure 7.2**.

62. The Site largely falls within the Ae landscape unit of LCT 18a Foothills with Forest. The Site is broadly representative of the Ae unit, which is characterised by rounded and distinct summits, expansive commercial forestry and operational windfarm development. The NatureScot LCT has identified broadly similar area and described as LCT 176 Foothills with Forest – Dumfries and Galloway.

63. The landscape character types and units considered within this assessment include those in DGWLCS and the NatureScot LCTs for those outwith DGC. All LCTs within the study area are shown on **Figure 7.4**.

64. Further analysis through desk study and site work was undertaken of the other LCTs within the study area, some of which are not considered further due to the very limited potential for change such as enclosed and extensively wooded as well as distance from the proposed Development, and very limited or intermittent potential visibility pattern shown on the ZTV (**Figure 7.14**). There would be very limited or no visibility within LCTs outwith DGC and it is considered that there would be no potential for significant effects on the character of these units.

65. **Table 7.7** presents the preliminary assessment of the LCTs within DGC and indicates which of them are considered in detail within the assessment, and which of them do not require further detailed assessment as the impacts are considered unlikely to be significant.

Table 7.7 – Preliminary Assessment of DGC LCTs

Landscape Receptor	Comment	Distance (km)	Included for Further Assessment
1 Peninsula	Located at the southern fringe of 45 km study area. Limited visibility and distance would not result in notable effects.	39.9	No
1a Peninsula with Gorsey Knolls	Distant landscape with very limited visibility within woodland.	34.1	No
2 Coastal Flats	Low level landscape where there is theoretical visibility. However, the intervening distance and landscape element limit the impression of change as a result of the proposed Development and potential effects on views or the setting would not be significant. Other aspects to the immediate setting of this landscape would remain unchanged.	14.4	No
4 Narrow Wooded River Valleys	Limited to no visibility.	21.4	No
5 Intimate Pastoral Valley	Low level enclosed landscape with very limited to no visibility.	9.7	No

Landscape Receptor	Comment	Distance (km)	Included for Further Assessment
6 Lower Dale (Valley)	There are two units of this LCT within 5-20 km of the proposed Development at Dumfries and near Lochmaben.	5.2	**Yes**
7 Middle Dale (Valley)	The Site is accessed from the A701 at the edge of the unit to the west. Widespread visibility in units of this LCT to the west of the Site and A76. There is very limited visibility within the unit to the east of the Site.	4.0	**Yes**
7a Middle Dale with Hills	Some limited visibility within more elevated hills is further reduced by intervening forestry and is unlikely to result in any notable effects.	18.8	No
8 Flooded Valley	No visibility.	30.8	No
9 Upper Dale (Valley)	Very limited visibility across both units to the west of the Site. Visibility would be very limited as a result of intervening landform and further reduced by forestry.	7.0	No
10 Upland Glens	Several linear units of this LCT. There would be very limited or no visibility within the glens to the west and northwest of the Site.	11.6	No
13 Drumlin Pastures	Limited visibility concentrated along part of the A57 and isolated patches to the south. The intervening landscape elements including roads and forestry and operational windfarms would limit potential effects to no greater than Negligible.	14.0	No
14 Coastal Plateau	Little to no visibility to the south.	17.6	No
15 Flow Plateau	Very little to no visibility to the southeast	32.3	No
16 Upland Fringe	Intermittent ZTV coverage within several units of this LCT and forestry would limit the spatial extent of visibility. However, given the extent of visibility and distance from the proposed Development, further assessment is required.	2.4	**Yes**
18 Foothills	Very little visibility from the nearest unit of this LCT to the west and no significant effects would occur.	6.1	No
18a Foothills with Forest	Host LCT, potential effects on the physical fabric and key characteristics.	0.0	**Yes**
19 Southern Uplands	Visibility concentrated within the landscape unit directly north of the Site. Other units are more distant and unlikely to be significantly affected.	0.1	**Yes**
19 a Southern Uplands with Forest	Limited visibility beyond 29 km and unlikely to result in significant effects.	29.2	No
20 Coastal Granite Uplands	Very limited and intermittent visibility nearly 30 km from the Site and significant effects unlikely.	16.2	No
21 Rugged Granite Upland with Forest	Intermittent visibility on upland slopes over 39 km away with impacts unlikely to be significant.	39.8	No

7.6.4. Visual Receptors

66. Visual receptors are "*the different groups of people who may experience views of the development*" (GLVIA3, paragraph 6.3). In order to identify those groups who may be significantly affected by the proposed Development, ZTV studies, baseline desk study and site visits have been used.

67. The different types of groups considered within this assessment encompass:

- Local residents;
- People using key routes such as roads; cycle ways;
- People within accessible or recreational landscapes;
- People using rights of way, core paths; and
- People visiting key viewpoints.

68. In dealing with areas of settlement, local recreational routes and local roads, receptors are grouped into areas where effects might be expected to be broadly similar, or areas which share particular factors in common.

69. Representative viewpoints have been selected to aid the assessment of effects on visual receptors.

7.6.5. Baseline Visual Environment

70. The Site comprises commercial forestry within the foothills, of the Lowther Hills. Forestry within the Site is set out within the Ae Composite Land Management Plan[12]. If the proposed Development was not to proceed then the forestry within the Site would continue as identified in the Long Term Forestry Plan.

71. The landcover in the vicinity of the Site is predominantly commercial forestry. The area is not particularly remote or wild, but is very rural in character with several key transport routes running along the main dales. There are operational windfarms in the local area including Dalswinton and Harestanes/Minnygap. A network of recreational routes, trails and facilities are concentrated within the Forest of Ae.

72. At night, the local environment is very dark away from the more built-up areas around Dumfries and Lockerbie and the main transport corridors, as illustrated in **Volume 3: Figure 7.3: Light Environment**.

7.6.6. Visual Receptor Groups

73. The following visual receptor groups are located within the core study area and would be likely to have visibility of the proposed Development as illustrated by the ZTVs on **Figures 7.7 – 7.10**.

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[1] *Ae Composite 2017-2027, available online at https://forestryandland.gov.scot/media/pjlldkpu/ae_lmp_text_and_liss_plan.pd. Forestry Land Scotland*
[2] *Ae Composite 2017-2027, available online at https://forestryandland.gov.scot/media/pjlldkpu/ae_lmp_text_and_liss_plan.pd. Forestry Land Scotland*

74. Visual receptor groups comprise communities and includes residential settlement, core paths and local roads where further assessment is required to assess if significant effects could occur. Further assessment for these visual receptor groups is presented in **Section 7**.

75. Based on the distance to the Site and the visibility predicted in the range of ZTVs presented, the potential for significant effects would not occur from the following visual receptor groups and, therefore, have not been included in the assessment and these include: Johnstonbridge, Beattock, Moffat, Ecclefechen, Leadhills, Powfoot, Wanlockhead, Sanquhar Cummertrees, New Abbey, Milton, Beeswing, Dalbeattie, Dunscore, Terregles, Annan, Eastriggs, Dornick, Gretna, Langholm, and Glencaple.

76. Individual properties within 2 km of proposed turbines and are considered in **Technical Appendix 7.5: Residential Visual Amenity Assessment**.

7.6.7.Recreational Routes

77. Long distance paths are illustrated on **Figure 7.15** comprise:

- The southern end of the Romans and Reivers Route is at Ae and extends north. parallel with the eastern part of the Site. Much of this route is enclosed within the Forest of Ae but given the proximity it is considered further within the assessment.
- The Annandale Way is located at closest approximately 11.4 km east of the Site and considered further;
- The Southern Upland Way which passes through the northern part of the study area is located 10.9 km north at closest approximately of the Site. The ZTVs show there would be barely any theoretical visibility along this route and effects would not be greater than negligible and therefore not considered further.
- National Cycle Route 74 runs on the B7076 parallel to the A74(M)/M74 between Ecclefechan and Abington within the study area. Visibility of the proposed Development within this transport corridor would be very limited and it is not considered any further in the assessment.
- National Cyle Route 7 runs on the Old Military Road to the southwest of Dumfries and along the banks of the River Nith and will be considered further.
- Galloway Tourist Route – is a 148 km route from Gretna to Ayr and follows the A711 to Dumfries and the A75 from Dumfries to Annan and due to the distance and the extent of screening by landform and woodland impacts would be unlikely to be significant and not considered further.
- South West Coastal 300 Tourist Route - this follows the A710 and is assessed as part of that receptor.
- Robert the Bruce Trail is a regionally promoted driving and foot route which comprises of four sections within Dumfries and Galloway. Only the Central and Eastern, are considered for further assessment. Considering the distance to the proposed Development and the extent of screening effects by landform and woodland on the Western and Town Trail, the visual impact would not be significant and not considered further.

7.6.8.Roads

78. The following transport routes are within the study area: A701, A76, A709, A710, A75 and A74(M). Other roads within the study area range from smaller A and B roads, unclassified roads and these are assessed within the visual receptor groups. Considering the distance to the proposed Development and the extent of woodland screening effects on the A74(M), A711 and the A75 would not be significant and not considered further.

7.6.9.Recreational Receptors and Specific Viewpoints

79. The Forest of Ae is a popular destination for outdoor activities, in particular the 7Stanes mountain bike trails. The 7Stanes mountain bike trails are located to the west of the Site and are popular tourist and mountain bike visitor attractions.

80. Drumlanrig Castle is a popular visitor destination and is designated as a Garden and Designed Landscape (GDL) with terraces and banks dating back to the 17th century and restored parterres. The castle is listed as category A, the stretch of the Nith River within the landscape is a Site of Special Scientific Interest, and as a whole contributes to the surrounding scenery.

81. The following 'specific' viewpoints (usually promoted vantage points for recreational amenity and often marked on OS mapping) occur at , Criffel, and Hart Fell all of which are popular summits within the study area with expansive and panoramic views across the landscape. Given the distance to Criffel and Hart Fell of over 25 km away the impacts would be '**Not Significant**'.

7.6.10.Viewpoints Overview

82. The representative viewpoints in **Volume 3b** have been selected based on Scoping opinion from consultation with NatureScot, DGC, ZTV analysis and field survey. They represent views from sensitive landscape and visual receptors within the study area and aid in the assessment of landscape and visual effects.

Table 7. 8 – Viewpoints

Ref.	Name	Receptor Group/ Reason for Selection	Landscape Character Type/ Landscape Designation	Distance to Nearest Turbine (km)
1	Minor Road near Burnfoot	Minor road users and residents	18a Foothills with Forest	1.1
2	Loch Ettrick	Visitors to Loch Ettrick	18a Foothills with Forest	1.3
3	Ae-Dulcrum Rise	Residents	18a Foothills with Forest	2.0
4	Minor Road near Mitchellslacks	Minor road users	18a Foothills with Forest	2.1
5	A701, south of Ae Bridgend	Minor road users and residents	16 Upland Fringe	5.3
6	Minor Road north of Riddingwood House	Minor road users	16 Upland Fringe	5.5

Ref.	Name	Receptor Group/ Reason for Selection	Landscape Character Type/ Landscape Designation	Distance to Nearest Turbine (km)
7	A76, Closeburn	Residents	16 Upland Fringe 7 Middle Dale (Valley) RSA 8 Thornhill Uplands	6.0
8	Queensberry	Walkers	19 Southern Uplands RSA 8 Thornhill Uplands	6.6
9	A76, near Portrack	A76 road users and residents	7 Middle Dale (Valley)	6.7
10	Thornhill	Residents	7 Middle Dale (Valley) RSA 8 Thornhill Uplands	7.8
11	A75 - Dumfries	A75 road users	6 Lower Dale (Valley)	11.0
12	Drumlanrig Castle	Visitors	9 Upper Dale (Valley) RSA 8 Thornhill Uplands Drumlanrig Castle GDL	12.0
13	Breckenry Road over A74 (M)	M74 road users	7 Middle Dale (Valley)	16.5
14	A75 - west of Brae	A75 road users	13 Drumlin Pastures	18.4
15	Annandale Way, Monument	Walkers	6 Upland Fringe RSA 7 Torthorwald Ridge	18.5
16	B7068 East of Lockerbie	Residents	6 Lower Dale (Valley)	19.6
17	Criffel	Walkers	20 Coastal Granite Uplands Nith Estuary NSA RSA 5 Solway Coast	27.1
18	Hart Fell	Walkers	19 Southern Uplands WLA 02 Tall-Hart fell RSA 9 Moffat Hills	24.9
19	Bowness on Solway, car park	Recreational users and residents	6 Solway Basin (Natural England National Character Areas)	37.0

7.6.11.Landscape Designations

83. ZTV analysis has helped to focus the scope of the assessment based on the landscape designations within the study area.

7.6.12.National Scenic Areas

84. The Site is not subject to any national landscape designations. As illustrated by **Figure 7.1**, the nearest national designations to the Site are the Nith Estuary (c.15 km south) and East Stewartry Coast (c.30 km southwest) National Scenic Areas (NSAs) located along the southern Dumfries and Galloway coast and the Upper Tweeddale c.40 km northeast.

85. The ZTV indicates that the Nith Estuary NSA would have some visibility of the proposed Development and potential effects on the special qualities are considered further in **Section 7.8**.

86. The ZTVs also indicate that East Stewartry Coast and Upper Tweedale NSAs would not have any notable visibility of the proposed Development. Given the distance and lack of visibility, effects would be '**Not Significant**' and they are not considered further.

7.6.13.Solway Firth National Landscape

87. The Solway Firth National Landscape (formerly known as Areas of Outstanding Natural Beauty) is located at the southeastern extent of the study area. The ZTVs illustrates visibility albeit distant and at the outer fringes of the study area. This National Landscape is characterised by the flat expanses of coastal terrain and mosaic pattern and internationally important estuary habitats. As stated in Scoping, potential effects on the special qualities are considered in **Section 7.8**.

7.6.14.Regional Scenic Areas

88. Locally designated landscapes within the study area are illustrated on **Figure 7.1**. The Site is located near, but fully outwith, Regional Scenic Area (RSA) 8 Thornhill Uplands. Other RSAs within the study area that have the potential to be affected by the proposed Development are RSA 5 Solway Coast, RSA 6 Terregles Ridge, and RSA 7 Torthorwald Ridge. RSAs 6, 7 and 8 are considered in the detailed assessment of effects. RSA 5 is considered as part of the assessment of effects on the Nith Estuary NSA.

89. Further ZTV analysis illustrated on **Figures 7.9-7.10** and **Figure 7.1** indicates there would be limited visibility within RSA 4 Galloway Hills, RSA 9 Moffat Hills and RSA 10 Langholm Hills A combination of the screening effect of landform and forestry within the study area and distance to the Site would reduce the scale of change on these RSAs. RSAs 4, 9 and 10 would not result in significant effects and therefore not considered further.

7.6.15.Wild Land Areas

90. Wild Land Areas (WLA) are not a landscape designation but considered to be of national value. Tall-Hart fell (WLA 02) is located 22 km northeast of the Site and shown on **Figure 7.1** and illustrated with **Viewpoint 18** in **Volume 3b**. The ZTV illustrates there would be minimal coverage and wirelines indicate the proposed Development would be seen within the context of Harestanes, Dalswinton and Minnygap windfarms. Effects on the special qualities of WLA 02 would be negligible and not considered further in this assessment, as agreed at Scoping.

7.6.16.Other Designations

91. There are 13 Garden and Designed Landscapes (GDLs) within the study area, the closest is Dalswinton, 4.5 km south of the Site with limited theoretical visibility. The impact on these assets is considered within **Chapter 11: Archaeology and Cultural Heritage.** However, they contribute to landscape value and the value of views from publicly accessible parts of the GDL and in some cases, as at Drumlanrig, are notable visitor attractions and assessed as recreational receptors.

7.7.The Proposed Development

7.7.1.The Proposed Development components

92. The proposed Development is described in detail in **Chapter 3: Proposed Development** and illustrated on **Figure 3.1** and comprises around 84 MW of wind energy and associated infrastructure including access tracks, control buildings, borrow pits and construction

components. The proposed Development would re-use and share existing infrastructure from the existing onsite forestry operations and access tracks where possible.

93. The components of the proposed Development with the potential for landscape and visual effects include:

- 12 wind turbines, six with a maximum height of 220 m and six with a maximum height of 200 m to blade tip, including foundations and mitigated aviation lighting as described within **Technical Appendix 14.3**. However, the final turbine selection would be made following planning consent and the geometry below the blade tip height would be variable.
- Hardstanding areas at the base of each turbine and transformer/switchgear housings located adjacent to turbines;
- A substation and control buildings with parking and welfare facilities with a 3 m security fence within the compound;
- Underground cabling linking the turbines with the substation;
- A 'Met Mast' (power performance assessment anemometry mast) and associated hardstanding area;
- A bellmouth and parking area adjacent to the Site entrance from the A701, and 31.5 kilometres (km) of access track with associated watercourse crossings – of which 10.5 km are new access tracks and 21 km are upgrades to existing tracks;
- Two temporary construction compound areas;
- Extraction of material from up to three existing quarries owned and operated by Forestry and Land Scotland to provide suitable rock for access tracks, turbine bases and hardstanding.

94. Additional development components to improve the overall ecological and environmental benefits accruing from the proposed Development, including peatland restoration/habitat improvement and native woodland and riparian planting as illustrated in **Technical Appendix 8.9**.

95. Forest restructuring works to enable construction and operation of the proposed Development would also be required, this is set out within **Technical Appendix 14.1 Forestry.**

96. The construction phase is expected to last approximately 24 months, refer to **Chapter 3**. The activities and temporary features with the potential to cause an effect on landscape and visual amenity include HGV & abnormal load deliveries to the Site, the movement of vehicles therein and construction of all elements of the proposed Development including the use of cranes for erection of wind turbines.

97. The operational phase would follow and there is no proposal to limit the lifetime of the proposed Development.

7.7.2.Operational Phase - Design Process

98. The description of the Site selection rationale and the iterative design process is described within **Chapter 2: Site Description and Design Evolution**. The design of the proposed

Development has been a staged process with the aim of arriving at an optimal design configuration in respect of landscape and visual effects, and a range of other factors including: other environmental, energy yield and technical. Mitigation measures (including embedded mitigation) as proposed by the Applicant to reduce the level of potential impacts and to inform the assessment of residual effects which would occur with mitigation in place are described in the following sections.

99. Siting and Designing Windfarms in the Landscape Version 3 (NatureScot, 2017) provides a framework for the consideration of general design issue relating to onshore wind energy development including relating windfarm design to receiving landscape character, visual receptors, forestry and designing for multiple windfarms. Further information regarding good forestry design published by Forestry Commission has also been considered.

7.7.3.Design Approach and Mitigation

100. The design approach is described in full within **Chapter 2**. The following design identifies the landscape and visual sensitivities and design objectives considered in the Design Approach and Mitigation.

- Consider the particular landscape sensitivities identified within the Dumfries and Galloway Council Wind Energy Development: Development Management Considerations, Supplementary Guidance (February 2020) and Appendix C 'Dumfries & Galloway Wind Farm Landscape Capacity Study';
- Located within the Ae unit of 18a Foothills with Forest (already characterised by wind energy development) and deemed suitable for wind energy development;
- Minimise prominence of the proposed Development in views from the Dumfries and Galloway Thornhill Uplands Regional Scenic Area (RSA) and the Nith Estuary National Scenic Area (NSA);
- Reduce the prominence of the proposed Development in views from nearest residents in the Windyhill Burn valley and the village of Ae, as well as recreational users in the area;
- Consider the impacts with nearby cumulative developments including operational Dalswinton, Harestanes and Minnygap Windfarms, as well as other proposals such as Harestanes South Windfarm Extension;
- Reduce the prominence of the proposed Development in views from key transport routes including the A76 and A701;
- Avoid significant impacts on Tourist Routes and Dark Skies Core Area (see SG Map 6); and
- Avoid significant impacts upon most valued landscape features on Site and seek enhancements where possible.

7.7.4.Mitigation During Operation

101. The operational period of the proposed Development would not be time limited and would include Site and forestry management to ensure the adequate maintenance of Site facilities and landscape features such as access tracks, field boundaries, gates, and signage. Measures to reduce landscape and visual impacts have been embedded into the design of the proposed Development and include:

- Keeping turbines in a single group within the Site and take advantage of screening landform for a high degree of visual containment;
- Adjustments and reduction in turbines numbers to improve visual composition and minimise inconsistent turbine spacing, such as, relatively large gaps, outliers or excessive overlapping turbines and ensure a balanced/compact array especially from key views;
- Reduce the spread and proximity of turbines to the Thornhill Uplands Regional Scenic Area and when seen from the summit of Queensberry;
- Minimise impacts on the Nith Estuary National Scenic Area;
- Reduce some turbine heights in areas to reduce effects on nearest residents and the village of Ae;
- Reduce some turbines heights to reduce cumulative effects with nearby Dalswinton operational wind farm when seen from Dumfries;
- Use of the existing forestry tracks where possible (even if some require upgrading) to minimise the requirement for new tracks within the Site;
- Reduce the spread of turbines as well as some turbine heights from Loch Ettrick;
- Substation compound located in visually discreet part of the Site;
- Visible aviation lighting embedded mitigation includes a reduced lighting scheme, automatic dimming of the lights and timer activated lighting, as noted in the **Technical Appendix 14.3: Aviation Lighting Landscape and Visual Impact Mitigation Plan**.

7.7.5.Mitigation During Construction

102. Construction of the proposed Development would follow an agreed construction method statement that would include arrangements for implementation of various aspects of the works to mitigate local adverse impacts during construction. These would be designed in agreement with DGC and other statutory agencies. Specific mitigation measures during construction would include:

- Protection of valued landscape features that are to be retained within the Site;
- Placing of turbines on gentler gradients, where possible, to minimise the groundworks necessary to accommodate the turbine bases, crane pads and access requirements;
- Location of temporary construction compound and laydown areas in visually discreet parts of the Site and in areas of forestry to minimise effects on landscape fabric;
- Utilising existing access tracks for forestry and operational windfarms in order to minimise requirement for new access tracks;
- Location of borrow pits where these features already exist;
- Maintaining the Site and temporary construction compound in a tidy and contained condition;
- Removing all temporary construction materials from the Site once work is completed; and

- Controlling construction lighting so that it does not impinge into sensitive views (e.g. From residential dwellings).

7.7.6.Design Considerations and Conclusions

103. This section of the appraisal considers the fit with strategic guidance contained in the DGC Wind Energy Development Supplementary Guidance and Capacity Study (DGWLCS) February 2020.

104. It should be noted that since the DGWLCS document was last updated, NatureScot have updated their guidance with regard to Landscape Sensitivity Assessment[3] in 2022. As stated at the end of paragraph 8 of the NatureScot guidance, "*sensitivity assessments can help to steer development towards better locations and inform a proposal's LVIA. They should never be used in isolation to determine the acceptability of a development type in landscape terms. They do not replace the need for individual LVIAs and/or Environmental Assessments for individual proposals"*.

105. In paragraph 9, the guidance states, "*A finding of 'high' sensitivity does not necessarily mean that there is no ability to accommodate development and 'low' sensitivity does not necessarily mean that there is definitely potential for development*."

106. At the end of paragraph 10 it states, "*In the past, many so-called capacity studies actually dealt with susceptibility rather than capacity (see Glossary). Capacity is determined by wider spatial planning, societal and technical considerations. Most older studies should be considered as landscape sensitivity assessments, or even susceptibility assessments if value was not included, unless relevant quantities, e.g. for housing, were set for the study area*."

107. The DGWLCS states in its 'Limitations' that "*The study sets out guidance on the nature and likely severity of potential effects and proposes a strategy aimed at protecting the most sensitive landscapes. Landscape and visual sensitivity comprise one of a range of issues that need to be considered in determining the potential acceptability of a specific development*"

108. The DGWLCS states that "*it is concluded that turbines towards 200m high to blade tip would be too large to accommodate as new developments in landscape and visual terms anywhere in Dumfries and Galloway apart from the Eskdalemuir unit of the Southern Uplands with Forest (19a).*"[4] However, there were no such relevant quantities set within the DGWLCS. Any conclusions with regard to the amount of capacity with a particular LCT or geographic area are no longer relevant. Given the Landscape Sensitivity Assessment Guidance by NatureScot, the DGWLCS should be considered as a relative sensitivity study.

109. In terms of the 'guidance for development' the DGWLCS states in 23.3.1 for the southern part of the Ae Foothills with Forest where the Site is located:

[3] *Landscape Sensitivity Assessment Guidance (Methodology), NatureScot 2022*
[4] *Page 30, paragraph 3.2.3 Conclusions, Windfarm Landscape Capacity Study May 2017 (no corrections in the 2020 revisions), Dumfries and Galloway Council*

"There are no opportunities for the Very Large typology (150m+[5]) to be accommodated in this area as additional turbine developments. This is because operational wind farm development already occupies the least sensitive interior plateau and very large turbines sited to the west and north-east would be likely to incur significant effects on more sensitive nearby landscapes and cumulative effects with operational wind farms. Repowering projects involving replacement of operational turbines with larger models could potentially be accommodated provided turbines were set well back from the more sensitive settled Annandale and Nithsdale areas and avoided overwhelming the landmark hill of Queensberry and the Lowthers in key views. In this respect, the Harestanes wind farm site offers greater scope than the Dalswinton wind farm site for potentially accommodating larger turbines."

110. DGWLCS provides a set of sensitivities for 'Very Large Turbines (>150m)' for development within the Ae unit of Foothills with Forest.

Table 7. 9 - Foothills With Forest - Ae

Topics	Turbines with>150 m Tip Height	Design Response
Scale and Openness	*"This typology could relate to the large scale of this landscape (although much of the more expansive interior plateau is already occupied by the Harestanes wind farm). The limited remaining extent would limit adequate set back from incised valleys and smaller hills lying on the outer edges of these foothills which would be sensitive to very large turbines.*	Significant set back from Nithsdale has been incorporated into the design to minimise significant impacts, see **Viewpoints 7. 9. 10 and 11** in **Volume 3b**. Set back has also been included for the incised valley of Windyhill Burn, but some visibility would remain as illustrated in **Viewpoint 1**.
Landform	*This typology could relate to the predominantly gently undulating landform of this landscape although occasional more well-defined small hills and complex topography have an increased sensitivity.*	The large scale of the receiving landscape would accord with the proposed Development.
Land cover and landmark features	*The simple land cover of extensive forest reduces sensitivity to wind farm development. Open moorland and fringing pastures are more sensitive*	The proposed Development would sit entirely within the large-scale commercial forestry.
Settlement and Archaeology	The less visually prominent interior plateau is already largely occupied by wind farm development and this typology could dominate the setting of Ae and other settlement and adversely affect the setting of archaeological features if sited in remaining undeveloped parts of this landscape.	Set back and reduced turbine sizes have been incorporated into the design to reduce impacts on Ae and other settlement in the valley. **Chapter 11: Archaeology and Cultural Heritage** has concluded no likely significant effects on the setting of archaeological features on and near the Site.

[5] *This figure is a correction to that printed, as the 'Very Large Turbines' typology is 150m+, not '80-150m' as printed*

Topics	Turbines with>150 m Tip Height	Design Response
Landscape Context	Turbines of this size, and particularly those around 200m, would have a dominant effect on surrounding more diverse and smaller scale landscapes. The Torthorwald Ridge and Nithsdale would be sensitive especially given that remaining undeveloped areas in this landscape lie closer to these landscapes. The setting of the Lowther Hills and the landmark Queensberry Hill is already adversely affected by the Harestanes wind farm and very large turbines could exacerbate these effects, dominating the scale of these hills if sited nearby. Additional wind farm development sited to the north of the Harestanes wind farm could affect the narrower northern part of Annandale and the wider setting to Moffat.	The proposed Development is not located within the Torthorwald Ridge and impacts on Nithsdale have been minimised. There would be some significant impacts at Queensberry hill and at the southern edge of the Lowther Hills, but these would be localised. The proposed Development would not affect the northern part of Annandale or Moffat.
Perceptual Qualities	This typology would have a minimal effect on perceptual qualities providing open moorland was avoided.	The open moorland was avoided.
Views and Visibility	Views from cycle and walking routes in Ae Forest are generally restricted by forest cover. The operational Harestanes wind farm occupies much of the interior of this landscape which is remote from roads and settlement. Turbines of this size sited on remaining undeveloped land in the west and south in closer proximity to Nithsdale and Annandale would be likely to have a significant and dominant impact on views from key transport routes and settlement. This typology would be highly visible, with 200m high turbines particularly dominant, from the M74 and from settlement if sited so visible on the skyline of forested hills seen from the Evan valley in the north of this landscape.	There would be some significant effects from a short section of the A701 passing by the Site, but no other significant effects on transport routes including the A76. No significant impacts on the M74 or Annandale.
Landscape Values	Turbines of this size located on the western parts of this landscape could affect the setting of the RSA and rare areas of open moorland. Sensitivity is reduced elsewhere in this landscape.	The proposed Development has avoided the RSA and open areas of moorland, but is just outside it with some localised significant impacts reported.

111. The proposed Development would respect the main features of the Site and local area. Due to set back into the undulating plateau, the extent of visibility would be limited in extent. Overall, the design of the proposed Development has responded to much of the

sensitivities identified within the DGWLCS and minimised impacts through design and embedded mitigation.

7.8.Landscape and Visual Effects

7.8.1.Introduction

112. This section sets out the residual effects that the proposed Development would have on landscape and visual receptors.

113. Effects during construction and for the operation of the proposed Development are considered for each landscape and visual receptor. The effect of decommissioning on landscape character and visual receptors would be equal to, or lesser than the effects during construction. Therefore, they have been considered together.

7.8.2.Effects on Site Fabric

114. Changes to landscape fabric occur where there would be physical changes to the landscape. In this instance, changes to landscape fabric would predominantly occur within the Site.

115. There would be a Long Term loss of landscape elements, mainly commercial forestry, as a result of the introduction of the keyholing around the turbines, widened existing access track/new sections of track, and substation compound. There would be some very limited areas of loss of the more valued peatland, moorland and deciduous woodlands. **Technical Appendix 8.9: Outline Habitat Management Plan**, includes localised habitat restoration areas at the base of turbines and targeted pockets which would increase the amount of valued landscape elements within this LCT. These changes, along with the relatively small amount of area retained at the base of the turbines, would slightly reduce the amount of commercial forestry within the Site

7.8.3.Construction and Decommissioning Effects

116. The erection of the proposed wind turbines involving the use of large cranes would be another component of the construction stage. Compared to the ground level construction activities noted above, the influence of this activity on landscape character would be available to a wider range of receptors, more similar to the operational phase. These construction effects would occur for the landscape receptors as reported in the operational phase below, and therefore have not been repeated here.

7.8.4.Landscape Effects

117. The construction and decommissioning stages of the proposed Development would result in some short-term effects within the Ae unit of the host LCT 18a Foothills with Forest. The effects would result primarily from upgrades to, or new sections of the access track/bridges required, erection of the wind turbines or the ground level construction activities such as, borrow pits, construction compounds, and control building/substation compound, as well as the activity and movement of large construction vehicles/cranes within the afforested Site. Forestry removal would not be uncharacteristic. These activities would disturb the more tranquil qualities of landscape character locally. However, given

that most of these activities would occur within areas of extensive commercial forest activity, active mountain biking facility and adjacent to operational windfarm development, some aspects of this activity may be difficult to distinguish from the baseline.

118. The landscape character of the Foothills with Forest LCT is considered to be of '**Medium**' landscape sensitivity to construction activity. The surrounding forestry and topography would limit the influence of construction operations, particularly ground-level operations from areas within and most vantage points outside of the Site within LCT 18a Foothills with Forest. The effects of construction activity are considered to be Large in scale but only over a Localised extent of the Forest with Foothills and Short Term in duration. Taking this into account, the magnitude of effect is considered to be '**Moderate**', which gives rise to '**Moderate'** effects which would be '**Not Significant'** for the Forest with Foothills LCT given the extent of development within commercial forestry.

119. The landscape character of LCT 19 Southern Uplands is considered to be of 'High/Medium' landscape sensitivity to construction activity. There would be some influence from elevated locations in southern part of this LCT due to the perception of construction activity going on below in the adjacent Foothill with Forestry including movements on the access track. However, on lower slopes there would be limited perception of change due to screening by forestry. The effects of construction activity are considered to be 'Medium' in scale over a Limited extent of this landscape type in the Short Term. Accordingly, the magnitude of change is considered to be Slight, which gives rise to '**Moderate/Minor**' and '**Not Significant**' effects on LCT 19 Southern Uplands.

120. The landscape character of LCT 16 Upland Fringe is considered to be of Medium landscape sensitivity to construction activity, isolated to the southeastern part of the Ae Fringe unit within the landscapes to the west and east of the A701. The access point would be notable and there would be more construction activity noticeable in this vicinity. There would be no views of any other ground level construction activities but there would be widespread visibility of the erection of most turbines where large cranes would be perceptible on the setting. The effects of construction activity are considered to be Medium scale over a Localised extent of the Ae Fringe of the Upland Fringe LCT in the Short Term. The magnitude of effect wis considered to be Moderate/Slight resulting in '**Moderate/Minor**' and '**Not Significant**' effects on LCT 16 Upland Fringe.

121. There would be limited influence on the neighbouring LCTs.

7.8.5. Visual Effects

122. Residents in Ae would not experience views of ground operations from the settlement. The proposed access track would be contained within the forest. **Viewpoint 3** in **Volume 3b** illustrates a small area of keyhole forestry clearance would be visible from the edge of Ae, with most other operations would be contained within forestry. The construction effects are considered to be Small in scale, Localised for this receptor group in the Short Term resulting in a Slight magnitude of change. The magnitude of change combined with the High/Medium sensitivity would give rise to "**Moderate/Minor**' and '**Not Significant**' effects.

123. Recreational users of the Forest of Ae including users or local cycling tracks and walks and would be noticeably affected by the construction and decommissioning activities. Some of the 7 Stanes mountain bike tracks utilise part of the access track. The Romans and Reivers Route utilises approximately 3.0 km of the proposed access track within the forest.

As stated in **Chapter 3, Section 4.7**, where access along the existing route is not possible, a diversion will be agreed and implemented. There may be occasions when access to the Site for members of the public would not be possible for short periods for health and safety reasons. Recreational users on the core path a trail to Queensberry hill would cross and may utilise some of the access track. From the summit and other lower summits users would experience views of construction activities including some ground level operations, movement of plant and materials, key-hole forestry clearances and track upgrades looking down into the forest. The core path from Ae to Gawin Moor would cross through the middle of the construction Site and would notably change the experience on this route. The construction effects are considered to be Large in scale across an Intermediate extent of this receptor group and Short Term resulting in a Moderate magnitude of effect. The magnitude of change combined with the High/Medium and Medium/Low sensitivity would give rise to '**Major/ Moderate**' and '**Significant**' effects on recreational users.

124. For the most part, the construction activity would not be visible from Loch Ettrick and or Core Paths across Threip Moor due to screening by landform and forestry, as illustrated in **Viewpoints 2 and 4** in **Volume 3b**. However, there may be some elements of the nearest borrow pit visible from the loch and if forestry on the along the core path is felled within the construction phase, there would be views of the construction compound and operations. This could lead to a Small scale of change across a Limited extent in the Short Term resulting in a Slight/Negligible magnitude of effect. The magnitude combined with the High/Medium sensitivity would give rise to a and '**Minor**' and '**Not Significant**' effects,

125. The erection/removal of the proposed wind turbines involving the use of large cranes would be another component of the construction/decommissioning stages. Compared to the ground level construction activities noted above, the visual influence of this activity would be available to a wider range of receptors, more similar to the operational phase. These construction/decommissioning effects would occur for the same visual receptors as reported in **Section 7.8.15** for the operational phase, and therefore have not been repeated here.

126. Construction activities would be visible from recreational receptors on the summit at Queensberry hill and the Walk Highlands' route from Mitchellslacks which includes The Law, Craih Hilll, Wee Queensberry and Queensberry hill. Elevated and expansive views from the summit of Queensberry. From the summits, construction activities including some ground level operations, movement of plant, keyhole forestry clearances and erection of the wind turbines looking down across the wider forest. The construction effects are considered to be Large in scale across a Wide extent of this receptor group. This Short Term change would result in a Substantial/Moderate magnitude resulting in a '**Moderate'** and '**Significant**' effect.

7.8.6.Designations

127. The construction and decommissioning stage of the proposed Development would result in some short-term effects on RSA 8 Thornhill Uplands. There would be no change to the physical fabric of this RSA. There would be some influence from elevated locations and summits in southern part of this RSA due to the perception of construction activity going on below in the adjacent landscape to the south.

128. The effects of construction activity are considered to be Medium in scale over a Limited extent of the Regional Scenic Area in the Short Term. Accordingly, the magnitude of

change is considered to be Moderate/Slight, which gives rise to '**Moderate**' but '**Not Significant'** effect on the Thornhill Uplands RSA.

7.8.7. Viewpoint Analysis

129. Viewpoint analysis has been undertaken from a total of 19 representative viewpoints. The viewpoint locations are illustrated on **Figure 7.1**. The visualisations (comprising existing view, wireframes and photomontages) are illustrated in **Volume 3b.** The viewpoint locations are illustrated on **Figures 7.7-7.10**.

130. The full viewpoint analysis is contained within **Technical Appendix 7.3 Viewpoint Analysis** and the findings summarised below in **Table 7.10**. Visual analysis considers the nature and the scale of changes to character and views at each viewpoint location. The sensitivity of receptors and wider extent of the effect (beyond the individual viewpoint location) and its duration are considered in the main body of the assessment text below as part of the consideration of the magnitude and significance of effects.

Table 7.10 – Visual analysis summary

Ref.	Name	Distance (km)	Scale of Visual Effect	Scale of Landscape Effect
1	Minor Road near Burnfoot	1.1	Large	Large
2	Loch Ettric	1.3	Large	Large
3	Ae-Dulcrum Rise	2.0	Large	Large
4	Minor Road near Mitchellslacks	2.1	Large	Large
5	A701, south of Ae Bridgend	5.3	Large/Medium	Medium
6	Minor Road north of Riddingwood House	5.5	Large/Medium	Medium/Small
7	A76, Closeburn	6.0	Small	Negligible
8	Queensberry	6.6	Medium	Medium/Small
9	A76, near Portrack	6.7	Medium/Small	Small
10	Thornhill	7.8	Small	Small
11	A75 - Dumfries	11.0	Medium/Small	Small
12	Drumlanrig Castle	12.0	Small	Small/Negligible
13	Breckenry Road over A74 (M)	16.5	Small	Negligible
14	A75 - west of Brae	18.4	Small	Negligible
15	Annandale Way, Monument	18.5	Small	Negligible
16	B7068 East of Lockerbie	19.6	Small	Negligible
17	Criffel	27.1	Negligible	Negligible

Ref.	Name	Distance (km)	Scale of Visual Effect	Scale of Landscape Effect
18	Hart Fell	24.9	Negligible	Negligible
19	Bowness on Solway, car park	37.0	Negligible	Negligible

7.8.8.Summary of Viewpoint Analysis

131. Visual analysis:

- Large scale effects would be contained within approximately 5-6 km from nearest turbines, noting that views to the east and west would be much more restricted by landform and further by forestry;
- Medium scale effects would be contained within approximately 6-11 km from nearest turbines; mainly to the southeast, south and southwest, noting that views to the north, west and east would be more screened and notably reduced; and
- Small scale effects up to approximately 20 km from the turbines.

132. Landscape analysis:

- Large scale effects would be confined to the local area within approximately 4-5 km from nearest turbines;
- Medium scale effects would be confined within approximately 6 km;
- Small scale effects on character would extend up to around 12 km from the turbines; and
- Beyond 15 km, effects on character would reduce to Negligible.

7.8.9.Operational Effects on Landscape Character

133. Landscape character results from the different combinations and spatial distribution of physical, natural and cultural features. The effects of the proposed Development on the landscape character of the study area have been assessed through review of all of the ZTVs, including that overlaid on to the LCTs shown on **Figure 7.14**, field survey work and informed by the viewpoint assessment (**Technical Appendix 7.3**). Descriptions for each of the assessed character areas/types are briefly summarised below, along with further observations from site-based work.

7.8.10.LCT 18a Foothills with Forest (Ae unit) (NS LCT 176 - Foothills with Forest - Dumfries & Galloway)

134. As shown on **Figures 7.2, 7.14** and all ZTVs, this LCT includes the Site and extends northeast. The Ae Foothills with Forest (18a) is a large landscape unit stretching in a long band of low foothills from lower Nithsdale to north of Moffat. The operational Dalswinton Windfarm, Harestanes Windfarm and Minnygap Windfarm are located within this landscape unit. **Viewpoints 1, 2, 3 and 4** in **Volume 3b** are also located within this LCT, refer to **Technical Appendix 7.3**.

135. Technical Appendix 7.4 sets out a Site and project specific assessment of landscape sensitivity which draws on the DGWLCS and NatureScot baseline landscape character assessments. The value of the landscape within the Forest with Foothills LCT is judged to be Regional/Community. This LCT is not subject to any landscape designations but is well used for recreation via a network of core paths, mountain and off-road cycling routes at 7 Stanes and the southern terminus of the Romans and Reivers Route. The scale and extent of commercial forestry, forestry operations and operational windfarm development would limit the perceptual sense of wildness or isolation.

136. The susceptibility of this LCT is judged to be Medium. The large-scale nature of the upland plateau is dominated by forestry plantation and is well suited to wind energy development as evidenced to the operational windfarms already in this LCT. There is little settlement in this LCT with little intervisibility, but it does form a backdrop to Nithsdale. Considering susceptibility and value together the sensitivity is judged to be Medium.

137. Table 7.11 outlines the effect the proposed Development would have on the key characteristics of the Foothills with Forestry LCT, as stated in the NatureScot LCA 2019.

Table 7.11 LCT 18a Foothills with Forestry (NS LCT 176 - Foothills with Forest - Dumfries & Galloway) Key Characteristics

Key Characteristic	Effect of the proposed Development
An extensive gently undulating plateau with simple landform and uniform forest land cover	This key characteristic would remain intact with some forestry key-holes required during operation.
Dark green blanket of forest covering undulating foothills.	There would be some limited forestry removals to accommodate new turbines and upgraded sections of track but of limited perception beyond the immediate extent.
Changing landscape with areas with large and medium scale forestry operations and wind farm development.	The proposed Development would add do the influence of windfarm development within this landscape. The proposed Development would read as an intensification of operational wind farms.
Forested areas dominated by Sitka Spruce, interspersed with mixed conifers and broadleaf planting, undergoing felling and replanting in large coupes.	The proposed Development would not change the species composition but there would be some habitat enhancement and restoration proposed.
Tall mature conifers at roadside.	No change to this characteristic is anticipated.
Areas of more complex, locally distinctive and smaller-scale landscapes, with semi improved pasture with walled enclosures on open ground, occasional lochs and estate policies, distinctive ridges and landmark summits.	The proposed Development would be located in large scale forestry across less distinctive landforms. There would be no change to locally complex, smaller scale and distinctive landscapes.
Areas of relict landscape with remains of pre-improvement settlement and agriculture clustered in burn valleys.	No change to this characteristic is anticipated.

Key Characteristic	Effect of the proposed Development
Wind farms, locally defining the character in some areas of central Dumfries and Galloway.	The proposed Development would add to the presence and perception of windfarm development in central Dumfries and Galloway clustered between Dalswinton and Harestanes/Minnygap.

138. The proposed Development would increase the presence and influence of windfarm development within the Ae unit of the Foothills with Forest LCT (18a) but the effects on the key characteristics would be relatively limited given the forestry and presence of operational windfarms. The upgraded access track would be contained locally within existing areas of forestry (rather than using the local road network in the Windyhill Burn valley). The proposed turbines would be located within areas of commercial forestry at Glenmaid Moor northeast of Dalswinton Windfarm, extending north to Glencorse Hill and Gubhill, but more set back from Nithsdale than Dalswinton Windfarm.

139. LCT 18a Foothills with Forest is characterised by undulating upland plateau and forestry, which limits intervisibility within this LCT. **Figures 7.7 and 7.9** illustrates the extent of theoretical visibility of the proposed Development and **Figures 7.8, 7.10** and **7.14** illustrates the screening effect of forestry which would further reduce visibility within the local landscape.

140. At 200-220 m, the proposed turbines would read as additional large-scale features in the interior of this large-scale undulating plateau landscape. The vertical height and movement of the turbines would contrast with the more static landscape features of this landscape. The movement of the blades would draw attention to the wind turbines, especially from areas where turbines are not currently visible. Within the Windyhill Burn valley, there would be some contrast in scale of the turbines compared to the valley features (**Viewpoints 1 and 3** in **Volume 3b**). However, when perceived from within more elevated parts of this landscape unit (**Viewpoints 2 and 4** in **Volume 3b**), then the large scale of the receiving landscape accords well with the large scale of the turbines.

141. Whilst this LCT is heavily used for recreation, including the Romans and Reivers Route, the 7Stanes mountain bike routes, core paths and Southern Upland Way, all of which are largely enclosed by forestry. There would be no long-term change to the access to these routes.

142. The turbines of the proposed Development would be noticeably larger than the existing adjacent windfarm developments (Harestanes, Minnygap and Dalswinton). In terms of the pattern of wind energy within Dumfries and Galloway the proposed Development would be located immediately between Harestanes/Minnygap and Dalswinton. The proposed development would have the effect of visually linking Dalswinton to Harestanes/Minnygap, increasing the size/density of the overall cluster. This enlarged cluster would be perceived as part of the broader corridor of windfarm development within the expanse of undulating upland plateau covered in forestry between the A76 and A74, and north beyond. Within this context it is considered that the proposed Development would not change the overall pattern and would read as an intensification within the existing extent of that existing corridor.

143. The range of ZTVs illustrate there would be a distinct area of influence contained within approximately 4-6 km of the proposed turbines, but this would drop away quickly due to landform. In consideration of the extent of screening by forestry, this extent would be much reduced. Within this area, there would be a Large scale of change, but given the extent of screening by forestry this would only occur over a Limited extent of the LCT. These changes are considered to be Long Term which would lead to a Moderate magnitude of effect for the Ae unit of LCT 18a Foothills with Forest. For this landscape of Medium sensitivity, this would lead to a '**Moderate**' effect which would be '**Significant**'.

144. Beyond 4-6 km, the screening effects of landform and forestry would limit the visibility with a negligible impact on landscape character within the Ae unit. Impacts on other units of Foothills with Forest LCT (18a) would be '**Not Significant**'.

7.8.11.LCT 19 Southern Uplands (NS LCT 177 Southern Uplands- Dumfries and Galloway)

145. As shown on **Figure 7.14**, this LCT occupies an area of upland hills north of the Site. Within the study area this LCT includes the southern unit of the Lowthers landscape unit. Much of the landcover within the study area is comprised of coarse grassland and heather moorland across the south facing slopes of the Lowther Hills. **Viewpoints 8** in **Volume 3b** is located within this LCT, refer to **Technical Appendix 7.3**.

146. This LCT 19 Southern Uplands is located partly within RSA 8 Thornhill Uplands and is valued due to contrast of dramatic upland landscape against the scenic valleys and the network of recreational routes and remote qualities from hilltops. The Queensberry hill and Earncraig hill are distinctive landmarks within the local landscape. Landscape value is judged to be Regional.

147. The more remote qualities from more elevated and distinctive parts of this landscape including Queensbury hill and the outer slopes of the Lowther Hills and distinctive skylines of this landscape type increases susceptibility of this LCT unit to the proposed Development. Factors that reduce susceptibility includes the presence of existing windfarms within the landscape to the south and the large scale and consistent landcover. Landscape susceptibility of LCT 19 Southern Uplands is judged to be Medium. Considering value and susceptibility together the sensitivity is judged to be High/Medium.

148. **Table 7.12** outlines the effect the proposed Development would have on the key characteristics of the Southern Uplands LCT, as stated in the NatureScot LCA 2019.

Table 7.12 LCT 19 Southern Uplands (NS LCT 177 Southern Uplands- Dumfries and Galloway) Key Characteristics

Key Characteristic	Effect of the proposed Development
Large, smooth dome/conical shaped hills, predominantly grass-covered.	No change.
Open and exposed character except within incised valleys.	No change.
Dramatically sculpted landforms and awe-inspiring scale.	There would no change to the physical landform within this LCT. The proposed turbines in the neighbouring LCT to the south would occasionally appear in front of the dramatic skyline.

Key Characteristic	Effect of the proposed Development
Distinctive dark brown/purple colour of heather on some of the higher areas.	No change.
Pockets of woodland in incised valleys.	No change.
Stone dykes occasionally define the lower limit.	No change.
Legacy of lead and other mining activity, with extensive archaeological remains around the former mining village of Wanlockhead.	No change.
Wind farms locally characteristic, away from the more dramatic, scenic and sculptural slopes and skylines.	The proposed Development would add to the influence of windfarm development to the south of this LCT but away from the most scenic qualities to the west and southwest. For the most part, the more dramatic and scenic skylines would remain intact.

149. The ZTVs illustrate theoretical visibility across the more open and upland parts of this LCT up to 10 km north of the Site. Beyond this, there would be limited to no visibility. The proposed Development would result in limited change to the perceptual qualities and associations due to the increased influence of windfarm development across part of the skyline when viewing this landscape and in long range views south from this landscape. The main area of influence would be concentrated in the southern part of the Lowther Hills in and around Queensberry hill within approximately 7.0 km.

150. Within the southern edge the Lowthers unit, the proposed Development would result in an increased influence of large-scale turbines both to and from this landscape. However, the large-scale nature of the landscapes would moderate these impacts to some degree. There would be little or no change to the dramatic skylines to the north, due to the separation distance and setback. The proposed Development would not encroach any closer to the base of the Lowther Hills and Queensbury hill than the operational windfarms, albeit the proposed turbines are notably larger in scale. Most of the key characteristics of the LCT would remain intact and well expressed with some impacts.

151. The scale of change is judged to be Medium within a Localised extent at the southern edge of this LCT. This Long Term change would result in Moderate magnitude of effect as a result of the proposed Development. The sensitivity of the landscape is High/Medium, leading to a '**Moderate**' effect which is '**Significant**'.

7.8.12.LCT 16 Upland Fringe (NS LCT 172 - Upland Fringe - Dumfries & Galloway)

152. As shown on **Figures 7.2** and **7.14**, this LCT occupies several units within the study area. Visibility is concentrated in the largest units; Torthorwald Fringe and Ae Fringe. These landscape units border the host LCT 18a Foothills with Forest and the Site to the west, south and southeast. Other more distant units beyond 15 km experience some intervisibility but unlikely to be result in significant effects. **Viewpoints 5, 6** and **7** in **Volume 3b** are located within or on the boundary of the Ae Fringe unit. **Viewpoint 15** in **Volume 3b** is located within the Torthorwald Fringe unit. The scale of landscape change from these viewpoints is described in detail in **Technical Appendix 7.3**.

153. This LCT partly lies within both RSA 8 Thornhill Uplands and RSA 7 Torthorwald Ridge where the scenic qualities, views to and from both are strongly associated with the ridges and valleys. Most of the LCT is less distinctive and of lower scenic quality. Some value is attributed to the cultural associations and the intact network of woodlands. Landscape value is assessed as Regional.

154. This landscape provides a varied contrast between ridges and lowland areas and therefore varied sense of enclosure and distinctive backdrop to the settled details and the Nith Estuary. The more elevated parts of the Torthorwald Fringe provides the backdrop to Annadale and Nithsdale and also gains panoramic views to the valleys and coastal lowlands. Landscape susceptibility of LCT 16 Upland Fringe is assessed as Medium. Considering value and susceptibility together the sensitivity is judged to be High/Medium.

155. Table 7.13 outlines the effect the proposed Development would have on the key characteristics of the Upland Fringe LCT, as stated in the NatureScot LCA 2019.

Table 7.13. LCT 16 Upland Fringe (NS LCT 172 - Upland Fringe - Dumfries & Galloway) Key Characteristics

Key Characteristic	Effect of the proposed Development
Elevated rolling pastures.	No change.
Improved and rough grassland in close proximity.	No change.
Hedgerow banks and treelines along roads in some lower areas.	No change.
Dry stone dykes.	No change.
Squared areas of forestry.	No change.
Contrast between wide open areas and more intimate landform.	No change.
Panoramic views over valley and coastal lowlands.	There would be no change to the views to the coastal lowlands. The large-scale nature of the proposed Development would appear in some views over the valley within the context of a corridor of operational windfarms.
Small bridges over incised burns.	No change.
Notable landmark features, including Iron Age fortifications, designed landscapes and grand houses	No change to the landmark features.

156. As shown on Figure 7.7-7.10 and 7.14 the ZTVs illustrates that visibility within the Ae Fringe unit is concentrated to the southeast of the Site across farmland near Ae Bridgend and either side of the A701. Visibility extends further southeast into the northern extent of the Torthorwald Fringe unit. The proposed Development would result in some changes to the panoramic views and perceptual associations within small parts of this LCT, but there would be no change to the physical fabric of the landscape.

157. The proposed Development would result in an increase to the influence and perception of windfarms within the Ae fringe part of this landscape. The eastern fringes of the hills and intervening forestry would limit the extent of influence of the proposed Development on the backdrop to this LCT. The proposed Development would appear greater in scale than the adjacent operational windfarms. The proposed Development would be noticeable in views, but separation would be maintained between the upland fringe and the foothills.

158. The scale of change would be Medium across a Limited extent of the Ae Fringe unit of this LCT, mainly to the southeast within 5-7 km. This combined with the Long Term duration would result in a Moderate/Slight magnitude of change. The sensitivity of the landscape is High/Medium, leading to a **'Moderate'** effect which would be **'Significant'**.

159. The scale of change across the Torthorwald Fringe would be Small to Negligible across a Localised extent of the LCT unit and combined with the Long Term duration would result in a Slight magnitude of effect. The sensitivity of the landscape is High/Medium, leading to a '**Moderate/Minor**' effect which would be '**Not Significant**'.

7.8.13.LCT 6 Lower Dale (Valley) (NS LCT 162 Lower Dale- Dumfries and Galloway)

160. As shown on **Figures 7.2** and **7.14**, this LCT occupies two units: Lower Nithsdale 5 km south and Lower Annadale 5.8 km southeast of the Site. This LCT encompasses the larger settlements of Dumfries and Lochmaben. There is notable ZTV coverage across this LCT on the bare earth ZTV, but this would be limited by intervening forestry which would restrict the extent of influence to very patchy locations. **Viewpoints 11 and 16** in **Volume 3b** are located within this LCT and the nature of change at these viewpoints, where there is some more open visibility, is described in detail in **Technical Appendix 7.3**.

161. A slim part of the Terregles Ridge RSA extends around part of the Lower Nithsdale unit of this LCT but is not located within the core of this LCT. More valued attributes include the intact network of meandering river channels, linear broadleaf shelterbelts and hedgerow tree lines and avenues. The urban core of Dumfries occupies most of the land within the Lower Nithsdale unit. Landscape value is judged to be Community.

162. The large scale and simplicity of landscape and settlement pattern reduces susceptibility. Landform is generally low lying but does have a visual relationship with adjacent upland landscapes which form the dale edges. Landscape susceptibility of LCT 6 is judged to be Medium/Low. Considering susceptibility and value together the sensitivity is judged to be Medium/Low.

Table 7.14 LCT 6 Lower Dale (Valley) (NS LCT 162 Lower Dale- Dumfries and Galloway)

Key Characteristic	Effect of the proposed Development
Wide, flat or gently undulating section of the major valleys.	No change.
Improved pastures and arable fields of medium to large size.	No change.
Hedgerow field boundaries (beech and hawthorn) with occasional walls.	No change.
Hedgerow tree lines and tree avenues predominantly beech and sycamore. Beech trees are an essential feature of Lower Annandale.	No change.
Broadleaf shelterbelts.	No change.
Open character, medium to long views determined by tree lines and shelterbelts.	The proposed Development would add to the influence of windfarm development above forestry in long views to the north above large expanses of forestry.
Wide meandering river channels.	No change.

Key Characteristic	Effect of the proposed Development
Network of communication lines: minor and major roads and railway lines.	No change.
Many settlements including main towns at river bridging points, isolated developments and suburban expansion.	No change.
Strong 'red earth' qualities in Annandale and Nithsdale, with brick red fields and red sandstone buildings.	No change.
Archaeological features, particularly Roman and medieval forts and castle	No change.

163. The proposed Development would result in limited change to the perceptual and scenic qualities of LCT 6 Lower Dale (Valley). Landform and forestry would limit visibility to the northern, elevated and more open parts of this LCT within both the Lower Nithsdale and Lower Annadale units. The proposed Development would result in limited change to character, especially within the more urban settlements of Dumfries and Lochmaben. The introduction of the proposed Development would appear in long range views as an intensification of wind energy development within a landscape which is already characterised by wind energy development.

164. There would be a Small to Negligible scale of change within an Intermediate extent of this LCT. This combined with the Long Term duration would result in a Slight magnitude of effect. The sensitivity of the landscape is Medium/Low leading to a '**Moderate/Minor**' effect which is '**Not Significant**'.

7.8.14.LCT 7 Middle Dale (Valley), (NS LCT 163 Middle Dale- Dumfries and Galloway)

165. As shown on **Figures 7.2** and **7.14**, this LCT occupies two units within the core of the study area. The Mid Annadale unit to the east of the Site and comprises a wide dale between the A701 and the A74. The second unit, Mid Nithsdale is located 3.8 km west of the Site and comprises of a more narrow dale, west of the A76. **Viewpoints 9, 10 and 13** in **Volume 3b** are located within this LCT and the nature of landscape change at these viewpoints is described in detail in **Technical Appendix 7.3**.

166. The Mid Nithsdale unit lies partly within RSA 8 Thornhill Uplands and contributes to the wide scenic pastoral valley centred on Thornhill with an intact network of hedgerows and woodlands. Settlement within this LCT is of notable townscape quality. Landscape value is judged to be Regional in Mid Nithsdale but Community for Mid Annadale.

167. Within the Mid Nithsdale unit, the combination of complex landforms and landcover would increase susceptibility but the scale of the landscape is medium to large. Much of the landscape of the Mid Annadale unit comprises of a simple medium to large scale agricultural pattern and less susceptible to the proposed Development. Landscape susceptibility of LCT 7 Middle Dale (Valley) is judged to be High/Medium. Considering susceptibility and value together the sensitivity is judged to be High/Medium.

Table 7.15 LCT 7 Middle Dale (Valley), (NS LCT 163 Middle Dale- Dumfries and Galloway)

Key Characteristic	Effect of the proposed Development
Broad valley with complex undulating topography and locally narrow sections.	No change.
River meanders eroding bluffs in the valley moraines.	No change.
Landcover predominantly improved pastures, lush green, sheep and cattle grazed.	No change.
Medium scale field enclosures, a mixture of hedgerows and dry stone dykes.	No change.
Extensive pattern of shelterbelts and farm woodlands with semi-natural woodlands on bluff slopes.	No change.
Dale contained by uplands with forests and rough grazing on horizons.	No change.
Semi-natural hanging woodlands on steep bluff slopes.	No change.
Country houses and designed landscapes.	No change.
Settlements of high townscape quality.	No change.
Communication routes.	No change.
'Red-earth" qualities relating to underlying red sandstones	No change.

168. The proposed Development would result in no changes to the LCT key characteristics. There would be very limited change to the broader landscape context and scenic qualities of this LCT. Landform and intervening forestry and tree cover would substantially restrict visibility and subsequent influence on landscape character within both units of the LCT. The more concentrated area of invisibility is contained within the Mid Nithsdale unit to the west along the eastern facing slopes, west of the A76. Discernible effects would be limited to the Mid Nithsdale unit. Effects on the Mid Annadale unit would be Negligible.

169. The proposed Development would be located within the Foothills with Forest LCT of which there are extensive views from elevated parts of Mid Nithsdale unit. Where visible, the proposed Development would be visible on the skyline to the east but would not interrupt views of the more scenic Thornhill Uplands. **Viewpoints 7 and 10** in **Volume 3b** illustrate that whilst there would be some intervisibility, there would be no change to the setting of Mid Nithsdale.

170. Considering this, the scale of change would be Small at most and Localised in extent. Combined with the Long Term duration, the magnitude of effect is assessed as Slight. The sensitivity of the landscape is High/ Medium leading to a **'Moderate/Minor'** effect which is '**Not Significant**'.

7.8.15.Operational Visual Effects

7.8.15.1.Visual Receptor Groups

171. This assessment focuses on the effect on groups of visual receptors. The assessment of effects focuses on the visual amenity from public spaces, though views from groups of dwellings may also be noted in the descriptions. The visual receptor groups focus on areas where there would be visibility of the proposed Development and likely to result in notable

effects. There are some more distant visual receptors where effects are unlikely to be greater than Negligible and not considered in detail.

172. These visual receptor groups are generally assessed as being of High susceptibility to the proposed Development and of Community value, resulting in a **High/Medium** sensitivity to the proposed Development, unless stated otherwise. Effects on private residential visual amenity are a separate matter, and are assessed within **Technical Appendix 7.5.**

173. **Ae** (2.0 km southeast of the proposed turbines) - This receptor group is comprised of residents, and local road users accessing the village. The village is located within an incised valley enclosed by forested foothills. The northern and western sides of the main residential settlement is surrounded by deciduous trees and garden vegetation as well as fencing. There is a more open village green area which looks northeast. There would be theoretical visibility across the entire settlement, but the vegetation and settlement would screen most of the views to the northwest. However, in winter or through gaps in vegetation and settlement some turbines of the proposed development would be visible. There would also be more open views from the minor roads accessing the village. **Viewpoint 3** in **Volume 3b** is located on the northwestern edge, in a gap in the tree cover and illustrates the maximum visibility from the village. This illustrates up to 12 turbines would be visible but with the current extent of forestry and tree cover, nine turbines' hubs and two blade tips would be visible, with landform and forestry screening much of the lower parts of the turbines and all ground level infrastructure. The turbines would be a prominent addition on the skyline and the rotation of the turbines would draw the eye.

174. Overall, the scale of change would be Large across a Localised extent of this group. These Long Term effects on the receptor group would have a Substantial/Moderate magnitude, resulting in a '**Major/Moderate**' effect which would be '**Significant**'.

175. **Forest of Ae** (1.9 km east of the proposed turbines) -This receptor group is comprised of recreational visitors to Ae Forest Bike Shop and Café, 7Stanes mountain bike trails and recreational users of a core path that runs up the Water of Ae and parallel with cycling routes. The Romans and Reivers Route is assessed separately. The susceptibility of mountain bike users would be Low as they are focussed on the technical aspects rather than an appreciation of the view . Recreational users of core paths or walking routes would be of High susceptibility and of High/Medium sensitivity. The network of trails is primarily enclosed within forestry with predominantly insular views which are very subject to the state of felling of surrounding forestry. Where there has been felling there would be some potential for views out, but these views would close up in time after restocking. There are more elevated areas that offer more open and expansive views across dales and upland landscapes beyond. The bare earth ZTVs illustrate very little visible along the core path along the Water of Ae. Where and if views out are possible, these would occur between the bike café/shop and the entry to the forest, as well as the east facing slopes of the hills in the Forest of Ae. Where visible, the proposed Development would be visible on the western side of the dale, stretching along much of that skyline in views east. The rotating turbines would be a prominent feature in views. This would result in a Large scale change to views across a Limited extent of the group in the Long Term which would result in a Moderate magnitude of change. For recreational users, this would result in a '**Major/Moderate**' effect which would be '**Significant**'.

176. **Loch Ettrick and core paths within 5 km** (1.3 km west of proposed turbines) – this receptor group comprises the recreational users at Loch Ettrick which is currently a venue for

outdoor swimming and a local recreation resource. This group also includes recreational users of some of the nearby core paths across Gawin Moor and Threip Moor. The bare earth ZTVs illustrate widespread visibility across the loch however screening ZTVs shows visibility would be more restricted and views out are dependent on the state of nearby forestry. **Viewpoints 2 and 4** in **Volume 3b** illustrates the current state of the forestry (including some very recent felling). The introduction of proposed turbines would appear as new large-scale features in the view in close proximity. The core paths from Ae, Auldgirth and Dalswinton all join up to Loch Ettrick and for the most part are located within commercial forestry where views would be subject to the state of forestry along the routes. When forestry has been felled, the visibility would be more like that illustrated on the bare earth ZTVs, but when in growth would be fully screened. The notable exception is the section through Dalswinton Common in close proximity to the Dalswinton Windfarm which is already strongly influenced by those operational turbines. However, when views would be available the turbines would be prominent with local screening by landform providing notable screening (as illustrated on the bare earth ZTVs). The route from Ae to Gawin Moor extends through the centre of the array and close-range views of the turbines would occur throughout the duration of the proposed Development due to the keyholing required in the forestry. Views of the proposed Development from the core path across Threip Moor would be partially screened by landform and further by forestry where standing and here views would be similar to **Viewpoint 4** in **Volume 3b**.

177. The scale of change would be Large across an Intermediate extent of the group. Due to the visibility being dependent on screening by forestry impacts would tend to occur in Medium Term until the forestry regrows and screens the turbines. This would result in a Substantial/Moderate magnitude, resulting in a **Major/Moderate** effect which would be **Significant**. The exception to this would be the core path from Ae to Gawin Moor where there would be views of turbines for the entire duration and a '**Major**' effect which would be '**Significant**'.

178. **Ae Bridgend, and Parkgate** (5.0 km southeast of the proposed turbines) – This receptor group comprises residents, minor road users and recreational users of a core path accessed from Beech Avenue near the college. The bare earth ZTVs indicate widespread visibility within Ae Bridgend and Parkgate. However, taking into account screening, would result in much less visibility from residents at Parkgate and the agricultural college due to screening by forestry/tree cover and further screened by boundary vegetation. When open views are available, these would be similar to **Viewpoint 5** in **Volume 3b**, where the full array of the proposed Development would be visible across part of the skyline above forestry in views northwest, adjacent to Dalswinton Windfarm. The contrast in scale of turbines between the proposed Development and operational Dalswinton and Harestanes Windfarms would be very noticeable. The scale of change would be Large/Medium across an Intermediate extent of this group. These Long Term effects on this receptor group would have a Substantial/Moderate magnitude, resulting in a '**Major/Moderate**' effect which would be '**Significant**'.

179. **Shieldhill** (7.9 km southeast of the proposed turbines) – This receptor group includes a linear band of residential properties, dispersed settlement and minor road users. The settlement is orientated to face northwest and localised boundary vegetation would partially screen views of the proposed Development. There would be theoretical visibility of most of the proposed array on part of the skyline to the northwest. The proposed Development would notably intensify the amount of windfarm development on the skyline

and appear much larger than the adjacent Dalswinton Windfarm. The scale of change would be Medium across an Intermediate extent. These Long Term effects on this receptor group would have a Moderate magnitude, resulting in a '**Major/Moderate**' effect which would be '**Significant**'.

180. **Templand** (12.5 km southeast of the proposed turbines)- This receptor group is comprised of residents, minor road users, recreational users of a local core path and users of community greenspace. ZTVs illustrate widespread visibility across this group, with residents along the western side of the settlement would experience open and uninterrupted views towards the proposed Development. There would be less visibility within the core of the settlement due to the density of buildings as illustrated on the screening ZTVs. The proposed Development would be a noticeable addition on the skyline in views northwest between the operational Dalswinton and Harestanes Windfarms. The proposed turbines would appear noticeably larger than the operational turbines but at over 12 km away, this would be less influential in the view. The scale of change would be Medium/Small across an Intermediate extent. These Long Term effects on this receptor group would have a Moderate magnitude, resulting in a '**Moderate**' effect which would be '**Significant**'.

181. **Lochmaben** (13.2 km southeast of the proposed turbines) – This receptor group includes residents in Lochmaben, recreational users of core paths and minor road users. The bare earth ZTVs indicate visibility throughout the settlement and to the north. However, the screening ZTVs illustrate thatlikely visibility would be more restricted to the western and northern fringes of Lochmaben. There would be limited, to no visibility, within the core of Lochmaben itself. Where visible, the proposed Development would appear across small part of the skyline in distant views northwest, seen within afforested foothills between the operational Dalswinton and Harestanes Windfarms. The introduction of the proposed turbines would increase the presence of windfarm development present in these views. The scale of change would be Medium/Small across a Localised extent. These Long Term effects on this receptor group would have a Slight magnitude, resulting in a '**Moderate/Minor**' effect which would be '**Not Significant**'.

182. **Lockerbie** (18.5 km southeast of proposed turbines) – receptors in this group comprise residents, recreational users of core paths and local road users. Although the ZTVs illustrate widespread visibility of the proposed Development, this would be very restricted by built development within Lockerbie. Visibility would be very limited to the outer edge, in particular the more elevated area at the eastern extents of the settlement. Where visible, the turbines would appear adjacent and at a slightly larger scale than existing windfarm development on distant skyline views northwest, as illustrated in **Viewpoint 16** in **Volume 3b**. The change in views would result in a Small/Negligible scale over a Limited extent of the group. This Long Term change would lead to a Negligible magnitude resulting in '**Minor/Negligible**' effect that would be '**Not Significant**'.

183. **Queensberry** (5.0 km north of proposed turbines) – receptors in this group comprise recreational receptors on the summit at Queensberry hill, and the 'Walk Highlands' route from Mitchellslacks which includes The Law, Craih Hilll, Wee Queensberry and Queensberry hill. The impacts would also be similar to anyone in those hills to the north around Earnscraig Hill or Garroch Fell or Auchenleck Hill. Elevated and expansive views from the summit of Queensberry is illustrated by **Viewpoint 8** in **Volume 3b**, whereas the low-level views are illustrated at **Viewpoint 4** in **Volume 3b**. As illustrated in the ZTVs, there

would be central sections with no visibility due to landform but from the summits there would be open views. From the summits, the full turbine array of the proposed Development would be visible as a compact array in front of Dalswinton Windfarm in views southeast. The proposed turbines would be more distant than the operational turbines at Harestanes but would appear at a similar scale from the summit. The proposed turbines would fit in with the existing pattern of cumulative development to the south. The proposed Development would affect a small proportion of panoramic views above forestry and away from the more valued scenic qualities to the north. The scale of change would be Medium over a Wide extent of the group and this Long Term change would result in Substantial/ Moderate magnitude resulting in '**Major/Moderate**' effect that would be '**Significant**'.

184. **Drumlanrig Castle** (12.0 km west of proposed turbines)- this receptor group comprises recreational receptors visiting Drumlanrig Castle and gardens and users of the core paths. This destination is recognised for its historical associations, scenery and range of experiences and views from this receptor group are considered to be a National value. Given that an appreciation of the landscape is a component within the Castle grounds, recreational users are considered to be of High susceptibility. Overall, recreational users are considered to be of High sensitivity to the proposed Development.

185. The bare earth ZTVs illustrate widespread visibility however the screening ZTVs and woodland within the castle grounds would substantially restrict visibility of the proposed Development. Visibility would be limited to the more elevated part of the east garden and open parklands north of the castle. As illustrated by **Viewpoint 12** in **Volume 3b**, vegetation in the summer would screen most of the proposed turbines, with a few turbines likely to be visible on the distant skyline to the east. There would be little or no change in views within most of the castle grounds. The scale of change would be Small over a Limited extent of the group and this Long Term change would result in Slight/Negligible magnitude resulting in '**Moderate/Minor**' effect that would be '**Not Significant**'.

186. **Thornhill and Closeburn,** (5.4 km – 7.0 km north west of proposed turbines) – receptors in this group comprise local residents in and around these settlements including Penpont and Keir Mill, recreational users of core paths and local roads. The bare earth ZTV illustrates widespread visibility. However, the screened hub and blade ZTVs illustrate much less visibility. Localised vegetation would further filter views of blade tips from many locations. Where there would be visibility of the proposed Development this would be limited to the southeastern facing edge of the receptor group. As illustrated by **Viewpoint 7** and **Viewpoint 10** in **Volume 3b**, mainly blades would be visible on the skyline to the east. Turbine hubs would be visible from very limited locations. The proposed Development would result in a Small scale of change across an Intermediate extent of the receptor group. This Long Term change would lead to a Slight magnitude resulting in a '**Moderate/Minor**' effect that would be '**Not Significant**'.

187. **Burnhead and Coldside** (6.7 km southwest of proposed turbines) – receptors in this group comprise local residents on the ridge between the A76 and Dunscore and Coldside Road. Bare earth ZTVs illustrate widespread coverage across this receptor group. However, the screening ZTVs illustrate visibility would be more limited from lower levels and nearer the A76. Localised vegetation and clusters of mature vegetation would further filter views of the proposed Development. Where open views are available to the northeast, the proposed Development would be visible on the skyline above layers of vegetation and

undulating landform, as illustrated by **Viewpoint 9** in **Volume 3b.** From this area, the proposed Development would appear as an extension to the operational Dalswinton Windfarm. This group would experience a Medium/Small scale of change over an Intermediate extent of the group. This Long Term change would lead to a Moderate magnitude resulting in a '**Moderate**' effect and would be '**Not Significant**'.

188. **Auchencairn and Kirkton,** (4.5 km – 8.0 km south of proposed turbines) – receptors in this group comprise of local residents in dispersed settlement around Auchencairn (including Riddingwood, Townfoot and Amisfield) and Kirkton, and users of the local roads. The bare earth ZTV indicates widespread visibility, but this is reduced by intervening woodland and forestry shown on screening ZTVs. Actual visibility would be more restricted further by localised hedgerows and bands of trees and woodland not included in the ZTV model. Where open views would be available from limited locations, these would appear similar to that illustrated in **Viewpoint 6** in **Volume 3b.** Here the proposed Development would appear near the operational Dalswinton Windfarm which already influences views. This group would experience a Large/Medium scale of change over a Localised extent. This Long Term change would lead to a Moderate magnitude resulting in a '**Moderate**' effect and would be '**Significant**'.

189. **Dumfries, and Locharbriggs** (9.6 km south of proposed turbines) – receptors in this group comprise local residents, recreational users on core paths and local road users in the area. Whilst the bare earth ZTV indicate widespread visibility, the screening ZTVs indicate a more accurate account of visibility on the ground. This would include those on the northern edge of Dumfries and Locharbriggs who would experience visibility of the proposed Development. As illustrated in **Viewpoint 11** in **Volume 3b** the nature of visibility would be limited to views of the proposed Development within the context of existing operational turbines at Dalswinton and Harestanes / Minnygap Windfarms. The difference in scale between the larger proposed turbines and operational turbines would be visible but the horizontal extent of the array would be comparable. Localised vegetation along the River Nith and other water courses would further screen views from the core paths along them. The scale of change would be Medium/Small over a Localised extent of the group and this Long Term change would result in Moderate/Slight magnitude resulting in '**Moderate**' effect that would be '**Not Significant**'.

7.8.15.2.Key Routes

190. **Romans and Reivers Route** (2.1 km east of the proposed turbines) is one of Scotland's Great Trails. This 84 km route follows old Roman roads, forest tracks, drove roads and short sections of quiet lanes through the heart of Reivers country and its southern terminus at Ae. Value is judged to be National on account of its status as one of Scotland's Great Trails. Susceptibility is judged to be Medium within the study area. Most of the route is contained within woodland and forestry, with few open vantage points along the route. Users on this route are considered to be of High/Medium sensitivity to the proposed Development.

191. The bare earth ZTVs illustrate visibility would be restricted to the terminus of the route at Ae and at Holehouse Hill / Hound Rig within the Forest of Ae. The section of the route within the Forest of Ae would be dependent on the state of surrounding forestry but at some point would be felled and replanted, so there would be visibility during that time. The visibility at the terminus at Ae would occur intermittently between the bike café/shop and the entry to the forest. Where visible, the proposed Development would be visible on the western side of the dale, stretching along much of that skyline in views east and the

rotating turbines would be a prominent feature in views. This would result in a Large scale change to views across a very Limited extent of the route in the Long Term (or Medium Term where forestry is felled and replanted) which would result in a Moderate magnitude of change. For users of this route, this would result in a '**Moderate**' effect which would be '**Not Significant**'.

192. **Annandale Way** (11.4 km east of the proposed turbines) is one of Scotland's Great Trails. It is a 90 km route from the Moffat Hills in the north and follows the River Annan south to the Solway Estuary at Annan. Value is judged to be National and includes a range of dramatic landscapes such as the Devil's Beef Tub and more open middle dales. Views of the landscape contribute to the experience for recreational receptors therefore users would be of High susceptibility. Users on this route are considered to be of High sensitivity to the proposed Development.

193. Bare earth ZTVs illustrate theoretical visibility between Edgemoor Wood and an area south Lochmaben, which would be approximately 10.4 km of the route. Further south, visibility would be more patchy or entirely restricted, but there would be a few high points such as at the Annandale Monument (**Viewpoint 15** in **Volume 3b**). The screening ZTVs illustrate a similar pattern but a more patchy coverage of visibility.

194. Between Edgemoor Wood and south Lochmaben, the proposed Development would appear 11.3 km-13.3 km away on part of the skyline to the northwest. The proposed Development would appear similar to **Viewpoint 13** in **Volume 3b**. The proposed turbines would appear near existing turbines at Harestanes and Dalswinton Windfarms but at a greater scale. **Viewpoint 15** in **Volume 3b** illustrates views from a more distant and elevated view on the route where the distance of over 18.0 km to the proposed Development results in a more limited scale of change, but still a noticeable feature in the background of views. The scale of change would be Small over a Localised part of the route. This Long Term change would lead to a Slight magnitude and a '**Moderate**' effect which is '**Not Significant**'.

195. **Robert the Bruce Trail** (13.3 km southwest of the proposed turbines) is a regionally promoted driving and foot route. The Central trail extends southwest from Dumfries and includes sections of the A75 towards Castle Douglas, Brae (**Viewpoint 14** in **Volume 3b**) and the A710 heading south to New Abbey. The Eastern trail loops around the Site from Dumfries to Auldgirth via the Dalswinton before joining the A76 to Sanquhar and then crossing the Lowther Hills to Wanlockhead and then south through Annandale to Lochmaben and the B7020 to Annan and then back up to Dumfries via the B725. Value is judged to be Regional on account of the historical associations and views of the landscape contribute to the experience. Susceptibility is judged to be Medium, as the route is road based, some of which are busy. Users on this route are considered to be of High/Medium sensitivity to the proposed Development.

196. The ZTVs illustrates patchy visibility along the Central and Eastern sections of the route. From the Eastern section, the screening ZTVs illustrate there would be a few sections of the route between Lochabriggs and Kirkton but with very little visibility further north until Closeburn after it connects to A76. Between Lochabriggs and Kirkton the proposed Development would appear clearly noticeable near the operational Dalswinton Windfarm. There would be another section of patchy visibility around Lochmaben, over 13.0 km away. There would also be a section of sustained visibility on the B725 towards Dumfries from Glencaple.

197. From the Central section, there would be a few patches of visibility travelling north along the A710 from New Abbey including Whinnyhill, 15 km away, where the proposed Development would appear on the skyline. Overall, the scale of change would be Medium at most, across a Limited extent. This Long Term change would result in a Moderate/Slight magnitude resulting in a '**Moderate**' effect and '**Not Significant**'.

198. **National Cycle Route 7**: (12.0 km south of the proposed turbines) is a national route that passes through Dumfries to the southwest and southeast. To the southwest this route follows the Old Military Road and takes in Milton, Lochfoot, before joining the A711 and local roads within Dumfries then follows the bank of the River Nith through the south of Dumfries and connects to the B725. The route continues south off-road section along the left bank of the River Nith and reconnects to the B725 and Castlewood. Value is judged to be National and includes views within and towards the Nith Estuary NSA. Given the appreciation of the landscape, particularly along the River Nith is a component on this route users would be of High susceptibility. Users on this route are considered to be of High Sensitivity.

199. The bare earth ZTVs illustrate visibility would be very patchy along the Old Military Road southwest of Dumfries with limited influence on the visual amenity of this part of the route. There would be limited to no visibility within Dumfries. However, travelling northbound from Glencaple, there would be two consistent sections of visibility of the proposed Development along the B725 within the Nith Estuary NSA. The proposed Development would appear in views over 15.0 km north beyond Dumfries where the proposed turbines would be a visible feature in the background of views. The scale of change would be Small over a Localised part of the route. This Long Term change would lead to a Slight magnitude and a '**Moderate**' effect which is '**Not Significant**'.

7.8.15.3.Roads

200. **A701**: (5.3 km southeast of the proposed turbines) is the main route between Dumfries and Junction 15 of the A74 (M) at Moffat. This route is identified regionally as a scenic route and judged to be of Regional value. Given that an appreciation of the landscape is a component on this road, users would be of Medium susceptibility. Overall, users of the road are considered to be of High/Medium sensitivity to the proposed Development.

201. The ZTVs illustrate there is only potential for visibility on the 13.0 km southern section of the route near Dumfries. As illustrated in the screening ZTVs, there would be no views north of Parkgate and on a section between Amisfield and Lanegate Road. Views within Locharbriggs and Dumfries itself are often screened by settlement along the road. There would be a 5.0 km section of the route with more consistent visibility of the proposed Development, as illustrated in **Viewpoint 5** in **Volume 3b.** From this section of the route, roads users would see the full array which would be prominent above the forestry. The proposed Development would appear as a notable extension of windfarm development and at a greater scale than the operational turbines at Dalswinton or Harestanes Windfarms. The proposed Development would be seen obliquely to the direction of travel but visible travelling in both directions on the road. The proposed Development would result in Large/Medium scale of change over and Localised extent of this route. This Long Term change would result in a Moderate magnitude resulting in '**Major/Moderate**' effect that would be '**Significant**' over a short section of the route.

202. **A76**: (5.3 km west of proposed turbines) between Cumnock and Dumfries. Value is considered to be Regional as part of this route is within the Thornhill Uplands RSA.

Susceptibility is Low for road users on this main transport route. Users on this route are considered to be of Medium/Low sensitivity to the proposed Development. The bare ground ZTVs illustrate no potential visibility north of Carronbridge near Thornhill. There is also a section of no potential visibility between Closeburn and Burnhead through Auldgirth. The screening ZTVs reduce the extent and number of turbines likely to be visible considerably to intermittent views between Carronbridge and Dumfries. The proposed Development would often be oblique to the direction of travel along the A76 but visible travelling in both directions. When occasional open views of the proposed Development would be possible these would be as illustrated by **Viewpoints 7 and Viewpoint 10** in **Volume 3b**. Towards Dumfries where there would be greater visibility along a short section south of **Viewpoint 9** in **Volume 3b**. Here the proposed Development would appear as an intensification of wind turbines alongside the operational Dalswinton Windfarm. Considering the sequential nature of views and extent of screening afforded by landform and tree cover, there would be only a relative limited change in views from this route. The scale of change would be Medium/Small across a Limited extent. This Long Term change would result in a Slight magnitude resulting in a **Moderate/Minor** effect and **Not Significant.**

203. **A709** (12.0 km southeast of the proposed turbines) – this is the main route between Dumfries and Lockerbie. This route is judged to be of Community value. This is a local transport link with some appreciation of the landscape as a component, Users are considered to be of Medium susceptibility. Overall, users of this road are considered to be of Medium sensitivity. The bare earth ZTVs indicate potential visibility would be limited to the section between Dumfries and Torthorwald and the western edge of Lochmaben. Intervening landform and forestry would partially limit views towards the proposed Development, as illustrated in the screening ZTVs. Between Dumfries and Torthorwald there would be a notable view of the turbines, oblique to the direction of travel. Here the proposed Development would appear adjacent to the operational turbines at Dalswinton, with the turbines noticeably larger in size but would not occupy a wider extent. Between Lochmaben and Lockerbie, tree cover and built development would screen most visibility but there would be a notable view at Shillahill, similar to **Viewpoint 16** in **Volume 3b**. The scale of change is judged to be Small across a Limited extent of this route Long Term change would result in a Slight/Negligible magnitude and '**Minor**' effect and '**Not Significant**'.

204. **A710** (13.2 km south of the proposed turbines)- This is the main transport route south from Dumfries to the coast. This road forms part of the South West Coastal 300 tourist route where views south towards the Nith Estuary are of high quality and therefore judged to be of National value. Given that an appreciation of the landscape is a component on this road, users would be of Medium susceptibility. Overall, users of the road are considered to be of High/Medium sensitivity to the proposed Development. The bare earth ZTVs illustrate visibility occurs along the section south of Dumfries to Whinny Hill and south of New Abbey. As illustrated in the screening ZTVs, the actual visibility from this route would be limited to a few short sections on elevated ground travelling northbound only. The scale of change would be Small across a Limited extent of this route. This Long Term change would result in a Slight/Negligible magnitude resulting in a '**Minor**' effect and '**Not Significant**'.

7.8.16.Operational Effects on Landscape Designations

7.8.16.1.Nith Estuary NSA

205. The proposed Development is over 16 km from the Nith Estuary NSA. Whilst it was agreed that significant effects are considered unlikely, NatureScot requested that a high-level assessment be included in the LVIA consider the potential for effects on the Special Qualities of the Nith Estuary. Potential effects on the Upper Tweeddale NSA and East Stewartry NSA were scoped out.

206. The Nith Estuary encompasses the River Nith and the Lochar Water flow into the Solway Firth to form a wide tidal estuary comprising the Carse Sands, Blackshaw Bank and Priestside Bank. The expanse of sands, mud flats and saltings contribute to the distinctive sense of openness. The extent of the NSA is shown on **Figure 7.1** and the extent of theoretical visibility shown on **Figures 7.7- 7.13**. **Viewpoint 17** in **Volume 3b** is located at the summit of Criffel within this NSA and illustrates views from the Coastal Granite Uplands LCT across the lowland coastal flats landscape within the core part of the designated area. The Nith Estuary NSA is a well-used for recreation with a rich network of core paths and long distance routes that follow the River Nith. It also contains parts of the Solway Coast RSA and one Garden and Designed Landscape.

207. The proposed Development is not within the designation and therefore the physical integrity of the NSA would remain intact. Potential effects would be limited to those arising from visibility of the proposed Development. As this is a high level assessment, the sensitivity of each of the Special Qualities are not considered separately and they are all considered to be of High sensitivity but appreciate that the susceptibility of each Special Quality may vary.

208. The Special Qualities of this NSA have been set out in The Special Qualities of the National Scenic Areas (NatureScot Report 374). The special qualities identified within that document and the potential effect as a result of the proposed Development are set out in the **Table 7.16**.

Table 7.16. Effects on Special Qualities of Nith Estuary NSA

Special Quality of the NSA	Potential Effect and Significance
A working, farmed landscape against a backdrop of hill and estuary	The proposed Development could be part of the backdrop of hills over 16.0 km away if looking north. From these few locations within the NSA, the proposed Development would be visible in afforested hills, within the context of existing windfarm development and would not break the skyline from many locations. Effects on this Special Quality would not be significant.
Criffel, a Border landmark rising above the coastal flatlands	Given the separation distance of 27km away from the summit of Criffel, views of the proposed Development would not affect views towards Criffel, from either within or outwith the NSA. There would be no effect on this Special Quality.
The meeting of land, sea and sky	This quality is more focussed within the NSA itself, and views of the proposed Development would occur in the background of views landward for the most part. There would be no effect on this Special Quality.

The tide coming in at the 'speed of a galloping horse'	There would be no effect on this Special Quality.
The interplay of natural and cultural landscapes	There would be no effect on this Special Quality.
A great diversity of habitats and wildlife	There would be no effect on this Special Quality.
The detailed patterns of merse and estuary	There would be no effect on this Special Quality.
A landscape of movement	There would be no effect on this Special Quality.
A rich variety of colour, light, texture and scale	This quality is more focussed within the NSA itself and any views of the proposed Development would occur within the large scale upland landscapes to the northwest. There would be no effect on this Special Quality.
A landscape of distinctive sounds and smells	There would be no effect on this Special Quality.
A peaceful landscape but with a long and troubled history	There would be no effect on this Special Quality.
Landmarks, contributing to the identity of the area	Given the separation distance of over 16 km from any of these landmark features, there would be little or no impact on appreciating the landmarks within this NSA. There would be no effect on this Special Quality.
The use of locally distinctive stone	There would be no effect on this Special Quality.
The view out to the Cumbrian Fells	The proposed Development would be located to the north, whereas the Cumbrian Fells are to the south. There would be no effect on this Special Quality.

209. The bare earth ZTVs illustrate intermittent coverage within the NSA, with the screening ZTVs restricting this further. Most of the Special Qualities relate to the internal aspects of the NSA itself or the landmark feature of Criffel. The Special Quality which relates to views out, are to the south of the Cumbrian Fells, rather than north and this quality would not be affected.

210. The Special Quality which mentions a backdrop is the first one, '*A working, farmed landscape against a backdrop of hill and estuary*'. From parts of the NSA with theoretical visibility, the proposed Development would be part of the backdrop of hills if looking north. From these few locations within the NSA, the proposed Development would be visible amongst the afforested foothills in an area already characterised by wind energy and from many locations would not break the skyline which is formed by the higher Lowther Hills behind. At over 16.0 km away, the proposed Development is unlikely to have a significant adverse impact on the appreciation of this Special Quality.

211. There would be no significant adverse effects on these Special Qualities. The scale of change would be Small/Negligible across a Localised extent of this Special Quality. This Long Term change would result in a Slight/Negligible magnitude and '**Moderate/Minor**' effect and '**Not Significant**'.

7.8.16.2.Solway Coast National Landscape (formerly known as AONB)

212. The Solway Coast National Landscape is located at the southeastern extent of the study area, approximately 34.5 km from the Site and Illustrated on **Figure 7.1**. The extent of visibility as illustrated on **Figures 7.7-7.13**. The screening ZTVs illustrate a scattered extent of visibility within this designation, with views represented by **Viewpoint 19** in **Volume 3b.** This designated landscape is considered to be of High sensitivity overall as a national designation for landscape quality but the susceptibility of each Special Quality may vary.

213. The Special Qualities (Solway Coast National Landscape) are defined as:

- *"Large flat expanses of coastal terrain*
- *The dramatic sky, one of our dominant features*
- *A dynamic and large intertidal estuary*
- *Vast unbroken vistas across the Scotland*
- *Extensive areas of traditionally-grazed saltmarsh*
- *Large, though fragmented, areas of lowland raised mire bogs*
- *A long narrow tract of coastal dunes*
- *Large areas of exposed sand and mud*
- *A culture of dairy, beef and sheep farming*
- *Small hedge-bound fields, using a traditional 'kested' method of banking*
- *Scarce woodland cover*
- *Rich archaeological and historical heritage*
- *High levels of biodiversity thanks to intertidal, coastal and inland habitats*
- *An internationally-important area for birdlife in our estuary habitats and lowland raised bogs."*

214. There would no change to the physical elements of the National Landscape given the separation distance of over 34 km. The only Special Quality which might be affected would be the '*Vast unbroken vistas across the Scotland'*. Whilst there would be distant visibility of the proposed Development, this would very much form a distant feature. Much of this Special Quality relates to the views of Criffel across the Solway which forms *'a Border landmark rising above the coastal flatlands"*. Views to the Southern Uplands only occur in excellent visibility and are more secondary.

215. The scale of change to this Special Quality would be Negligible across an Intermediate extent of the National Landscape. This Long Term change would lead to a Slight/Negligible magnitude and '**Moderate/Minor**' effect and '**Not Significant**'.

7.8.16.3.RSA 8 Thornhill Uplands

216. RSA 8 Thornhill Uplands lies 0.9 km at closest point, to the northwest of the proposed Development. This RSA encompasses varied and contrasting upland and valley scenery ranging from the exposed, remote summits of the Lowther Hills, through the wooded gorge

of the Nith above Drumlanrig to the pastoral character of the wide, enclosed upper Cairn and Mid Nithsdale valleys.

217. This RSA is described in Dumfries and Galloway Council, Local Development Plan 2, Regional Scenic Areas, Technical Paper (January 2018). The Thornhill Uplands RSA is described in the following way:

"Overall, though there are strong contrasts in relief, the topography is smoother and rounder than the Galloway Uplands to the west and the area is more highly populated and has a more managed feel.

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

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

The main valleys are accessible from Dumfries, and the Middle Dale and Intimate Pastoral Valleys and are subject to pressure for residential development, as well as being popular for informal recreation. The flanks of the valleys see continued demand for forestry, and the flanks and summits have seen interest from windfarm developers" (Page 33).

218. Landscape value is Regional on account of the local level designation. Landscape susceptibility is Medium. More susceptible attributes of the RSA relate to the more elevated and distinctive parts of this landscape including Queensbury Hill and southern slopes of the Lowther Hills or where there are more smaller scale landscape elements. However, less susceptible attribute are the large scale landscapes with consistent landcover and few scaling features. Considering value and susceptibility, overall sensitivity is assessed as High/Medium.

219. Given the proposed Development would be outwith the RSA, there would be no change to the physical attributes of the RSA. The main change would result from the perceptual changes to the RSA resulting from visibility of the proposed Development. The bare earth ZTVs indicate widespread visibility, However, given the extent of deciduous tree cover and policy woodland within Nithsdale and screening by forestry, the screening ZTVs predict a much reduced extent of visibility across the RSA. Views from the RSA are illustrated with **Viewpoints 7, 10, and 12** within Nithsdale and **Viewpoint 8** in **Volume 3b** from the summit of

Queensberry in the upland part of the designation. The elevated parts of the RSA have the potential for more notable impacts.

220. From the upland part of the RSA, there would be open views to much of the proposed Development. However, it would not encroach any closer to the base of the Lowther Hills and Queensbury hill than the operational windfarms, albeit the proposed turbines would be notably larger in scale. However, the proposed Development would be setback into the Foothills from Nithsdale, which has meant that the influence of the proposed Development is much reduced on this dale at the heart of the RSA. Whilst it is still visible across scattered parts of the RSA, notable influence would be restricted to the upland area around Queensberry.

221. With regard to views of the RSA, Queensberry hill forms a prominent feature in the landscape from the middle and lower Nithsdale and Annadale. In most cases, as illustrated in the **Technical Appendix 7.3: Viewpoint Analysis**, the proposed Development would not appear in front of Queensberry hill or other values strong upland features of this RSA.

222. The scale of change is judged to be Medium at most within a Localised extent of the upland area on the eastern edge of this RSA. This Long Term change would result in Moderate magnitude of effect as a result of the proposed Development. The sensitivity of the landscape is High/Medium, leading to a '**Moderate**' effect which would be '**Significant**'.

223. Beyond this area, the impacts would reduce to '**Not Significant'**.

7.8.16.4.RSA 7 Thorthorwald Ridge

224. RSA 7 Thorthorwald Ridge lies 4.9 km at closest point, to the south of the proposed turbines and covers the Torthorwald Ridge unit LCT 16 Upland Fringe. This landscape is designated due to its scenic qualities relating to the prominent landform, and as a an attractive and less forested part of the Upland Fringe LCT. The bare earth and screening ZTVs illustrate that there would be potential visibility of the proposed Development across a few of the northern aspects; hilltop, ridge, and northern edge of this RSA and is illustrated with **Viewpoint 15** in **Volume 3b**. Landscape value is Regional on account of its local level designation. Susceptibility is Medium. This area with long views and landform which provides a backdrop to Annandale and Nithsdale are more susceptible to change but the scale of the landscape and upland characteristics would be less susceptible. Considering value and susceptibility together the sensitivity is judged to be High/Medium.

225. It is considered that the assessment of effects for LCT 16 Upland Fringe (Torthorwald Fringe) would be similar to this RSA. The proposed Development would be visible in the backdrop of views from a few parts of this RSA but would not be perceived to alter the scale or prominence of the Torthorwald Ridge landform. The proposed turbines would appear in views from parts of this area intensify the influence of windfarm development in the landscapes to the north and away from the more valued backdrops to the south of this RSA. The scale of change would be Small to Negligible over a Localised extent of this area. This Long Term change would result in a Slight magnitude of change. As it has a High/Medium sensitivity, the effect on the RSA would be '**Moderate/Minor**' and considered '**Not Significant**'.

7.8.16.5.RSA 6 Terregles Ridge

226. RSA 6 Terregles Ridge RSA (10.2 km southwest of the proposed turbines) The bare earth ZTVs illustrate theoretical visibility from Irongray rising to the north facing slopes of Dalquhairn Hill and Bishop Forest Hill as well as Craigmore Hill. The screening ZTVs

illustrate that forestry would limit visibility to the eastern edge and these low hills within this RSA.

227. This landscape is designated due to its diverse transitional uplands and steep sided valleys concentrated within a small area, compared to the more gentle and less varied landscapes to the north and west. Landscape value is Regional on account of its local level designation. The susceptibility of the special qualities vary but typically the more distinctive landforms tend to lower susceptibility but overall is considered Medium to the proposed Development. Considering this, sensitivity is judged to be High/Medium.

228. The proposed Development would result in limited influence on the special qualities from elevated locations on the northern part of this RSA and perceived near the operational Dalswinton Windfarm and as part of the broader corridor of windfarm development within the expanse of the undulating plateau covered in forestry over 10.0 km to the northeast. There would be less impression of change at lower elevations near local roads at the northeastern edge of this area and there no change the physical fabric of the RSA. The scale of change would be Small over a Localised extent of this area resulting Slight magnitude. This Long Term change would lead to a '**Moderate/Minor**' effect and considered '**Not Significant**'.

7.9.Cumulative Landscape and Visual Effects

7.9.1.Introduction

229. In line with GLVIA3 and NatureScot's guidance on Assessing the Cumulative Impact of Onshore Wind Energy Developments 2021, the assessment of cumulative effects should focus on whether there are any likely significant cumulative impacts which are reasonably foreseeable and which are likely to influence the decision making of the proposed Development, rather than an assessment of every potential cumulative effect. As recommended by the NatureScot cumulative guidance, this assessment focusses on the *"additional cumulative change which would be brought about by the proposed development"* (NatureScot 2021, Page 6). In this section, the proposed Development is referred to as Harestanes West Windfarm in order to prevent confusion and differentiate it from other proposed Developments that are being considered.

7.9.2.Assessment Scenarios

230. It is important to differentiate between the assessment of cumulative effects arising from Harestanes West Windfarm with projects that are operational/under construction (baseline of LVIA), or those that are consented which can be considered as part of a scenario with some certainty; and those that are proposed and about which there can be little certainty. Accordingly, the assessment distinguishes between these scenarios.

231. The assessment has not included consideration of any proposals at Scoping stage, as there is no certainty that these proposals will progress to planning submissions and the nature of the developments are likely to be subject to change.

232. The cumulative assessment considers the additional effects arising from the proposed Development to the different cumulative scenarios, which are as follows:

- Scenario 2 (future baseline) -all operational and consented developments; and

- Scenario 3 -all operational, consented and proposed developments with a submitted planning application.

233. As noted in **Section 4.6** and agreed during scope refinement, the potential for significant cumulative effects would be contained within a 15 km radius and the cumulative developments are listed in **Table 7.6**. The location of these potential cumulative developments is illustrated on **Figure 7.5**. The cumulative ZTVs (CZTV) are presented in **Figures 7.16-7.19** and illustrate various assessment scenarios to be assessed.

234. In this case that are no consented but unbuilt wind farms within 20 km and therefore there is no assessment presented for Scenario 2. Scenario 3 consists of a further three renewable energy proposals, Harestanes South Windfarm Extension, Daer Windfarm and Rivox Windfarm.

7.9.3. Cumulative Landscape and Visual Effects

7.9.3.1. Potential Cumulative Landscape Impacts

235. Harestanes West Windfarm would be located on the western end of the Forest of Ae unit of the Foothills with Forest LCT 18a, which extends to the northeast on the southern edge of the Lowther Hills.

236. The operational Dalswinton, Harestanes and Minnygap are located within the Ae unit (Foothills with Forest LCT 18), along with the proposal of Harestanes South Windfarm Extension. The proposed Rivox Windfarm would be located partly within Ae unit of the Foothills with Forest LCT 18a and partly within Southern Uplands LCT. The proposed Daer Windfarm which would be adjacent to Rivox Windfarm would also be located within the Southern Uplands LCT.

237. In terms of the additional impact of Harestanes West Windfarm to the operational baseline (Scenario 1 assessed in the main LVIA), this concluded with significant landscape effects on the Ae unit of the LCT 18a Foothills with Forestry and the adjacent Ae Fringe unit of LCT 16 Upland Fringe.

238. Given the nature and relationship of the developments and landscapes to each other, these are landscapes where there would be the greatest potential for significant cumulative effects to occur.

239. The only significant effect on designated landscapes was the Thornhill Uplands RSA 8.

240. The cumulative night-time impacts will be considered under **Section 7.10 Night-Time Landscape and Visual Effects**.

7.9.3.2. Potential Cumulative Visual Impacts

241. This assessment considers two types of cumulative visual impacts:

- Combined views which *'occur where the observer is able to see two or more developments from one viewpoint'*[6] ; and

[6] *'NatureScot, (March 2021). Guidance - Assessing the Cumulative Landscape and Visual Impact of Onshore Wind Energy Developments'*

- Sequential views which *'occur when the observer has to move to another viewpoint to see different developments*.'[7]

242. In terms of the additional visual impact of Harestanes West Windfarm to the operational baseline (Scenario 1 assessed in the main LVIA), this concluded significant effects would occur for the nearest visual receptor groups of Ae, Forest of Ae users, Loch Ettrick and core path users within 5km, Ae Bridgend, and Parkgate, Shieldhill, Templand, Queensberry, and Auchencairn / Kirkton. These receptor groups would experience a Major, Major/Moderate or Moderate and Significant effects as a result of visibility of the Harestanes West Windfarm turbines.

243. Users on the A701 would experience views of the proposed turbines at relatively close proximity as they travel between Nithsdale and Annandale, south of the site. This would result in a Major/Moderate (Significant) effect with Scenario 1 and given the route, cumulative impacts are likely. The impact for Scenario 1 on users of the Romans and Rievers Route was '**Moderate'** and '**Not Significant**', there is the potential for cumulative interactions, particularly sequential.

244. There was also a '**Moderate**' and '**Significant**' impact as a result of Harestanes West Windfarm, in Scenario 1 on the Thornhill Uplands RSA 8.

245. Given the cumulative analysis within **Technical Appendix 7.3: Viewpoint Analysis**, review of the CZTVs, and the receptors where significant and notable effects were predicted in the LVIA, the receptors assessed are those where an additional significant cumulative effect would be most likely. The following assessment focuses on these potentially significant cumulative interactions on landscape character and key visual receptors. Given the location of the other cumulative proposals and their areas of influence, the main receptors likely to experience cumulative impacts would be located either within the upland landscapes, or to the south and east.

7.9.3.3. Cumulative Impact with Other Proposals (Scenario 3)

246. Other proposed sites in Scenario 3 (operational, consented and application proposals) are considered in distance order from the proposed Development.

7.9.3.4. Operational and Consented baseline with Harestanes South Windfarm Extension, Figure 7. 17

247. Harestanes South Windfarm Extension would be located 4.1 km west of Harestanes West Windfarm and consist of 8 turbines up to 200 m high. Based on the cumulative viewpoint analysis and CZTVs, there would be relatively few notable cumulative interactions despite their proximity due to the screening effect of landform and tree cover. However, there would be a few receptors located at elevation or the south and east where views of both either combined or sequentially would be possible.

248. **Landscape character**: The relationship between Harestanes South Windfarm Extension and Harestanes West Windfarm is they would be seen as extension to the larger operational windfarms Harestanes/ Minnygap/ Dalswinton cluster within the same Ae unit of the Foothills with Forest LCT 18a. As illustrated in **Viewpoints 5, 8, 11, and 13-19** in **Volume 3b**, Harestanes South Windfarm Extension would appear as a direct extension of the

[7] *'NatureScot, (March 2021). Guidance - Assessing the Cumulative Landscape and Visual Impact of Onshore Wind Energy Developments'*

Harestanes group, whereas Harestanes West Windfarm would be perceived between Dalswinton Windfarm and Harestanes Windfarm. They would be perceived as wholly separate extensions. Together, they would increase the extent of the Dalswinton/ Harestanes/ Minnygap wind cluster, increasing the number of turbines and intensifying the existing pattern of cumulative development, but not altering it.

249. Assuming a prior presence of the operational, consented and the proposal of Harestanes South Windfarm Extension, the addition of Harestanes West Windfarm to this baseline would lead to some localised increased impacts, as noted above, but these would occur within a landscape which is characterised by forestry and wind turbines. However, this increase would not elevate the magnitude of change as reported for Scenario 1 (Moderate and Significant) as a result of adding Harestanes West Windfarm to the fully consented baseline on the Forest of Ae unit of the Foothills with Forest LCT 18a, where windfarms are already a characteristic feature.

250. There would be visibility and influence of both Harestanes South Windfarm Extension and Harestanes West Windfarm within the adjacent Ae Fringe unit of LCT 16 Upland Fringe, as illustrated in **Viewpoints 5 and 6** in **Volume 3b**. Whilst there would be some increased influence, as noted above, it would not increase the reported magnitude of change reported for Harestanes West Windfarm in Scenario 1, which was a '**Moderate**' and '**Significant**' effect.

251. Within the Southern Uplands LCT 19, there would be visibility and influence of both Harestanes South Windfarm Extension and Harestanes West Windfarm, as illustrated in **Viewpoint 8** in **Volume 3b**. Whilst there would be some increased influence, as noted above, it would not increase the reported magnitude of change reported for Harestanes West Windfarm in Scenario 1, which was a '**Moderate**' and **'Significant'** effect.

252. **Visual**: As noted above, tree cover and screening by landform would predominantly limit combined views of both sites in combination, however there would be some combined and sequential views within the upland landscapes, or to the south and east.

253. For those receptors within upland areas, such as on the core paths and summit of Queensberry to the north, both sites would be visible in association with operational wind energy developments as illustrated in **Viewpoint 8** in **Volume 3b**. Assuming a prior presence of the operational wind farms and the proposal of Harestanes South Windfarm Extension, the addition of Harestanes West Windfarm to this baseline would lead to some increased impacts but these would not change the magnitude of change already reported for Scenario 1 on the Queensberry receptor group '**Major/Moderate**' and '**Significant**'.

254. For those recreational receptors within the Forest of Ae and Romans and Rievers Route, there would be some mainly sequential views of these two proposals, due to the screening by forestry and landform. Assuming a prior presence of the operational windfarms and the proposal of Harestanes South Windfarm Extension, the addition of Harestanes West Windfarm to this baseline would lead to some increased impacts but these would not change the magnitude of change already reported for Scenario 1, '**Moderate**' and '**Significant**' for walkers in the Forest of Ae and '**Not Significant'** for users of the Romans and Rievers Route and mountain bikers in Forest of Ae).

255. For those at Loch Ettrick and core paths within 5 km, there would be very little influence of Harestanes South Windfarm Extension, as illustrated in **Viewpoint 2**. in **Volume 3b.** As a

result, there would be very little or no cumulative impact on recreational receptors in this group.

256. For users of the A701, there would be combined and sequential views of both proposals, as illustrated in **Viewpoint 5** in **Volume 3b**. Here, both proposals would be visible to the north of the route, in a part of the landscape which is already characterised by wind energy development. Visibility of Harestanes West Windfarm would occur over just the southern part of the route, whilst Harestanes South Windfarm Extension could theoretically be visible along much of this route. Assuming a prior presence of the operational wind farms and the proposal of Harestanes South Windfarm Extension, the addition of Harestanes West Windfarm to this baseline scenario would lead to increased impacts at the southern end of this route in a part of the landscape which would already be characterised by wind energy development. However, the amount of additional change attributable to Harestanes West Windfarm would remain as reported for Scenario 1 for users of the A701, '**Major/Moderate**' and '**Significant**'.

257. For other users to the south and east, such as at Auchencairn / Kirkton, Ae Bridgend/ Parkgate, Sheildhill and Templand, there would be combined views of both proposals within the Forest of Ae and in association with the operational wind farms, as illustrated in **Viewpoints 5 and 6** in **Volume 3b**. Assuming a prior presence of the operational wind farms and the proposal of Harestanes South Windfarm Extension, the addition of Harestanes West Windfarm to this baseline would lead to an increased number of turbines present in the view, but these would not change the magnitude of change already reported as a result of adding Harestanes West Windfarm to Scenario 1 on these receptor groups. The effect would remain '**Major/Moderate**' or '**Moderate**' and '**Significant**'.

258. For other users to the south and east such as at Lochmaben, Lockerbie, Coldside Road/Burnhead, Dumfries/Locharbriggs and the Annandale Way, NCR 7 and the Robert the Bruce Trail, there would be more limited extent of views of both proposals at distance, as illustrated in **Viewpoints 9, 11, 13-16** in **Volume 3b**. When visible, they would form more minor elements in what would usually be wider or longer range views, which are already characterised by wind energy development. Assuming a prior presence of the operational wind farms and the proposal of Harestanes South Windfarm Extension, the addition of Harestanes West Windfarm to this baseline would lead to an increased number of turbines present in the view, but these would not change the magnitude of change already reported as a result of adding Harestanes Wes Windfarm to Scenario 1 these receptor groups, '**Moderate**' or less and '**Not 'Significant**'.

259. **Designations:** From the Thornhill Uplands RSA 8, there would be views of both proposals from upland areas around Queensberry, as illustrated in **Viewpoint 8** in **Volume 3b**. But from these areas Harestanes South Windfarm Extension would appear subsumed by the operational Harestanes.

260. There would also be some views to Queensberry and the uplands of the RSA from Nithsdale and Annandale however, from most viewpoints, Harestanes West Windfarm would not appear in front of Queensbury or the strong upland topography.

261. Assuming a prior presence of the operational windfarms and the proposal of Harestanes South Windfarm Extension, the addition of Harestanes West Windfarm to this baseline would lead to an increased number of turbines present in the view, but these would not

change the magnitude of change already reported as a result of adding Harestanes West Windfarm to Scenario 1. The effect would remain '**Moderate**' and locally '**Significant**'.

7.9.3.5. Operational and Consented baseline with Daer and Rivox, Figures 7. 18 and 7.19

262. Given that these two sites are located adjacent to each other, the cumulative impacts with Harestanes West Windfarm would be very similar and therefore the assessment for these sites is presented together. If there would be any differing impacts depending on if only one of these two were built, then this will be noted.

263. Daer Windfarm would be located 9.6 km northwest of Harestanes West Windfarm and consist of 17 turbines up to 180 m high. Rivox Windfarm would be located 11.3 km northwest and consist of 29 turbines 200-230 m high. Based on the cumulative viewpoint analysis and CZTVs, there would be relatively few notable cumulative interactions due to the screening effect of landform and tree cover as well as their separation distance.

264. **Landscape character**: The relationship between Daer Windfarm and/or Rivox Windfarm (perceived as a single cluster if both are present) and Harestanes West Windfarm would be that they would be seen as two separate clusters within a similar landscape context. Harestanes West Windfarm would be perceived as part of the Dalswinton/Harestanes Windfarms cluster and they would be separated by c. 3 km. There would be a similar separation from the Lion Hill Windfarm cluster further north. Strategically combined they would result in a band of turbines extending from Dalswinton to Clyde, which would be most noticeable in and around Annandale, as illustrated in **Viewpoints 13, 16, and 18** in **Volume 3b**. However, the contribution of Harestanes West Windfarm would be focussed within the Dalswinton/Harestanes Windfarm cluster.

265. Assuming a prior presence of the operational, consented and the proposals of Daer/Rivox Windfarms, the addition of Harestanes West Windfarm to this baseline scenario would lead to some localised increased impacts, as noted above, but these would occur within a landscape which is characterised by forestry and wind turbines. This increase would not elevate the magnitude of change as reported for Scenario 1, '**Moderate**' and '**Significant**') as a result of the addition of Harestanes West Windfarm to Scenario 1 on the Ae unit of the Foothills with Forest LCT 18a.

266. Within the Southern Uplands LCT 19 there would be localised influence as a result of Daer/Rivox Windfarms. However, due to screening by landform, this influence would not overlap with the influence resulting from Harestanes West Windfarm. Assuming a prior presence of the operational, consented and the proposals of Daer/Rivox Windfarms, the addition of Harestanes West Windfarm to this baseline scenario would lead to some localised increased impacts in a separate part of the Southern Uplands to those of Daer/Rivox Windfarms. There would be an increased influence of wind energy across this LCT, but the amount attributable to Harestanes West Windfarm would remain as reported for Scenario 1 '**Moderate**' and '**Significant**'.

267. **Visual**: As noted above, tree cover and screening by landform would predominantly limit views of these sites in combination, however there would be some combined and sequential views to the southeast.

268. For users of the A701, there would be sequential views only of Daer/Rivox Windfarms and Harestanes West Windfarm. Assuming a prior presence of the operational wind farms and the proposals of Daer/Rivox Windfarms, the addition of Harestanes West Windfarmto this

baseline scenario would lead to increased impacts at the southern end of this route. However, the amount attributable to Harestanes West Windfarm would remain as reported for Scenario 1 for users of the A701, '**Major/Moderate**' and '**Significant**'.

269. For other users to the southeast, such as at Templand, there would be combined views of both Daer/Rivox Windfarms and Harestanes West Windfarm in association with Harestanes/Minnygap/ Dalswinton Windfarms. Assuming a prior presence of the operational windfarms and the proposals of Daer/Rivox Windfarms, the addition of Harestanes West Windfarm to this baseline would lead to an increased number of turbines present in the view, but these would not change the magnitude of change already reported as a result of adding Harestanes West Windfarm to Scenario 1 on these receptor groups, ''**Major/Moderate**' or '**Moderate**' and '**Significant**'.

270. For other users to the south and east such as at Lochmaben, Lockerbie and the Annandale Way, there would be more limited extent of views of both proposals at distance, as illustrated in **Viewpoints 15 and 16** in **Volume 3b**. When visible, they would form more minor elements in what would usually be wider or longer range views, which are already characterised by wind energy development. Assuming a prior presence of the operational windfarmswindfarms and the proposals of Daer/Rivox Windfarms, the addition of Harestanes West Windfarm to this baseline would lead to an increased number of turbines present in the view, but these would not change the magnitude of change already reported as a result of adding Harestanes West Windfarm to Scenario 1 these receptor groups, '**Moderate**' or less and '**Not Significant'**.

271. **Designations:** Daer Windfarm is partially located within the Thornhill Uplands RSA 8. Both Daer Windfarm and Rivox Windfarm would have an influence on part of this RSA within the Southern Uplands LCT. As noted with the impacts on landscape character, there would be little overlap of influence between Daer/Rivox Windfarms and Harestanes West Windfarm due to screening by topography. There would also be some views to Queensberry and the uplands of the RSA from Nithsdale and Annandale, however from most viewpoints Harestanes West Windfarm would not appear in front of Queensbury or the strong upland topography.

272. Assuming a prior presence of the operational wind farms and the proposal of Daer/Rivox Windfarms, the addition of Harestanes West Windfarm to this baseline would lead to an increase in the influence of wind energy on localised parts of the RSA, but it would not change the magnitude of change already reported as a result of adding Harestanes West Windfarm to Scenario 1, '**Moderate**' and locally '**Significant**'.

7.10. Night-Time Landscape and Visual Effects

7.10.1. Summary of Visible Aviation Lighting Requirements and Mitigation

273. The proposed Development will require visible aviation lighting, as set out within the Aviation Lighting Landscape and Visual Impact Mitigation Plan (ALLVIMP) **Technical Appendix 14.3** and the aviation section of **Chapter 14 Other Issues**. Following an Aviation Study, it has been agreed with Civil Aviation Authority (CAA) that a reduced lighting scheme is acceptable for the proposed Development. This will comprise a single 2,000 candela steady red light mounted on the nacelle of 7 of the 12 turbines (T1, T3, T6, T7, T8,

T9, and T12). Visible lights on the towers are not required. **Figures 7.11** and **7.12** illustrate the theoretical visibility of the aviation lighting.

274. Unlike many aviation lights which currently exist in Scotland, such as on large TV masts, bridges and some existing wind turbines, the lights proposed would include mitigation. Recently built windfarms over 150 m are now starting to include some mitigation, but it can be difficult to confirm precisely what has been installed so caution should be employed. Embedded mitigation includes automatic dimming of the lights (controlled by sensors installed on the turbines) to a nominal intensity of 200 candela during periods of meteorological visibility in excess of 5 km. The switching on and off of lights would be controlled by a timer (assumed 30 minutes before sunset until 30 minutes after sunrise), and not by photocells that respond to particular light levels, thereby not incurring effects in the daytime.

275. All embedded mitigation is included within this assessment, unless noted otherwise.

276. Secondary mitigation has also been committed to within the ALLVIMP in **Technical Appendix 14.3.** This would consist of 'vertical directional intensity' which has the potential to reduce the intensity of the lights for nearby receptors located at elevations below the turbine nacelles. This mitigation is reliant on the specific design of the light, which has not been specified at this time. Therefore, this mitigation has not been included in the assessment of effects. However, the areas where this could reduce effects even further are illustrated with an area of hatching in the aviation lighting ZTVs shown on **Figures 7.11** and **7.1** and noted in the assessment.

7.10.2. Approach and Scope of the Assessment

277. There is a distinction between light pollution or nuisance and the effect of lighting on the character and amenity of the landscape at night. This is not a technical lighting assessment but focusses on the night-time effects as a result of the introduction of new artificial lighting, with consequent effects. The methodology for assessment of night-time effects is included in **Technical Appendix 7.1: Methodology**.

278. The potential for significant effects for aviation lighting would not extend beyond 20 km and would normally be much closer. The aviation lighting ZTV with and without screening are presented in **Figures 7.11** and **7.12**. Landscape designations are also shown on this ZTV. All viewpoints have included the potential visibility of lighting on the wirelines. Visualisations at dawn/dusk have been prepared for **Viewpoints 1, 3, 5, 10** in **Volume 3b**. These have been selected as representative of potential visual receptors which are most likely to be affected at night from a range of directions.

279. In terms of cumulative, there are no existing turbines within 20 km of the proposed Development which have visible aviation lights fitted. The proposals of Harestanes South Windfarm Extension, Daer and Rivox Windfarms comprise turbines of over 150 m and would require visible lighting. In order to inform this assessment, the EIA Reports submitted with the applications for these developments, have been consulted with regard to the specific lighting proposal for each project.

280. The proposed Harestanes South Windfarm Extension has proposed a reduced lighting scheme which has been sent to the CAA for approval, where only 6 of the 8 turbines would be lit and no tower lights. They have also included automatic dimming and vertical directional intensity as mitigation.

281. For the proposed Daer Windfarm, Appendix 13.1 of their EIA Report confirms that a reduced lighting scheme was agreed with the CAA where 8 of the 17 turbines would be lit with visible nacelle and mid tower lights on the perimeter. They have also included automatic dimming and vertical directional intensity as mitigation.

282. For the proposed Rivox Windfarm, Appendix 12.2 of their EIA Report confirms that a reduced lighting scheme was agreed with the CAA where 12 of the 29 turbines would be lit with visible lights on the perimeter and no tower (mid mast) lights. They have also included automatic dimming and vertical directional intensity as mitigation.

283. The aviation lights would be visible as points of light, especially where there would be a high degree of contrast at the viewpoint (i.e. the lights were seen against a dark sky / dark landmass or where there would be little or no existing artificial light sources present). As noted in the baseline **Section 5.5**, the local area is dark at night.

284. During periods of greater ambient light, (e.g. sunset, twilight, dusk, dawn) there would be a reduced effect as the contrast of the aviation lighting against the background would be less. The hours of darkness vary considerably across Scotland. The lights would be switched on 30 minutes before sunset until 30 minutes after sunrise. Therefore, in Dumfries on the longest day on 21st June, the lights would be on between 21:28 and 04:04 but there would be no full darkness. By contrast on the shortest day on 21st December, the lights would be on between 15:17 and 09:08 with full darkness c. 12hrs. This variation means that in summer the lighting would not be switched on when people are predominantly active and contrast with the background would be reduced. However, in winter the lighting would be switched on during peak active times.

285. Due to the location of the lighting on the turbines relative to the rotating blades, this can result in a low frequency blinking effect caused by the screening effect of blades as they travel past the lights. These effects are dependent upon the rotation speed of the blades, direction of wind and the location of the receptor. Where a number of lit turbines are present in the view, such blinking is likely to be at the same frequency but uncoordinated. Most turbines face into the wind and on this Site the prevailing wind would be from the west and southwest and therefore receptors to the west and southwest would perceive this more than other parts of the study area.

7.10.3. Night-time Receptors and their Sensitivity

7.10.3.1. Visual Effects at Night

286. The impact on visual receptors at night is different from the impact in the daytime. The receptors potentially affected are different and their sensitivity may also be different.

287. The core area of the nearest Dark Sky Park at Galloway, where star-gazing is of particular promotion is located over 45 km away, as illustrated in the hub height ZTVs, **Figures 7.9** and **7.10**. Given this separate distance and the extent of mitigation incorporated, it is considered that no significant impacts would occur on users of the Dark Sky Park. There are no Dark Sky Discovery Sites within 20 km of the proposed Development and unlikely to result in any significant impacts on any of those beyond 20 km. However, given the darkness of skies locally it is expected this is a likely to carry on informally.

288. Residents would remain of similar sensitivity. Road users would have a low value to the view, as there is no amenity value from the roads at night in this area, which reduces their overall sensitivity. In terms of recreational users, long distance paths, core paths, users of

tourist routes and visitor attractions are unlikely to be used at night and/or would have a low amenity value and therefore are not considered. However, it is noted that there may be some recreational users who wild camp within the Southern Uplands and the Forest of Ae.

289. The night-time viewpoint analysis for all viewpoints is located within **Technical Appendix 7.3: Viewpoint Analysis**.

7.10.3.2. Landscape Character

290. The only landscape character types which have qualities concerned with perceptions of darkness or an absence of development which could the potential to be significantly affected at night would be the host Ae unit of LCT 18a Foothills with Forestry which is very sparsely settled and perhaps the adjacent Southern Uplands LCT 19 which is characterised by darkness and absence of development. Whilst the nearby Ae Fringe unit of Upland Fringe (LCT 16) and Nithsdale unit of Middle Dale (LCT 7) are not defined by the absence of man-made influence, the Ae unit of the LCT 18a Foothills with Forestry does form a dark backdrop / skyline.

291. With regard to the host Ae unit of the LCT 18a Foothills with Forestry, up to 7 lights could be visible intermittently across the area, but would depend heavily on the extent of forestry present. So the actual influence at night would be closer to the ZTV in **Figure 7.12** with screening, than the bare earth ZTV in **Figure 7.11**. From open areas some, or all of the lights would be present and this would extend the man-made influence into the night, which would reduce the perception of tranquillity at night, particularly within the Windyhill Burn valley or across Whitestanes Moor. This is illustrated with reference to the wirelines for **Viewpoints 1 and 4** in **Volume 3b** and the dawn/dusk photomontage in **Viewpoints 1 and 3 Volume 3b**. Given the extent of forestry and amount of mitigation (notably the reduced lighting scheme and reduced intensity in good weather), the scale of change would be Medium/Small within a Limited part of this LCT leading to a Moderate/Slight magnitude of change and a '**Moderate**' and '**Not Significant**' effect on local landscape character. Vertical directional intensity mitigation would reduce effects on much of this LCT, as illustrated in the aviation ZTVs.

292. With regard to the adjacent Lowthers unit of the Southern Uplands LCT 19, it is characterised with perceptions of darkness or an absence of development which are sensitive to changes at night and the daytime sensitivity of High/Medium would remain at night. The aviation ZTVs indicate that all seven lights would be visible from upper south facing slopes, especially those within about 7.0 km south of Gana Hill (in the Queensberry area). Here the lights would be perceived in the foothills, in the same direction as the settled dales which is already characterised by lighting in Dumfries. Given the direction of the lights appearing in an area already characterised by lights and amount of mitigation (notably the reduced lighting scheme and reduced intensity in good weather), the scale of change would be Medium/Small within a Localised part of this LCT leading to a Moderate/Slight magnitude of change and a '**Moderate**' and '**Significant**' effect on a localised part of this landscape.

293. Within the Ae Fringe unit of Upland Fringe (LCT 16) to the southeast, the lights would be mainly perceived from within this settled landscape which is already characterised by scattered lights both locally and in the distance therefore, the contrast with the existing baseline would be reduced. Impacts on this LCT are illustrated by the dawn/dusk photomontage for **Viewpoint 5** and the wireline for **Viewpoint 6** in **Volume 3b**. This change

would be perceived on the skyline of an adjacent LCT, rather than within this landscape, but would extend the man-made influence into the night as well as the day in a part of the landscape which is currently dark. However, from many parts of these landscape, there would be screening, as illustrated in **Figure 7.12**. Given the amount of mitigation, notably the reduced lighting scheme and reduced intensity in good weather, the scale of change would be Medium/Small within a Limited part of this LCT leading to a Moderate/Slight magnitude of change a '**Moderate'** and '**Not Significant'** effect on local landscape character. Vertical directional intensity mitigation would reduce effects on much of this LCT, as illustrated in the aviation ZTVs.

294. Within the Mid Nithsdale unit of Middle Dale (LCT 7) to the northwest, the lights would be mainly perceived from within the low-lying settled landscape which is already characterised by scattered lights both locally and in the distance and therefore the contrast with the existing baseline would be reduced. Impacts on this LCT are illustrated by the dawn/dusk photomontage for **Viewpoint 10** and the wirelines for **Viewpoints 7 and 9** in **Volume 3b**. This change would be perceived on the skyline of a nearby LCT, rather than within this local landscape, but would extend the man-made influence into the night as well as the day in a part of the landscape which is currently dark. However, from many parts of this landscape, there would be significant screening, as illustrated in **Figure 7.12**. Given the amount of mitigation, notably the reduced lighting scheme and reduced intensity in good weather, the scale of change would be Small within a Limited part of this LCT leading to a Slight/Negligible magnitude of change a '**Moderate/Minor**' and' **Not Significant**' effect on local landscape character. Vertical directional intensity mitigation would reduce effects on much of this LCT, as illustrated in the aviation ZTVs.

295. **Cumulative:** There would be some increased cumulative night-time impacts with Harestanes South Windfarm Extension on the Ae unit of LCT 18a Foothills with Forestry and Ae Fringe unit of Upland Fringe (LCT 16), which combined would result in 13 lights visible within the Foothills with Forestry. However, combined views of both sets of lights would be intermittent across these landscapes, especially given the extent of screening by landform, forestry and tree cover. Assuming the prior presence of the baseline and Harestanes South Windfarm Extension, the addition of Harestanes West Windfarm would lead to some localised increased impacts but would not elevate the magnitude of change as reported with the baseline above.

296. There would be some increased cumulative night-time impacts with Daer and Rivox on the Ae unit of LCT 18a Foothills with Forestry and Southern Upland. Daer and Rivox would add up to 28 lights (nacelle and tower) seen together in a separate group to the northwest. Combined views of both sets of lights would be intermittent across these landscapes, especially given the extent of screening by landform, however the more sensitive Southern Uplands would be more likely to be affected. Assuming the prior presence of the baseline and Daer and Rivox, the addition of Harestanes West Windfarm would lead to some localised increased impacts but would not elevate the magnitude of change as reported with the baseline above, which reported a **Moderate** and '**Significant**' impact on a localised part of the Southern Uplands.

7.10.3.3.Residents and Settlements

297. As illustrated in the **Figures 7.11** and **7.12**, visualisations and the main LVIA the impacts on nearest settlements and residents would be limited to those living and visiting Ae, the Forest of Ae, Loch Ettrick, core paths and Queensberry, as well as those to the south and

east. The night-time impact on residents within 2.0 km have been included in **Technical Appendix 7.5**.

298. From the nearer settlements to the south and east including the village of Ae, Bridge of Ae/ Parkgate, Shieldhill, Templand, and Auchencairn/Kirkton, up to 7 lights could be visible to the north or northwest (depending on the location). This would be illustrated with a dawn/dusk photomontage for **Viewpoints, 1, 3 and 5** and wirelines for **Viewpoints 6 and 9** in **Volume 3b**. Lights would be a noticeable new feature within the foothills at night which is currently devoid of light and appears as a dark mass on the skyline. However, from some of these settlements there are other scattered light sources which would reduce the contrast with the baseline to some extent. Given the amount of mitigation, notably the reduced lighting scheme and reduced intensity in good weather, for these residents there would be a Medium/Small scale of change leading to a Moderate/Slight magnitude of change which would result in a '**Moderate'** effect which would be '**Significant**.'

299. From more distant settlements to the south and east including the Lochmaben, Lockerbie, and Dumfries/ Locharbriggs, up to 7 lights could be visible, depending on the location to the north or northwest. This would be illustrated with wirelines for **Viewpoints 11, 13, and 16** in **Volume 3b**. This would be a noticeable new feature within the foothills at night, in a part of the landscape which is currently devoid of light. However, most of these areas are characterised by numerous scattered light sources up and down the dales and therefore the contrast with the baseline would not be so marked. Given the amount of mitigation, notably the reduced lighting scheme and reduced intensity in good weather, for these residents there would be a Small scale of change across a Limited or Localised extent of the settlements leading to a Slight magnitude of change which would result in a '**Moderate/Minor'** effect which would be '**Not Significant**.'

300. From settlements to the west including the Thornhill, Closeburn, Penpont, and Burnhead/Coldside, up to 2 lights would be visible along the A76 (Thornhill and Closeburn) or from more elevated areas up to 5 lights could be visible to the west, depending on the location to the north or northwest. This would be illustrated with dawn/dusk photomontage for **Viewpoint 10** and wirelines for **Viewpoints 7 and 9** in **Volume 3b**. This would be a visible feature within the foothills at night, in a part of the landscape which is currently devoid of light. However, most of these areas are characterised by numerous scattered light sources up and down the dales (especially from the more elevated locations) and therefore the contrast with the baseline would not be so marked. Given the amount of mitigation, notably the reduced lighting scheme and reduced intensity in good weather, for these residents there would be a Small to Negligible scale of change across a Limited or Localised extent of the settlements leading to a Slight/Negligible magnitude of change which would result in a '**Moderate/Minor'** effect which would be '**Not Significant**.'

301. As indicated on the aviation lighting ZTV in **Figures 7.11** and **7.12**, Thornhill and Closeburn would likely benefit from the secondary mitigation of reduced vertical directional intensity, where the intensity of the lights could be reduced by up to 95% (depending on individual light design) which would have the potential to notably reduce the impacts even further.

302. **Cumulative:** There would be some increased cumulative night-time impacts with Harestanes South Windfarm Extension to the southeast at Bridge of Ae/ Parkgate, Shieldhill, Templand, but less so at Auchencairn/Kirkton and not at the village of Ae as there would be no combined visibility. There would also be combined visibility at more

distant settlements of Lochmaben, Lockerbie, and Dumfries. Combined, they would result in 13 lights visible within the foothills to the northwest. Assuming the prior presence of the baseline and Harestanes South Windfarm Extension, the addition of Harestanes West Windfarm would lead to some localised increased impacts but would not elevate the magnitude of change as reported with the baseline above for these settlements.

303. There would be limited cumulative night-time impacts with Daer and Rivox due to a lack of notable combined visibility, given the extent of screening by landform. However, there would be distant combined visibility from lower Annandale at Lochmaben and Lockerbie. Assuming the prior presence of the baseline and Daer and Rivox, the addition of Harestanes West Windfarm would not alter the magnitude of change as reported with the baseline above for those settlements.

7.10.3.4.Recreational Users

304. As noted earlier, there would be no promoted star-gazing recreational receptors within the study area. However, visitors could go wild camping within the southern part of the Lowther Hills. However, in reviewing the Aviation ZTVs, **Figures 7.11** and **7.12**, the areas with the most notable visibility tend to be the more exposed locations where wild camping is less likely to occur. However, there are a few sheltered valleys and parts of the uplands where wild camping may be likely but the number of lights would be 1-2 or up to 5 but rarely all 7 and would not be extensive. Where people did get views of the lights, it is unlikely that other lights would be present, so they would draw the eye and contrast with the dark skies. Given the amount of mitigation, notably the reduced lighting scheme and reduced intensity in good weather, for these receptors there would be a Medium/Small scale of change leading to a Moderate/Slight magnitude of change which would result in a '**Moderate**' effect which would be '**Significant**.'

305. **Cumulative:** Given the extent of screening of Harestanes South Windfarm Extension in the more sheltered locations within the Southern Uplands where Harestanes West Windfarm would be visible, the cumulative night-time impacts are unlikely to be very noticeable and unlikely to result in any notable cumulative increases.

306. Given the screening by the Southern Uplands between Harestanes West Windfarm, and Daer / Rivox, there would be no impacts on those wild camping within the Southern Uplands.

7.10.4.Designated Landscapes

307. The Thornhill Uplands RSA 8 is characterised by the "*varied and contrasting upland and valley scenery ranging from the exposed, remote summits of the Lowther Hills, through the wooded gorge of the Nith above Drumlanrig to the pastoral character of the wide, enclosed upper Cairn and Mid Nithsdale valleys.*"[8] This indicates that this RSA would most sensitive to the introduction of lighting within the more remote summits of the Lowther Hills when seen from the upper Cairn and Mid Nithsdale valleys. As illustrated in the dawn/dusk photomontage for **Viewpoint 10** and the wirelines for **Viewpoints 7 and 12** in **Volume 3b** and **Figures 7.11** and **7.12**, there would be limited lights visible from Mid Nithsdale. Given the amount of mitigation, notably the reduced lighting scheme and reduced intensity in good

[8] *Dumfries and Galloway Council, January 2018. Local Development Plan 2, Regional Scenic Areas, Technical Paper, Third paragraph on page 33. .*

weather, there would be a Small scale of change on that special quality of this RSA leading to a Slight magnitude of change which would result in a '**Moderate/Minor**' effect which would be '**Not Significant**.'

7.10.5.Night-time Summary and Conclusions

308. The proposed Development will require visible aviation lighting the nacelles of 7 of the 12 turbines, having agreed a reduced lighting scheme with the CAA. A range of additional embedded mitigation measures have also been committed to in relation to minimising the night-time impacts including a reduced intensity light (from 2000 candela to 200 candela) in good visibility on the nacelle, directional intensity to limit brightness below the turbines and a timer to ensure the impacts only occur at night. With the exception of vertical directional intensity, all embedded mitigation is included in the assessment of night-time impacts.

309. Given the extent of mitigation incorporated into the proposed Development, significant impacts on the landscape or visual effects identified at night would be limited to a localised part of the adjacent Southern Uplands LCT, visual receptors in the village of Ae, Ae Bridgend/ Parkgate, Auchencairn/Kirkton Shieldhill, and Templand, as well as recreational receptors in the southern Lowther Hills.

7.11.Summary of Effects

310. The LVIA has assessed the potential for significant landscape and visual effects from the proposed Development. **Table 7.17** provides and overview of the significance of landscape and effects, with **Table 7.18** providing a summary of the night-time effects. The Executive Summary can be found in Section 1. Below is a summary table of landscape and visual effects.

Table 7.17 – Summary of Daytime Effects

Receptor	Phase	Magnitude of Change	Level of Effect	Effect Significance
LCT 18a Foothills with Forest	Construction/ Decommissioning	Moderate	Moderate	Not Significant
LCT 19 Southern Uplands	Construction/ Decommissioning	Slight	Moderate/ Minor	Not Significant
LCT 16 Upland Fringe	Construction/ Decommissioning	Moderate/ Slight	Moderate/ Minor	Not Significant
Ae	**Construction/ Decommissioning**	Slight	Moderate/ Minor	Not Significant
Forest of Ae and core path Ae – Gawin Moor	**Construction/ Decommissioning**	**Moderate**	**Major/ Moderate**	**Significant**
Loch Ettrick and core paths within 5 km	Construction/ Decommissioning	Slight/ Negligible	Minor	Not Significant
Queensberry	**Construction/ Decommissioning**	**Substantial/ Moderate**	**Moderate**	**Significant**
RSA Thornhill Uplands	Construction/ Decommissioning	Moderate/ Slight	Moderate	Not Significant
LCT 18a Foothills with Forestry	**Operation**	**Moderate**	**Moderate**	**Significant**

Receptor	Phase	Magnitude of Change	Level of Effect	Effect Significance
LCT 19 Southern Uplands	**Operation**	**Moderate**	**Moderate**	**Significant**
LCT 16 Upland Fringe (Ae Fringe unit)	**Operation**	**Moderate/ Slight**	**Moderate**	**Significant**
LCT 16 Upland Fringe (Torthorwald Fringe)	Operation	Slight	Moderate/ Minor	Not Significant
LCT 6 Lower Dale (Valley)	Operation	Slight	Moderate/ Minor	Not Significant
LCT 7 Middle Dale (Valley)	Operation	Slight	Moderate/ Minor	Not Significant
Ae	**Operation**	**Substantial/ Moderate**	**Major/ Moderate**	**Significant**
Forest of Ae	**Operation**	**Moderate**	**Major/Moderate**	**Significant**
Loch Ettrick and core paths within 5 km	**Operation**	**Substantial/ Moderate**	**Major/ Moderate** **Major (core path Ae to Gawin Moor)**	**Significant**
Ae Bridgend and Parkgate	**Operation**	**Substantial/ Moderate**	**Major/ Moderate**	**Significant**
Shieldhill	**Operation**	**Moderate**	**Major/ Moderate**	**Significant**
Templand	**Operation**	**Moderate**	**Moderate**	**Significant**
Lochmaben	Operation	Slight	Moderate/ Minor	Not Significant
Lockerbie	Operation	Negligible	Minor/ Negligible	Not Significant
Queensberry	**Operation**	**Substantial/ Moderate**	**Major/ Moderate**	**Significant**
Drumlanrig Castle	Operation	Slight/ Negligible	Moderate/ Minor	Not Significant
Thornhill and Closeburn	Operation	Slight	Moderate/ Minor	Not Significant
Burnhead and Residential settlement on Coldside Road	Operation	Moderate	Moderate	Not Significant
Auchencairn and Kirkton	**Operation**	**Moderate**	**Moderate**	**Significant**
Dumfries, and Locharbriggs	Operation	Moderate/ Slight	Moderate	Not Significant
Romans and Rievers Route	Operation	Moderate	Moderate	Not Significant
Annandale Way	Operation	Slight	Moderate	Not Significant
Robert the Bruce Trail	Operation	Moderate/ Slight	Moderate	Not Significant
National Cycle Route 7	Operation	Slight	Moderate	Not Significant
A701	**Operation**	**Moderate**	**Major/ Moderate**	**Significant**
A76	Operation	Slight	Moderate/ Minor	Not Significant

Receptor	Phase	Magnitude of Change	Level of Effect	Effect Significance
A709	Operation	Slight/ Negligible	Minor	Not Significant
A710	Operation	Slight/ Negligible	Minor	Not Significant
Nith Estuary NSA	Operation	Slight/ Negligible	Moderate/ Minor	Not Significant
Solway Coast AONB	Operation	Slight/ Negligible	Moderate/ Minor	Not Significant
RSA 8 Thornhill Uplands	**Operation**	**Moderate**	**Moderate**	**Significant (locally)**
RSA 7 Thorthorwald Ridge	Operation	Slight	Moderate/ Minor	Not Significant
RSA 6 Terregles Ridge	Operation	Slight	Moderate/ Minor	Not Significant

Table 7.18 – Summary of Night-time Effects

Receptor	Phase	Magnitude of Change	Level of Effect	Effect Significance
LCT 18a Foothills with Forestry	Operation	Moderate/ Slight	Moderate	Not Significant
LCT 19 Southern Uplands	Operation	Moderate/ Slight	Moderate	**Significant (locally)**
LCT 16 Upland Fringe (Ae Fringe unit)	Operation	Moderate/ Slight	Moderate	Not Significant
LCT 7 Middle Dale (Valley)	Operation	Slight/ negligible	Moderate/Minor	Not Significant
Ae	Operation	Moderate/ Slight	Moderate	**Significant**
Ae Bridgend and Parkgate	Operation	Moderate/ Slight	Moderate	**Significant**
Auchencairn and Kirkton	**Operation**	**Moderate/ Slight**	**Moderate**	**Significant**
Shieldhill	**Operation**	**Moderate/ Slight**	**Moderate**	**Significant**
Templand	**Operation**	**Moderate/ Slight**	**Moderate**	**Significant**
Lochmaben	Operation	Slight	Moderate/Minor	Not Significant
Lockerbie	Operation	Slight	Moderate/Minor	Not Significant
Dumfries, and Locharbriggs	Operation	Slight	Moderate/Minor	Not Significant
Thornhill and Closeburn	Operation	Slight/ Negligible	Minor	Not Significant
Burnhead and Residential settlement on Coldside Road	Operation	Slight/ Negligible	Minor	Not Significant
Recreational Users in the Lowthers/ Southern Uplands	**Operation**	**Moderate/ Slight**	**Moderate**	**Significant**
RSA 8 Thornhill Uplands	Operation	Slight	Moderate/Minor	Not Significant

References

Landscape Institute (LI) and the Institute for Environmental Management and Assessment (IEMA), 2013. Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA 3).

Landscape Institute, August 2024. Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment Third edition, Technical Guidance Note LITGN-2024-01. Available at https://www.landscapeinstitute.org/technical-resource/notes-and-clarifications-on-aspects-of-the-3rd-edition-guidelines-on-landscape-and-visual-impact-assessment-glvia3-litgn-2024-01/ [Accessed 23/09/2024].

Landscape Institute, 2019.Technical Guidance Note 6/19 Visual Representation of Development Proposals.

NatureScot, July 2020. Landscape Sensitivity Assessment – Guidance for Scotland Consultation draft. Available at: Landscape Sensitivity Assessment Guidance (Methodology) | NatureScot [Accessed 23/09/2024].

Natural England, 2014. An Approach to Landscape Character Assessment.

Natural England, 2019. An Approach to Landscape Sensitivity Assessment.

Landscape Institute 2019. Technical Guidance Note 2/19 Residential Visual Amenity Assessment.

Landscape Institute, 2021.Technical Guidance Note 02/21 Assessing landscape value outside national designations. Available at: tgn-02-21-assessing-landscape-value-outside-national-designations.pdf [Accessed 23/09/2024].

NatureScot, February 2024. Pre-application and scoping advice for onshore wind farms. Available at: NatureScot pre-application guidance for onshore wind farms | NatureScot [Accessed 26/09/2024].

Scottish Natural Heritage, 2017. Visual Representation of Wind Farms (Version 2.2). Available at: Visual representation of wind farms: Guidance | NatureScot [Accessed 26/09/2024].

NatureScot 2021. Assessing the Cumulative Impact of Onshore Wind turbine developments. Guidance - Assessing the cumulative landscape and visual impact of onshore wind energy developments | NatureScot.

Scottish Natural Heritage, 2015. Spatial Planning for Onshore Wind Turbines – Natural Heritage Considerations.

NatureScot, 2023. Assessing impacts on Wild Land Areas-Technical Guidance. Available at: Assessing impacts on Wild Land Areas - technical guidance | NatureScot [Accessed 16/08/2024].

Scottish Natural Heritage, 2017. Siting and Designing Wind Farms in the Landscape. Version 3. Available at: https://www.nature.scot/doc/siting-and-designing-wind-farms-landscape-version-3a [Accessed 26/09/2024].

Forestry Commission, 2017.The UK Forestry Standard.

Scottish Natural Heritage, 2019. National Landscape Character Assessment (Online only). Available at: https://www.nature.scot/professional-advice/landscape/landscape-

character-assessment/scottish-landscape-character-types-map-and-descriptions [Accessed 02/09/2024].

Scottish Natural Heritage, 2010. The special qualities of the National Scenic Areas. (Commissioned Report No.374). Available at: https://www.nature.scot/doc/naturescot-commissioned-report-374-special-qualities-national-scenic-areas [Accessed 12/09/2024].

NatureScot, Guidance for Assessing the Effects on Special Landscape Qualities (AESLQ) - Consultative Draft , July 2024. Guidance for Assessment of Effects on Special Landscape Qualities (AESLQ) | NatureScot [Accessed 26/09/2024].

NatureScot, April 2022. Landscape Sensitivity Assessment Guidance. Available at: https://www.nature.scot/doc/landscape-sensitivity-assessment-guidance-methodology [Accessed 12/09/2024].

Dumfries and Galloway Council, January 2018. Dumfries and Galloway Council Local Development Plan 2, Regional Scenic Areas Technical Paper. Available at: https://new.dumgal.gov.uk/sites/default/files/2024-08/Regional_Scenic_Areas_Technical_Paper.pdf [Accessed 12/09/2024].

Dumfries and Galloway Council, February 2020. Dumfries and Galloway Council Local Development Plan 2, Part 1 Wind Energy Development, Development Management Considerations Appendix 'C' Dumfries & Galloway Wind Farm Landscape Capacity Study. Available at: https://new.dumgal.gov.uk/sites/default/files/2024-08/Wind_Energy_Appendix_C_Landscape_SG_LDP2_Adopted.pdf [Accessed 11/09/2024].

Dumfries and Galloway Council, February 2020. Dumfries and Galloway Council Local Development Plan 2, Wind Energy Development: Development Management Considerations. Available at: https://new.dumgal.gov.uk/sites/default/files/2024-08/Wind_Energy_SG_Final_PDF_February_2020_Version.pdf [Accessed 12/09/2024].