

# Chapter 6

## Landscape and Visual Amenity

### Introduction

**6.1** This chapter presents the findings of the assessment of effects of the proposed Glenmuckloch to Glenglass Reinforcement Project (GGRP) on landscape and visual amenity. It presents the findings of the landscape and visual impact assessment (LVIA) separately in relation to:

- landscape character and resources, including effects upon the physical elements, character and/or special qualities of the landscape (including landscape designations); and
- visual amenity, including effects upon potential receptors (people) and viewing groups caused by change in the appearance of the landscape.

**6.2** Landscape character and resources are considered to be of importance in their own right and are valued independent of whether they are seen by people. Effects on views and visual amenity as perceived by people are clearly distinguished from, although closely linked to, effects on landscape character and resources. The assessment of these two components of LVIA are therefore separate but connected processes.

**6.3** The assessment methodology for the LVIA has been developed in accordance with the Guidelines for Landscape and Visual Impact Assessment (3rd Edition, 2013) (GLVIA3), and is detailed in **Appendix 6.1: LVIA Methodology, ZTV Mapping and Visualisation Methodology**.

**6.4** This chapter deals with landscape and visual effects separately, including an assessment of cumulative landscape and visual effects, and is supported by **Figures 6.1 - 6.7** which follow the text at the end of this chapter. Accompanying visualisations are illustrated as **Figures 6.8 - Figure 6.17** and have been prepared in accordance with the methodology set out in **Appendix 6.1**.

**6.5** Planning policies of relevance to this assessment are provided in **Chapter 5: Planning Policy**. This chapter should also be read in conjunction with the following chapters:

- **Chapter 2: Routeing Process and Design Strategy;**
- **Chapter 4: Development Description;** and
- **Chapter 10: Cultural Heritage.**

**6.6** The assessment has been undertaken by Chartered Landscape Architects (Chartered Members of the Landscape Institute (CMLI)) at LUC with extensive experience in the assessment of landscape and visual effects.

### Scope of the Assessment

#### Effects Addressed in Full

**6.7** The following effects have been assessed in full for the GGRP:

- Effects on the physical landscape of the study area;
- Effects on the landscape character of the study area;
- Effects on visual amenity experienced by receptors (people) at static locations within or moving around the study area, with reference to representative viewpoints;
- Effects on views and visual amenity experienced by visual receptors within settlements;
- Effects on views and visual amenity experienced by visual receptors at publicly accessible locations in the vicinity of residential properties located within 600m of the GGRP;

- Effects on views and visual amenity experienced by visual receptors travelling along routes in the Study Area; and
- Cumulative landscape and visual effects (including combined, successive and sequential visual effects).

#### Effects Scoped Out

**6.8** On the basis of the desk based and survey work undertaken; the professional judgement of the assessment team; experience from other relevant projects; policy guidance or standards; and feedback received from consultees, the following potential effects have been 'scoped out' of detailed assessment:

- Effects on visual receptors (including cumulative) outside the study area, where it is judged that significant visual effects are unlikely to occur;
- Effects on landscape character (including cumulative) outside the study area, where it is judged that significant effects on landscape character are unlikely to occur;
- Effects on designated landscapes outside the study area, from where it is judged that significant effects on key characteristics and/or special qualities, or key views are judged unlikely to occur;
- Effects on landscape and visual receptors that have minimal or no theoretical visibility (as predicted by the Zone of Theoretical Visibility (ZTV)) and/or very distant visibility, and are therefore unlikely to be subject to significant effects;
- Cumulative landscape and visual effects during the construction phase, given the transient and temporary nature of these effects;
- Effects which could be of relevance to the reasons for designation as described by key characteristics/special qualities of the designated landscapes within the study area (see **Paragraphs 6.48 to 6.50** below); and
- Effects on residential visual amenity in the form of a detailed Residential Visual Amenity Assessment (RVAA). Due to the routeing process, which has sought to provide sufficient offset from properties with potentially open views towards the GGRP, breaching of the 'Residential Visual Amenity Threshold' will not arise<sup>1</sup>.

### Assessment Methodology

**6.9** This section sets out the broad principles of the methodology for the LVIA. The detailed methodology is included in **Appendix 6.1**. The methodology for the production of accompanying visualisations is based on current good practice guidance as set out by NatureScot and the Landscape Institute, and detailed information about the approach to viewpoint photography, and ZTV and visualisation production is also provided in **Appendix 6.1**.

**6.10** Landscape and visual assessments are separate, although linked, processes. LVIA therefore considers the potential effects of a proposed development on:

- Landscape as a resource in its own right (caused by changes to the constituent elements of the landscape, its specific aesthetic or perceptual qualities and the character of the landscape); and
- Views and visual amenity as experienced by people (caused by changes in the appearance of the landscape).

**6.11** Whilst landscape and visual effects are linked, this LVIA deals with landscape and visual effects separately, followed by an assessment of cumulative landscape and visual effects where relevant.

<sup>1</sup> Para. 4.7 of the Landscape Institute (2019) Residential Visual Amenity Assessment (RVAA) Technical Guidance states "when assessing effects of overhead transmissions lines, generally only those properties within 100 – 150 metres of the finalised route are potentially considered for inclusion in a RVAA".

Legislation and Guidance

Legislation

6.12 Information relating to relevant national and local planning policy and legislation is provided in Chapter 5.

Guidance

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

- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations (2017);
- Landscape Institute and the Institute of Environmental Assessment (2013) Guidelines for Landscape and Visual Impact Assessment, 3rd Edition ('GLVIA3');
- SNH (2018) A Handbook on Environmental Impact Assessment, Appendix 2: Landscape and Visual Impact Assessment, Version 5;
- NatureScot (2021) Assessing the cumulative impact of onshore wind energy developments;
- Landscape Institute (2019) Advice Note 01/11 Photography and photomontage in landscape and visual impact assessment;
- Landscape Institute (2019) Technical Guidance Note 06/19 Visual representation of development proposals;
- Landscape Institute (2019) Residential Visual Amenity Assessment (RVAA) Technical Guidance Note 2/19;
- SNH (2017) Visual Representation of Wind Farms, Version 2.2;
- The Holford Rules: Guidelines for the Routeing of New High Voltage Overhead Transmission Lines (with National Grid Company plc (NGC) 1992 and Scottish Hydro-Electric Transmission plc (SHETL) 2003 Notes); and
- The Horlock Rules: NGC Substations and the Environment: Guidelines on Siting and Design (2006).

Consultation

6.14 An EIA Scoping Report was submitted to the Energy Consents Unit (ECU) of the Scottish Government in December 2019. A Scoping Opinion was received from the ECU in March 2020 which included comments from statutory and non-statutory consultees, some of which were specifically relevant to the approach and scope of the LVIA.

6.15 In undertaking the assessment, consideration has been given to the scoping responses and other consultation undertaken as detailed in Table 6.1 below.

Table 6.1: Consultation Responses

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
NatureScot (16/03/2020)	Formal Scoping Consultation	Cumulative landscape and visual impact assessment (CLVIA) should include developments which are subject to valid applications as well as those which are constructed and approved.	The CLVIA follows recommended guidance and includes developments which are subject to valid applications, as well as those which are constructed and approved.
Dumfries and Galloway Council (07/01/2020)	Formal Scoping Consultation (received via email)	Representative viewpoints should also be taken from within the Euchar Water valley to represent the very short-range visual impacts on residents and anyone using the minor road for recreation.	The final list of viewpoints included in the assessment includes a proportionate number of representative locations, focussing on potential significant effects. VP7: Southern Upland Way (SUW) near Whing Head represents views experienced by recreational receptors overlooking the Euchar Water valley.
		Proposed visual receptors are under-represented, with the following additional suggestions:	The final list of viewpoints included in the assessment includes a proportionate number or representative locations, focussing on potential significant effects.

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
		<ul style="list-style-type: none"> <li>■ Further representative viewpoints from across Nithsdale, including heritage and recreational sites;</li> <li>■ Close-range properties &lt;2km;</li> <li>■ Setting of special features, e.g. Rowantree Craig in the Euchar Water valley and the River Nith; and</li> <li>■ The visitor destination and arts venue of Crawick Multiverse.</li> </ul>	<p>A viewpoint at St Connel's Chapel is included as part of the Cultural Heritage assessment (Chapter 10) and can be used to illustrate views from cultural and recreational sites across Nithsdale. Potential effects on views experienced near St Connel's Chapel are considered within this chapter in the assessment of effects on Core Path 88 (Kirkconnel to Black Law via Fingland &amp; Kirkland) in Table 6.33.</p> <p>All relevant receptors (including close-range properties) are included in the LVIA.</p> <p>Rowantree Craig has been visited during site survey and is not considered to be of high landscape sensitivity, given the existing presence of human development including active coniferous forestry operations, previous mineral works and nearby wind farm development. The setting of the River Nith is illustrated by VP2: Lagrae Road, VP3: A76 near Guildhall Bridge, VP8: Nith Valley near Hall Bridge and VP9: Fingland Road at Pates Bridge.</p> <p>Crawick Multiverse is located 4.9km to the north-east of the GGRP, with woodland along the western edge of the designed landscape screening and filtering views towards the GGRP from lower-lying areas. Elevated areas of the designed landscape (from which outward and distant views are afforded) are located beyond the 5km study area for the assessment. Receptors at Crawick Multiverse are not included as a receptor because there is no potential for significant effects. VP9: Fingland Road at Pates Bridge is close to this destination, but closer to the GGRP, and can be used to illustrate potential views here.</p>
		It is proposed in the scoping report that cumulative effects with existing developments will be assessed in the LVIA and not the CLVIA. If this is the case, it is critical that a commentary is provided on such effects and that their degree and cumulative nature in the LVIA, with mitigation through avoidance or reduction, is set out.	Existing developments are considered as part of the baseline for the LVIA. The CLVIA follows recommended guidance and considers the addition of consented and proposed developments, in addition to existing developments.
		<p>Suggestions to check visibility of proposed viewpoints along with possible alternatives, and five additional viewpoints:</p> <ul style="list-style-type: none"> <li>■ Minor road, Euchar Water valley GR: 73 5 07 3.</li> <li>■ St Connel's Chapel, historic site and point of interest on Kirkland Heritage Trail GR: 72 3 15 0.</li> <li>■ Fingland Road, suggest cattle grid near Guffock Hill GR: 75 3 14 6, but check worst case scenario for outlook.</li> <li>■ Crawick Multiverse key site / venue viewpoint at high point.</li> </ul>	<p>The final list of viewpoints included in the assessment includes a proportionate number or representative locations, focussing on potential significant effects.</p> <ul style="list-style-type: none"> <li>■ VP7: Southern Upland Way (SUW) near Whing Head represents views overlooking the Euchar Water valley experienced by receptors on the Southern Upland Way</li> <li>■ St Connel's Chapel is considered within the Cultural Heritage assessment (Chapter 10). Given intervening screening by forestry, this location has not been included as an LVIA viewpoint. Potential effects on views experienced near St</li> </ul>

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
		<ul style="list-style-type: none"> <li>Bridge over the railway near Sanquhar Station.</li> </ul>	<p>Connel's Chapel are considered within this chapter in the assessment of effects on Core Path 88 (Kirkconnel to Black Law via Fingland &amp; Kirkland) in Table 6.33.</p> <ul style="list-style-type: none"> <li>VP9: Fingland Road at Pates Bridge added to represent views from Fingland Road</li> <li>At distances of over 4.9km from the GGRP, significant effects are not anticipated for views from Crawick Multiverse. VP9: Fingland Road at Pates Bridge added to represent nearby views.</li> <li>Suggested location at Sanquhar railway station is outside of the study area. Similar views are represented by VP9: Fingland Road at Pates Bridge.</li> </ul>
		<p>Suggestions to include viewpoints from nine residential properties:</p> <ul style="list-style-type: none"> <li>Glenglass and Cottage</li> <li>Glenmaddie</li> <li>Glengape / birknowe</li> <li>Corserig</li> <li>Crockroy / Polneul</li> <li>Rigg Farm / Rack</li> <li>The Knowe – see VP 2</li> <li>Kirkland / Old Kirkland – covered by St Connel's Church VP</li> <li>Samiston / Niviston</li> </ul>	<p>The final list of viewpoints included in the assessment includes a proportionate number or representative locations, focussing on potential significant effects. Effects on residential amenity for properties within 600m of the GGRP have been considered within the assessment (in the form of an assessment of effects on views and visual amenity experienced by visual receptors at publicly accessible locations in the vicinity of residential properties), including:</p> <ul style="list-style-type: none"> <li>Corserig (Residential Property P4)</li> <li>Crockroy Rigg (Residential Property P2)</li> <li>Crockroy Cottage (Residential Property P3)</li> <li>Rigg Farm (Property Group B)</li> <li>The Knowe (Property Group A)</li> </ul> <p>However, the assessment of visual effects does not identify visual effects of such magnitude that they warrant further assessment in respect of a detailed RVAA.</p>
		<p>Suggestions to include several projects as part of the CLVIA:</p> <ul style="list-style-type: none"> <li>Existing: Sanquhar Community Windfarm, Whiteside Hill, Sunnyside, Hare Hill / Extension.</li> <li>Consented: Glenmuckloch, Sandy Knowe.</li> <li>In Planning: Sanquhar 2</li> <li>Potentially other Overhead Power Lines, Minerals Extraction, the Pumped Storage Hydro scheme at Glenmuckloch.</li> </ul>	<p>The CLVIA follows recommended guidance and includes developments which are subject to valid applications, as well as those which are under construction and approved.</p> <p>Existing developments (operational and under construction) are considered as part of the baseline for the LVIA.</p>

### Study Area

**6.16** The study area for the LVIA is defined as 5km, as shown on **Figure 6.1** and agreed with Dumfries and Galloway Council and NatureScot. The GGRP is located within the Dumfries and Galloway Council area.

**6.17** The study area has been informed by professional judgement, reflecting the scale of the steel lattice tower overhead line infrastructure, as described in **Chapter 4**, and ZTV mapping. ZTV mapping has been used to illustrate areas from which the GGRP may be visible, refer to **Figure 6.2**.

**6.18** The ZTV has been prepared based on tower locations provided by design engineers. The ZTV is used as a tool for understanding where visual effects may occur. Receptors which are outside the ZTV will not be affected by the GGRP and are therefore not considered further in this LVIA. Whilst the ZTV indicates potential visibility beyond 5km in some directions, significant effects on landscape character, the special qualities of landscape designations and visual amenity at these distances (i.e. >5km) are unlikely.

### Desk Based Research and Data Sources

**6.19** The following data sources have informed the assessment:

- Ordnance Survey (OS) Maps;
- OS Terrain@ 5 mid-resolution height data (DTM);
- Dumfries and Galloway Council and the Energy Consents Unit (websites) to provide information of projects considered in the cumulative assessment;
- NatureScot (2019) Scottish Landscape Character Types, Map and Descriptions;
- Land Use Consultants (1998), *Landscape Character Assessment for Dumfries and Galloway*, SNH Report No. 94;
- Dumfries and Galloway Council (adopted 2019), *Local Development Plan 2*;
- Dumfries and Galloway Council (adopted 2020), *Wind Energy Development: Development Management Considerations. Supplementary Guidance to Local Development Plan 2*; and
- Dumfries and Galloway Council (adopted 2020), *Dumfries & Galloway Wind Farm Landscape Capacity Study*. Appendix C to Part 1 of Local Development Plan 2 Supplementary Guidance.

### Field Survey

**6.20** Field surveys were carried out to inform this assessment between spring 2020 and autumn 2022 over approximately 6 days. Visualisation photography was generally captured at times when trees were not in leaf, to present maximum potential visibility. Site visits were undertaken in a range of weather conditions, including on clear, dry and bright days. This field survey is in addition to extensive fieldwork undertaken during the routeing stage.

### Methodological Overview

**6.21** The key steps in the methodology for assessing landscape and visual effects are as follows:

- the landscape of the study area is analysed, and landscape receptors identified, informed by desk and field surveys;
- the area over which the proposed development will potentially be visible is established through the creation of an initial ZTV plan;
- the visual baseline is recorded in terms of the different receptors (groups of people) who may experience views of the development (informed by the initial ZTV) and the nature of their existing views and visual amenity;
- potential assessment viewpoints are selected, as advocated by GLVIA3 to represent a range of different receptors and views, in consultation with statutory consultees;
  - 'Representative viewpoints'**, selected to represent the experience of different types of visual receptor, where larger numbers of viewpoints cannot all be included individually and where the significant effects are unlikely to differ - for example, certain points may be chosen to represent the views of users of particular public footpaths and bridleways;

- **Specific viewpoints**, chosen because they are key and sometimes promoted viewpoints within the landscape, including for example specific local visitor attractions, viewpoints in areas of particularly noteworthy visual and/or recreational amenity such as landscapes with statutory landscape designations, or viewpoints with particular cultural landscape associations; and
- **Illustrative viewpoints**, chosen specifically to demonstrate a particular effect or specific issues, which might, for example, be the restricted visibility at certain locations' (GLVIA3, Para 6.19, Page 109)
- likely significant effects (including cumulative) on both the landscape as a resource and visual receptors are identified; and
- the level (and significance) of landscape and visual effects are judged with reference to the nature of the receptor (commonly referred to as the sensitivity of the receptor), which considers both susceptibility and value, and the nature of the effect (commonly referred to as the magnitude of effect), which considers a combination of judgements including scale, geographical extent, duration and reversibility.

## Assessing Significance

### Sensitivity

**6.22** The sensitivity of the baseline conditions, including the importance of environmental features within the study area or the sensitivity of potentially affected receptors, has been assessed in line with best practice guidance, legislation, statutory designations and / or professional judgement.

**6.23** Judgements regarding the sensitivity of landscape or visual receptors require consideration of both the susceptibility of the landscape or visual receptor to the type of development proposed and the value attached to the landscape or visual receptor or view. Judgements have been recorded as high, medium, low or negligible. Detailed information about the approach to assessment of sensitivity is provided in **Appendix 6.1**.

### Magnitude

**6.24** The magnitude of potential effects has been identified through consideration of the GGRP, the degree of change to baseline conditions predicted as a result of the GGRP, the duration and reversibility of an effect and best practice guidance and legislation.

**6.25** Judgements regarding the magnitude of landscape or visual change have been recorded as high, medium, low or negligible and combine an assessment of the scale and geographical extent of the landscape or visual effect, its duration and reversibility. Detailed information about the approach to assessment of magnitude is provided in **Appendix 6.1**.

### Significance

**6.26** The sensitivity of the asset and the magnitude of the predicted effects has been used as a guide, in addition to professional judgement, to predict the significance of the likely effects.

**6.27** **Appendix 6.1** provides details of the criteria considered in judging the identified aspects of sensitivity (susceptibility and value) and magnitude of change (size/scale, geographical extent, duration and reversibility), and the grades used to describe each.

**6.28** Levels of effect have been identified as negligible, minor, moderate or major.

**6.29** Where the magnitude of change that will occur as a result of the introduction of the GGRP in the LVIA has been identified as being either low or barely perceptible, potential cumulative effects on the relevant landscape or visual receptor are not assessed in the cumulative assessment. In these instances, it is considered that owing to distance and/or the limited magnitude of change, there will not be potential for significant cumulative effects to arise.

**6.30** This determination requires the application of professional judgement and experience to take on board the many different variables which need to be considered, and which are given different weight according to site-specific and location-specific considerations in every instance. Judgements have been made on a case-by-case basis, guided by the principles set out in **Diagram 1** in **Appendix 6.1**.

**6.31** Although a numerical or formal weighting system has not been applied, consideration of the relative importance of each aspect has been made to feed into the overall decision. Levels of effect have been identified as negligible, minor, moderate or major where moderate and major effects are considered significant in the context of the EIA Regulations.

## Direction of Effects

**6.32** As required by the EIA Regulations, the assessment must identify the direction of effect as either being beneficial (or positive), adverse (or negative) or neutral.

**6.33** The direction of landscape, visual and cumulative effects (beneficial, adverse or neutral) is determined in relation to the degree to which the proposal fits with the existing landscape character or views, and the contribution to the landscape or views that the proposed development makes, even if it is in contrast to the existing character of the landscape or views. With regard to electricity transmission infrastructure, an assessment is required to take an objective approach. Therefore, to cover the 'maximum case effect' situation, potential landscape and visual effects relating to electricity transmission infrastructure are generally assumed to be adverse (negative).

## Assessment Limitations

**6.34** No substantial information gaps have been identified during the preparation of baseline information or undertaking of the assessment. It is considered that there is sufficient information to enable an informed decision to be taken in relation to the identification and assessment of likely significant effects on landscape and visual amenity.

## Existing Landscape Baseline Conditions

**6.35** This section presents an overview of the landscape baseline receptors located within the Study Area (as shown of **Figure 6.1**) including the existing landscape character (and constituent landscape elements), as well as comments on landscape condition and any designations assigned to the landscape.

**6.36** Potential landscape receptors within the Study Area are those where direct or indirect effects may result as a consequence of the GGRP. Landscape receptors can be defined as follows:

- Physical Landscape Features: perceptible physical features (e.g. topographic features; woodland, hedgerows, field enclosure) which could be lost or altered through the introduction of the GGRP.
- Landscape Character Types (LCTs), Landscape Character Units (LCUs) and Local Landscape Character Types (LLCTs): as defined within published landscape character assessments (or as defined by the LUC assessment team where further detailed assessment was required), and which display both physical and perceptual characteristics which could be affected by the GGRP.
- Designated Landscapes: areas of landscape which are principally designated for their scenic quality or rarity, and considered of particularly increased value. Often defined by a number of key characteristics and/or special qualities informed by the underlying character of the landscape, consideration is given to how these may be affected and how the designated area may be altered by the GGRP.
- Other designated areas: areas of designation which may in part be designated due to the contribution of landscape or scenic quality in combination with other reasons for designation (e.g. forest parks, conservation areas, biosphere reserves).

**6.37** Available documents and guidelines which describe landscape character, landscape condition and landscape designations within the Study Area were reviewed, and the relevant data is detailed below. The assessment of effects on landscape demonstrates the extent and level of effects likely to occur as a result of the GGRP.

## Proposed Route of the Glenmuckloch to Glenglass Reinforcement Project

**6.38** The GGRP, as shown in **Figure 6.1**, will be situated wholly within Dumfries and Galloway. The new Glenmuckloch substation will be located approximately 500m east of the former Glenmuckloch opencast coal working site, on the northern slopes of the River Nith valley. From the new Glenmuckloch substation the new 132kV OHL route will pass broadly south-east for approximately 1km before heading south-west across the River Nith valley and the railway line. It will then continue south-west for approximately 1km before crossing the A76 to the west of Rigg Farm. The route will then pass south-east along the southern slopes of the River Nith Valley for approximately 1.6km from Polmeur Hill and will pass through the conifer forestry plantation at Libry Moor. On exiting Libry Moor the OHL route will continue in a south easterly direction for approximately 1.6km before crossing over the Kello Water. The route will pass south for 1.9km and south-west for 1.5km across Drumbuie Moor. The route will follow the line of a recently constructed Whiteside Hill and South West Scotland (SWS) Project access track to the existing Glenglass substation.

### Description of Study Area

**6.39** The Study Area for the LVIA, shown in **Figure 6.1**, extends to a 5km radius from the GGRP as detailed in **Appendix 6.1**. The Study Area is informed by the type and scale of steel lattice tower overhead line infrastructure described in **Chapter 4** and is defined on the basis that at distances greater than 5km significant effects on landscape receptors are unlikely to occur.

**6.40** In broad terms, the landscape of the study area for the GGRP is defined by the River Nith valley and adjacent Southern Uplands; much of it is rural in nature, comprising primarily of agricultural and forested areas outside of the main settlements of Kirkconnel and Sanquhar.

**6.41** The ground level of the valley floor is approximately 140m AOD while the hill summits above include Bank Hill, at 530m AOD, and so there is a notable range in elevation across the study area. The uplands are generally formed of rounded hills or undulating ridgelines and they feature several incised valleys with tributary watercourses draining towards the River Nith.

**6.42** Above the valley floor and lower slopes, intensive agriculture gives way to rough grazing and managed moorland mixed with commercial woodland plantation. Several of the slopes, hilltops and ridges have been developed for wind energy production, including Hare Hill Wind Farm, Sanquhar Community Wind Farm, Whiteside Hill Wind Farm and Sandy Knowe Wind Farm (under construction).

### Landscape Character Types and Local Landscape Character Types

**6.43** An Appraisal of Landscape Susceptibility<sup>2</sup> to development of the type and scale proposed was undertaken during Phase One: Routeing and Consultation. This identified several Local Landscape Character Types (LLCTs) within the study area. Since Phase One was prepared, the updated NatureScot National Landscape Character Assessment (2019) has been published. Following review of the updated national character assessment, the impact assessment reported in this chapter considers five LLCTs which are based on NatureScot (2019) LCTs, with minor amendments to reflect local features and characteristics identified during Phase One and subsequent site visits. This is explained in **Table 6.2** below and the resulting character units are shown on **Figure 6.3**.

**Table 6.2: Identification of Local Landscape Character Types for this Assessment**

LLCT	Origin and Changes Made
Upper Nith Valley	This LLCT is based on NatureScot LCT 69 – Upland River Valleys – Ayrshire and NatureScot LCT 165 – Upper Dale – Dumfries & Galloway. For the purposes of this assessment, the boundary between these two NatureScot LCTs has been removed to reflect similarities in character within the Study Area. There is one unit of this LLCT which runs through the Study Area.
Southern Upland	This LLCT is based on NatureScot LCT 81 – Southern Uplands – Ayrshire and NatureScot LCT 177 – Southern Uplands – Dumfries & Galloway. Because of similarities in character, there is no distinction between areas of southern upland in the different local authorities for the purposes of this assessment. There are three units of this LLCT within the Study Area.
Incised Tributary Valley	This LLCT is based on parts of NatureScot LCT 177 – Southern Uplands – Dumfries & Galloway and NatureScot LCT 165 – Upper Dale – Dumfries & Galloway. To reflect local variances in landscape character, two small valleys (each a separate unit of the LLCT) have been identified within the Study Area.
Southern Upland with Forest	This LLCT is based on NatureScot LCT 178 – Southern Uplands with Forest – Dumfries & Galloway. There is no change to the boundary, but it has been renamed to remove reference to the local authority and for consistency with other LLCTs. There are two units of this LLCT within the Study Area.
Plateau Moorland	This LLCT is based on NatureScot LCT 78 – Plateau Moorland – Ayrshire. There is no change to the boundary, but it has been renamed to remove reference to the local authority and for consistency with other LLCTs. There is one unit of this LLCT within the Study Area.

**6.44** The GGRP has potential to result in direct effects on those LLCTs in which it is located and to result in indirect effects on LLCTs from which there will be visibility of it. A ZTV illustrating the theoretical visibility of the GGRP is shown on **Figure 6.4**, illustrating the potential for indirect effects upon landscape character.

**6.45** **Table 6.3** below lists LLCTs within the study area which have been identified for this assessment and states whether there is potential for direct or indirect effects to result from the GGRP.

**Table 6.3: LLCTs in the Study Area**

LLCT	Direct Effects	Theoretical Visibility of GGRP
Upper Nith Valley	Yes	Direct effects upon the only unit of this LLCT. Visibility is also indicated across the LLCT. <b>Considered within the assessment.</b>
Southern Upland	Yes	Direct effects upon one of three units of this LLCT. There is also visibility indicated from the two other units of this LLCT, although this is limited to those slopes closest to the proposed development. Actual visibility will be further limited by intervening forestry. <b>Considered within the assessment.</b>
Incised Tributary Valley	Yes	Direct effects upon both units of this LLCT. Visibility is also indicated across the LLCT. <b>Considered within the assessment.</b>
Southern Upland with Forest	No	Visibility is indicated across both units of this LLCT. Actual visibility will be limited in this area due to intervening forestry. <b>Considered within the assessment.</b>
Plateau Moorland	No	Limited visibility is indicated from slopes of Corsencon Hill and Auchtitench Hill at distances exceeding 3.5km from the GGRP. However, actual visibility will be further limited by intervening forestry near Auchtitench Hill. Given the limited extent of potential visibility in this LLCT, it has been scoped out of the assessment.

### Landscape Capacity

**6.46** The findings of the 2019 appraisal<sup>3</sup> have informed the iterative routeing and alignment process of the GGRP. The appraisal, landscape character information published in the 2019 NatureScot Landscape Character Assessment and supplementary guidance to the Dumfries and Galloway Local Development Plan 2 have also been considered in this assessment, as these have informed judgements of the sensitivity of LLCTs to development of the type and scale proposed.

### Nationally Designated Landscapes

**6.47** There are no national landscape designations in the GGRP LVIA Study Area.

### Locally Designated Landscapes

**6.48** Part of the East Ayrshire Sensitive Landscape Area (SLA) is within the western part of the study area. Part of the Thornhill Uplands Regional Scenic Area (RSA), a Dumfries and Galloway landscape designation, is within the south-western part of the study area. The GGRP will not be located within these locally designated landscapes; however, there is potential for the GGRP to result in indirect effects upon them.

**6.49** The East Ayrshire Sensitive Landscape Area (SLA) covers an area of approximately 324km<sup>2</sup> and includes a section of the River Nith valley between New Cumnock and the local authority boundary along with a large extent of the Southern Uplands, to the north and south, and the River Ayr valley further north. Approximately 18km<sup>2</sup> of the designated area is included in the western extent of the study area, as shown on **Figure 6.5**. The ZTV shown on **Figure 6.5** suggests that visibility will be relatively localised within the SLA and will be primarily focused within the River Nith valley along the A76 corridor. Vegetation within the River Nith valley and containing slopes will limit visibility, but parts of the valley sides to the north towards Corsencon Hill and, to a lesser extent, the south towards The Knipe and Black Hill will be affected. Given the limited extent of the overall designated area potentially affected, this locally designated landscape has been scoped out of the LVIA.

**6.50** The Thornhill Regional Scenic Area (RSA) covers an area of approximately 482km<sup>2</sup> and includes a section of the River Nith valley from east of Sanquhar to Auldgirth along with a large extent of the Southern Uplands to the east and west of the valley. Approximately 6km<sup>2</sup> of the designated area is included in the south-eastern extent of the study area, as shown on **Figure 6.5**. The ZTV shown on **Figure 6.5** suggests that visibility within the RSA will be limited to localised elevated landform including the summits of Shiel Hill and Welltrees Hill. Given the limited extent of the overall designated area potentially affected, this locally designated landscape has been scoped out of the LVIA.

<sup>2</sup> SP Energy Networks (2019). The Glenmuckloch 132kV Connection Project, Routeing and Consultation Report, Appendix 3.

<sup>3</sup> SP Energy Networks (2019). The Glenmuckloch 132kV Connection Project, Routeing and Consultation Report, Appendix 3.

## Existing Visual Baseline Conditions

**6.51** This section details the groups of visual receptors (people) identified within the 5km radius Study Area (as shown of **Figure 6.1**) who will potentially experience changes in views and visual amenity as a result of the GGRP and introduces the representative assessment viewpoints that have been used to assess effects on views and visual amenity (including the assessment of views from selected settlements and routes).

**6.52** The A76, which runs through the relatively broad River Nith valley, is recognised as a key transport corridor for the area and runs between Kilmarnock and Dumfries. The Glasgow South Western Line railway, between Glasgow and Carlisle via Kilmarnock and Dumfries, runs broadly parallel to the A76 within the Study Area.

**6.53** The main settlements within the Study Area are Kirkconnel and Kelloholm, with Sanquhar located on the eastern edge of the Study Area. Beyond these settlements, there are individual dwellings, farmsteads and small clusters of residential properties dispersed across the Study Area.

**6.54** There are a number of core paths connecting Kirkconnel with the uplands to the north and south. There is also a section of the Southern Upland Way within the Study Area, providing access from the valley floor at Sanquhar to Polskeoch Burn (approximately 350m AOD) in the south of the Study Area.

### Analysis of Visibility of the Glenmuckloch to Glenglass Reinforcement Project

**6.55** Theoretical visibility of the GGRP is shown on **Figure 6.2**. Within the Study Area, theoretical visibility is generally widespread across the River Nith valley floor and sides, along the southern edge of the Southern Uplands to the north of the River Nith valley, across the Southern Uplands to the south of the River Nith valley and extending towards the Euchar Water. Within the west of the Study Area, localised landform limits some visibility along the A76 near the named residential properties of Waistland and Laigh Cairn. Within the east of the Study Area, intervening landform limits visibility from lower lying extents along the Euchar Water near Glenmaddie Wood and the named residential property of Old Barr. Within the Southern Uplands in the south of the Study Area, visibility is limited to higher-elevation landform, with no visibility indicated from lower-lying incised landform located along the Glenlarie, Glen, Glenmaddie and Whing Burns. Elevated landform located to the south of the route, including Whiteside Hill, Mid Rig and Welltrees Hill, generally limits visibility from Southern Uplands within the most southern extents of the Study Area.

**6.56** Actual visibility will be reduced by woodland and forestry cover, particularly near the residential properties to the north of Kirkconnel, including Todholes and Kirkland, and the A76 near Rig Burn and to the east of Guildhall Bridge. Built form within the town centres of Kirkconnel and Sanquhar will also reduce the extent of visibility in practice.

### Key Visual Receptors

**6.57** Potential visual receptors within the Study Area who may experience potential views of the GGRP have been identified. Visual receptors have typically been defined within the following groups:

- Residential receptors: including those within defined settlements, smaller scattered communities and more isolated individual residences.
- Workers: visual receptors engaged in work within the Study Area where an appreciation of the wider landscape and views is not imperative to the activity being undertaken. As these receptors are generally judged to be of lower susceptibility to changes in the view and because they will experience views of the proposed development which are often shared by more receptors of greater susceptibility, they will generally not be considered in detail within the assessment.
- Recreational receptors: including people informally recreating within the wider landscape of the Study Area, users of promoted paths, routes etc. and the network of adopted Core Paths in the area where appreciation of the wider landscape and views may be appreciated whilst undertaking the activity.
- Tourists and visitors: at promoted attractions and assets within the Study Area where an appreciation of the wider landscape and views is an integral part of the activity or journey (e.g. from promoted scenic or tourist routes).

- Road users: People travelling through the landscape of the Study Area by motor vehicle on A- roads, B-roads and the wider minor road network of unclassified roads, and from which an appreciation of the wider landscape and views is not an integral part of the journey. This group of receptors may however also include residents travelling to and from their place of residence.

**6.58** Informed by desk-based study and field survey, and with reference to the Bare Earth Zones of Theoretical Visibility (ZTVs), key visual receptors (people) who may experience views of the GGRP have been identified. These visual receptors have been divided in the classes noted above for the purposes of the assessment and include:

- Residential receptors located within the settlement of Kirkconnel/Kelloholm and scattered residential properties and farmsteads located primarily along the valley floor and lower slopes;
- Road users on the A76 and people travelling on the railway, which run broadly in parallel and cut through the central section of the study area; and
- Recreational receptors on the Southern Upland Way and on Core Paths at Mynwhirr Hill, Libry Moor, and Kelloside Plantation.

### Selection of Representative Viewpoints for Assessment

**6.59** Viewpoints have been used to represent and assess the potential visual effects of the GGRP. A number of viewpoints have been identified through desk study, field survey, public consultation and consultation with Dumfries and Galloway Council (DGC) and NatureScot.

**A.1** As defined by GLVIA3<sup>4</sup> (Para 6.19, Page 109) viewpoints selected for the assessment of visual effects can be broadly defined within three groups: (i) representative; (ii) specific; and (iii) illustrative. The selection of assessment viewpoint locations includes consideration of:

- locations selected to represent the experience of different types of receptor;
- locations at different distances to provide a representative range of viewing angles and distances (i.e. short, medium and long distance views);
- locations which illustrate key cumulative interactions with other existing, consented and/or proposed developments (i.e. either in combination or succession);
- locations which represent a range of viewing experiences (i.e. static views and points along sequential routes);
- specific viewpoints selected because they represent promoted views or viewpoints within the landscape; and
- illustrative viewpoints chosen specifically to demonstrate a particular visual effect or specific issue (which could include restricted visibility in particular locations).

**6.60** Following comments from statutory consultees received through scoping, a final list of 10 assessment viewpoints was selected and sent to statutory consultees for any final comments. No comments were received, and as such the locations were assumed to be agreed. They represent a wide range of publicly accessible locations from which the likely effects of the GGRP on views and visual amenity have been assessed. The viewpoints are listed in **Table 6.4** below and their locations within the Study Area are shown on **Figure 6.2**. Although these are not an exhaustive list of locations from where the GGRP may theoretically be visible (based on the Bare Earth ZTV), the viewpoint list is a representative selection of locations.

**Table 6.4: Assessment Viewpoint Locations**

Viewpoint	Location	Grid Reference		Potential Receptors	Reason for inclusion
VP1	A76 near Crockroy	270528	612262	Road users, residential receptors	Represents sequential views for road users and residential properties close to the road.
VP2	Lagrae Road	271708	612874	Residential receptors	Represents residential views from properties north-west of Kirkconnel.
VP3	A76 near Guildhall Bridge	272283	612451	Road users	Represents sequential views for road users, including tourists, residents and workers.

<sup>4</sup> The Landscape Institute and Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment, 3rd Edition

Viewpoint	Location	Grid Reference		Potential Receptors	Reason for inclusion
VP4	Main Street, Kirkconnel	273758	612097	Residential receptors and road users	Represents views from the settlement of Kirkconnel.
VP5	South Kelloholm	273188	611630	Residential receptors and recreational receptors	Represents views from residential properties on the southern edge of Kelloholm and nearby open space.
VP6	Libry Moor	272437	610800	Recreational receptors, residential receptors	Represents views from recreational users of the Core Path and views from properties south and south-east of Kirkconnel.
VP7	Southern Upland Way (SUW) near Whing Head	275098	605654	Recreational receptors	Representative of views for recreational visitors on the SUW.
VP8	Nith Valley near Hall Bridge	268550	613089	Residential receptors, passengers travelling along the railway	Represents views from residential properties near Hall Bridge and Glen Hall, and passengers travelling along the railway.
VP9	Fingland Road at Pates Bridge	277265	611186	Road users, residential receptors, passengers travelling along the railway	Represents sequential views for road users, nearby residential properties and passengers travelling along the railway.
VP10	Core Path at Kirkland Road	272294	614189	Recreational receptors, residential receptors	Represents views for recreational receptors travelling along the Core Path at Kirkland and nearby residential properties.

#### Settlements

**6.61** Settlements are those defined as such within the Dumfries and Galloway Local Development Plan 2 (2020). Settlements considered in the assessment are detailed in **Table 6.5** below, focussing on those which fall within the Study Area and with ZTV coverage (and which therefore have potential visibility as shown on **Figure 6.2**) with consideration as to which require further detailed assessment.

**6.62** The ZTV does not take account of any screening or filtering of views by the built environment, which will substantially reduce visibility from the majority of most settlements. In order to focus on potentially significant effects, settlements from which there is no theoretical visibility are not considered further in this assessment. Furthermore, settlements with limited actual visibility or where views of the surrounding landscape are not important to its setting, and where it is unlikely that significant effects could occur, are not considered further in the assessment.

**Table 6.5: Settlements within the Study Area**

Settlement	Theoretical visibility of GGRP
Sanquhar	Visibility is indicated from the western settlement edge near Blackaddie Road within approximately 4.6km to the east of the GGRP. <b>Considered within the assessment.</b>
Kirkconnel/Kelloholm	Relatively widespread visibility is indicated from across the settlement within approximately 2.2km to the east of the GGRP. However, actual visibility will be slightly reduced by built form from within the town centre and intervening woodland and forestry at Libry Moor. <b>Considered within the assessment.</b>

#### Residential Properties

**6.63** Potential effects on views and visual amenity experienced by residents are considered in relation to effects experienced by these receptors from settlements (identified in **Table 6.5** above) and from publicly accessible locations in the vicinity of individual residential properties / small groups of residential properties located within 600m of the GGRP (identified in **Table 6.6** below). Residential visual amenity forms one component of 'residential amenity'. Development can however give rise to effects on one or

more components of residential amenity, for example effects of noise, dust, access to daylight, vibration, outlook and visual amenity, sometimes collectively referred to as 'living conditions'.

**6.64** There are no residential properties located within 150m of the GGRP<sup>5</sup>. Residential properties within approximately 600m of the GGRP are detailed in **Table 6.6** below and shown on **Figure 6.6**. The potential effects on views and visual amenity, as experienced by residential receptors at these properties, are considered within the assessment.

**6.65** The RVAA guidance<sup>6</sup> introduces an approach to considering a potential 'Residential Visual Amenity Threshold', beyond which effects may be of "such nature and/or magnitude that it potentially affects 'Living Conditions' or residential Amenity" (Para. 2.1, Page 5). The assessment of visual effects does not identify visual effects of such magnitude that they warrant further assessment in respect of a detailed Residential Visual Amenity Assessment (RVAA). The approach to the assessment of potential effects on residential visual amenity is detailed further in **Appendix 6.1**.

**Table 6.6: Residential Properties located within approximately 150m-600m of the GGRP**

Residential Property Reference No.	Property Name	Grid Reference (NGR)		Approximate Distance to GGRP <sup>7</sup>
Group A: The Knowe	4 Knowe Cottages	271809	612819	502m
	3 Knowe Cottages	271815	612815	511m
	Knowebrae	271846	612717	591m
	The Steadings Cottage	271826	612710	579m
	Knowe Farm	271857	612709	604m
Group B: Rigg Farm	The Bothy	271230	612211	279m
	Shepherds Cottage	271245	612205	294m
	Cheese Cottage	271251	612213	296m
	The Rigg Farmhouse	271250	612206	298m
	Rigg Villa	271257	612245	299m
	Rigg Cottage	271478	612265	515m
P1	Crockroy Rigg	270587	612136	330m
P2	Crockroy Cottage	270449	611948	362m
P3	Carserrigg	272091	610468	367m
P4	Euchan Filter Station House and cottage	272966	607071	238m
P5	Euchan Filter Station Cottage	272957	607110	191m

#### Routes

**6.66** Visual effects on views from roads, railways and recreational routes (long distance footpaths, Core Paths and cycle routes) located across the study area and which fall within the ZTV (refer to **Figure 6.2**) are listed in **Table 6.7** below. Minor roads within approximately 1.5km of the GGRP which fall within the ZTV are listed in **Table 6.7** below.

<sup>5</sup> Measured from the permanent infrastructure (towers, conductors and Glenmuckloch substation) of the GGRP.

<sup>6</sup> The Landscape Institute (February 2019) Technical Guidance Note 2/19: Residential Visual Amenity Assessment (RVAA)

<sup>7</sup> Approximate distance between the nearest component of the Glenmuckloch to Glenglass Reinforcement Project and the nearest component of the development listed.

**6.67** Where it is unlikely that significant visual effects could occur, due to the viewing distance or reduced nature of actual visibility from the route due to localised screening, the route is not considered further in the assessment.

**Table 6.7: Routes within the Study Area**

Route	Theoretical visibility of GGRP
<b>Roads</b>	
A76	Relatively widespread visibility is indicated from the entire section of the road within the Study Area. The GGRP crosses perpendicular to the A76 to the west of Kirkconnel near Rigg Farm. Actual visibility will be reduced, but not altogether removed, by occasional intervening vegetation and built form as the road passes through the town centres of Kirkconnel and Sanquhar. <b>Considered within the assessment.</b>
B740	Very limited visibility indicated within the Study Area near Crawick, however actual visibility will be limited by intervening vegetation and localised landform. Not considered within the assessment.
U432N (minor road in Euchar Water Valley)	Widespread visibility indicated from approximately 5km of the road within <1km-4.5km of the GGRP. <b>Considered within the assessment.</b>
U459N and U460N north of the A76 (minor roads passing towards Lagrae and Kirkland)	Widespread visibility indicated from approximately 2.7km of the U459N and 1.9km of the U460N, within <1km-1.5km of the GGRP. <b>Considered within the assessment.</b>
C125N (minor road passing south of Kelloholm)	Widespread visibility indicated from approximately 6km of the road within 1-4km of the GGRP. <b>Considered within the assessment.</b>
<b>Railways</b>	
Glasgow South Western Line	Relatively widespread visibility is indicated from the entire section of the rail route within the Study Area. The GGRP crosses perpendicular to the route to the west of Kirkconnel near The Knowe. Actual visibility will be reduced, but not altogether removed, by localised landform including embankment and intervening vegetation. <b>Considered within the assessment.</b>
<b>Walking Routes</b>	
Southern Upland Way	Theoretical visibility indicated as the route passes at higher elevation between Cloud Hill and Whing. Intervening landform slightly reduces visibility as the route passes at lower elevation along Whing Burn, however visibility is also indicated further north-east as the route passes through Sanquhar. <b>Considered within the assessment.</b>
Core Paths	Core Paths within the Study Area are identified on <b>Figure 6.2</b> in relation to the ZTV. Core Paths have been used to help identify representative viewpoint locations and where a viewpoint falls on a Core Path, this is discussed further in the representative viewpoint assessment. The GGRP crosses, or is in close proximity to, the following Core Paths which have the potential for more open views: <ul style="list-style-type: none"> <li>■ Core Path 84 (Kirkconnel to Mynwhirm Hill); and</li> <li>■ Core Path 88 (Kirkconnel to Black Law via Fingland &amp; Kirkland).</li> </ul>

### Developments Considered in Cumulative Assessment

**6.68** The developments considered within the assessment of cumulative landscape are limited to those which are of a comparable type, scale and/or extent, and with the potential to result in similar landscape and visual effects to those of the GGRP. The study area for a CLVIA is determined by the nature and scale of the development proposed, the nature of the surrounding area, and informed by the location, pattern and distribution of existing, consented and proposed developments which may give rise to similar landscape and visual effects as the GGRP. For the purposes of the CLVIA assessment, other developments within a study area of 10km radius from the proposed GGRP were considered.

**6.69** Developments within a 10km radius of the GGRP and included in the cumulative assessment have been selected as follows:

- All existing, consented and proposed electricity transmission infrastructure (≥ 132kV) developments; and
- All existing, consented and proposed<sup>8</sup> wind energy developments (single wind turbines or wind farms) of ≥50m blade tip height.

**6.70** Operational developments (existing electricity transmission connections and wind energy developments) and those under construction are included as part of the baseline for the LVIA. Consented developments and those currently in-planning, or at appeal, are considered as part of the assessment of potential future cumulative effects and included in the CLVIA. These developments are listed in **Table 6.8** and **Table 6.9** below and shown in **Figure 6.7**.

**Table 6.8: Operational and Under Construction Developments included in the baseline**

Development	Status <sup>9</sup>	No. of Turbines	Blade Tip Height (m)	Approximate Distance to GGRP (km) <sup>10</sup>
Glenmuckloch Community Energy Park	Operational	2	46.1m	2.0km
Sunnyside Wind Cluster	Operational	2	62m	4.8km
Hare Hill Phase 1	Operational	20	63.5m	4.3km
Hare Hill Phase 2	Operational	35	91m	4.3km
High Park Farm	Operational	1	75m	7.8km
Sanquhar Community Wind Farm	Operational	9	130m	0.9km
Whiteside Hill	Operational	10	121.2m	0.9km
Sandy Knowe	Under construction	24	125m	0.6km
Twentysilling Hill	Under construction	9	140m	6.2km
Transmission Infrastructure Development	Status	Main Infrastructure		Approximate Distance to GGRP (km) <sup>11</sup>
South West Scotland (SWS) Project	Operational	132kV steel lattice tower overhead line infrastructure		<1km

**Table 6.9: Consented and Proposed Developments included in the Cumulative Assessment**

Development	Status	No. of Turbines	Blade Tip Height (m)	Approximate Distance to GGRP (km) <sup>12</sup>
Glenmuckloch	Consented	8	149.9m	1.6km
Lethans	Consented	22	220m	2.0km
Sandy Knowe Extension	Application	6	149.9m	0.6km
Sanquhar Six	Consented	6	130m	3.2km
Sanquhar II	Appeal/Public Inquiry	50	200m	0.8km
Lethans Extension	Application	10	251m	2.9km
Kennoxhead Extension II	Application	8	220m	7.2km
Eucharhead	Application	21	230m	4.2km

<sup>8</sup> Subject to a valid planning application – e.g. undetermined applications or appeals.

<sup>9</sup> A cut-off date of 02/09/2022 was applied for the inclusion of other developments within the cumulative assessment.

<sup>10</sup> Approximate distance between the nearest component of the Glenmuckloch to Glenglass Reinforcement Project and the nearest component of the development listed.

<sup>11</sup> Approximate distance between the nearest component of the Glenmuckloch to Glenglass Reinforcement Project and the nearest component of the development listed.

<sup>12</sup> Approximate distance between the nearest component of the Glenmuckloch to Glenglass Reinforcement Project and the nearest component of the development listed.



Transmission Infrastructure Development	Status <sup>13</sup>	Main Infrastructure	Approximate Distance to GGRP (km) <sup>14</sup>
Glenglass Substation Extension	Proposed	An approximately 0.3 hectare extension to an existing 0.4 hectare substation.	<1km

### Future Baseline in the Absence of the Development

**6.71** In the absence of the GGRP, it is likely that the land will continue under the same land use, and the character of the study area is therefore unlikely to change notably. However, the landscape and visual amenity of the study area is likely to be influenced by a number of 'forces for change'. Forces for change are those factors affecting the evolution of the landscape and which may, consequently, affect the perception of the study area in the near or distant future. Although prediction of these is necessarily speculative, this could include changes in landcover due to climate change and/or increasing development pressure for new housing, energy generation infrastructure and other development.

### Implications of Climate Change

**6.72** For Scotland, the UK Climate Change Projections 2018 (UKCP18) projects that temperatures are projected to increase, particularly in summer, and rainfall is projected to increase, particularly in the winter. The Landscape Institute's "Landscape for 2030"<sup>15</sup> acknowledges that changes in average temperatures, precipitation and extreme weather events will have an effect on the landscape. However, whilst a change in rainfall and rising temperatures are anticipated, it is not considered that this will appreciably change the baseline landscape conditions. Mitigation associated with reducing climate change is likely to be a more noticeable change in the landscape.

### Project Design Considerations

**6.73** There are a number of locations along the route of the GGRP where refinements, to minimise landscape and visual effects, have been recommended as part of the iterative design process. This designed-in embedded mitigation includes:

- Siting of angle towers to minimise prominence, where open views are afforded from residential properties towards the GGRP;
- Consideration of tower locations in proximity to blocks of coniferous forestry near Libry Moor to enhance opportunities for back clothing; and
- Straightening out of route alignment through Libry Moor to avoid sharp angle changes.

### Embedded Mitigation

**6.74** The mitigation of potential landscape and visual effects has been approached through the routing of the proposed route and, since identification of a proposed route, the consideration of individual steel lattice tower and substation locations. An iterative process of design modification, appraisal and assessment has been ongoing since project inception. This work has been carried out with reference to the Holford Rules: Guidelines for the Routing of New High Voltage Overhead Transmission Lines (with National Grid Company plc (NGC) 1992 and Scottish Hydro-Electric Transmission plc (SHETL) 2003 Notes and The Horlock Rules: NGC Substations and the Environment: Guidelines on Siting and Design (2006).

**6.75** Examples of mitigation measures which are embedded in the design include:

- Avoidance of sensitive and small-scale landscapes and features which could be dominated by large-scale infrastructure;
- Identifying an appropriate location to cross the River Nith valley, a sensitive area with a large proportion of residential visual receptors and transport corridors;
- Use of topography and woodland edges to screen and back cloth steel lattice towers where possible;
- Existing hedgerows, woodland, tree belts and stone dyke field enclosures along the GGRP route will be retained as far as practical;

- Any disturbance to or temporary removal of existing field boundaries (e.g. hedgerows, stone dykes or fences) to facilitate construction access will follow identification and agreement with the appointed Environmental Clerk of Works, and be undertaken sensitively to ensure successful reinstatement of these features following completion of construction activities;
- Construction vehicles will not track across undisturbed areas outside their defined working areas and access corridor; and
- Any disturbance to verges of access tracks will be made good through revegetation of the verges.

**6.76** Where there is disturbance to or temporary removal of existing stone dykes along the GGRP route, they will be reinstated using locally sourced stone and built to match the style and height of existing stone dykes in the area, as per the indicative stone dyke section in **Image 6.1**

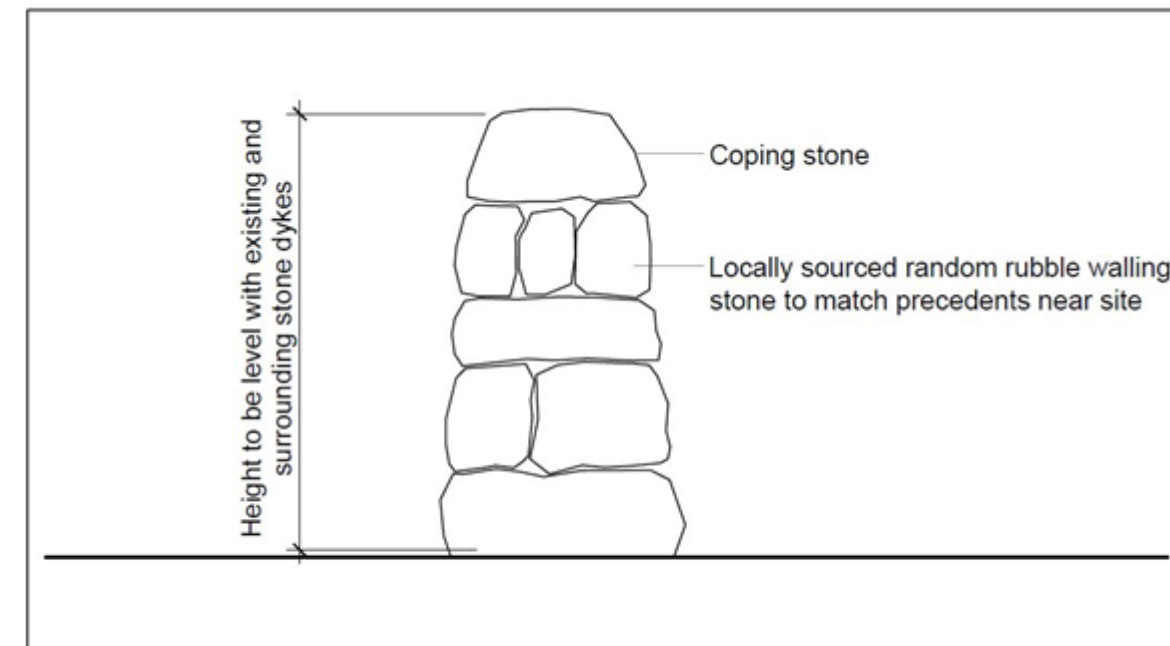


Image 6.1: Indicative section of stone dyke for reinstatement of stone dykes (to be agreed with the appointed Environmental Clerk of Works)

### Replanting of Areas of Felled Woodland and Forestry (Wayleave)

**6.77** A number of areas of proposed tree felling have been identified for the creation of the 80m-wide wayleave corridor. With landowner agreement, SPEN will seek to replant certain sections of the wayleave corridor and the wayleave corridor edge with low growing shrub species, sourced from local seed provenance, which are not deemed to put at risk the ongoing safe operation of the OHL. While SPEN cannot commit to implementing these proposed measures, these measures would be implemented as far as possible with the agreement of the landowners. In this context, the proposed measures are not considered committed mitigation, and therefore are not taken into account in the mitigation of any effects identified within this EIA Report. Further detail is provided in **Chapter 4** and a plan showing typical wayleave treatment is provided in **Appendix 4.3**.

**6.78** Assessment of Effects The assessment of effects is based on the project description as outlined in **Chapter 4**. Unless otherwise stated, potential effects identified are considered to be negative.

<sup>13</sup> A cut-off date of 02/09/2022 was applied for the inclusion of other developments within the cumulative assessment.

<sup>14</sup> Approximate distance between the nearest component of the Glenmuckloch to Glenglass Reinforcement Project and the nearest component of the development listed.

<sup>15</sup> [https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2021/04/12510-LANDSCAPE-2030\\_v6.pdf](https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2021/04/12510-LANDSCAPE-2030_v6.pdf)

## Sources of Effects

### Predicted Construction Effects

**6.79** During the proposed circa. 16 month construction phase the key changes arising from the construction of the GGRP will include:

- Woodland felling, comprising the wayleave requirements and anticipated small area associated with avoiding future windthrow, including for the Glenmuckloch substation;
- Preparation of accesses including bellmouths and temporary access tracks, including for the Glenmuckloch substation;
- Provision of watercourse crossings for access track construction;
- Preparation of temporary working areas, including for the Glenmuckloch substation;
- Delivery, assembly and erection of steel lattice towers;
- Steel lattice tower conductor 'stringing' and commissioning;
- Removal of temporary infrastructure and reinstatement; and
- Movement of associated construction vehicles and plant as well as temporary construction lighting, including for the Glenmuckloch substation.

**6.80** The assessment of construction effects considers a maximum case effect scenario which assumes the greatest presence of construction activities prior to removal and reinstatement works (for example the presence of all access tracks, temporary construction compound and erected towers).

**6.81** The majority of the effects which will occur during the construction phase will be short-term and largely reversible, typically limited to the immediate vicinity from which activities may be perceptible. Further consideration of construction effects for each landscape and visual receptor (LLCT, landscape designations, viewpoints, settlements and routes) which is assessed further in this LVIA is provided in the following section.

### Proposed Mitigation

**6.82** Embedded mitigation measures proposed during the construction phase of the GGRP are discussed in **Chapter 4** and is described in **Appendix 3.3: Schedule of Mitigation**.

### Predicated Operational Effects

**6.83** The key changes arising from the operation of the GGRP will include:

- new double circuit 132kV steel lattice tower OHL, approximately 9.3km in length;
- new Glenmuckloch substation, including security lighting and access track; and
- permanent felling of forestry to create a 80m-wide wayleave.

## Effects

### Landscape Effects during Construction and Operation

**6.84** The GGRP crosses a number of LLCTs, as illustrated on **Figure 6.3**. Those with theoretical visibility of the GGRP are shown on **Figure 6.4**. The following assessment describes the likely effects on landscape character resulting from the introduction of the GGRP during the construction and operational phases of the project.

**6.85** The assessment below also provides consideration of potential 'additional' cumulative effects arising in conjunction with other relevant consented and/or proposed developments. The relevant developments comprise those listed in **Tables 6.8-6.9** and shown on **Figure 6.7**.

Table 6.10: Landscape Effects on Upper Nith Valley LLCT

Landscape Effects on Upper Nith Valley LLCT
<p><b>Key characteristics<sup>16</sup>:</b></p> <ul style="list-style-type: none"> <li>■ Wide valley with a gently curving river course and enclosed by domed peaks and moorland. There is a noticeable narrowing of the valley Corsencon Hill (in the north-west of the study area),</li> <li>■ Generally, open and with long views, but also features belts and blocks of mature trees which contrast with this.</li> <li>■ Improved valley pastures becoming rougher up the valley sides.</li> <li>■ Medium to large scale enclosures with a mix of drystone dykes and post-and-wire fencing.</li> <li>■ Mixed and deciduous riparian woodlands along the main river and tributary channels.</li> <li>■ Medium to large plantation blocks on the valley sides and extending over horizons from higher ground.</li> <li>■ Wind farm development characteristic of some adjacent upland fringes and backdrop skylines.</li> <li>■ Mining settlements and remnants of industrial activity such as mine ruins and bings. There is evidence of recent opencast mining activity and restoration at Glenmuckloch.</li> <li>■ Notable concentration of transport routes.</li> </ul> <p>Sandy Knowe Wind Farm (under construction) is partially located within this LLCT.</p>
<p><b>Sensitivity:</b></p> <p>The rolling landform and pattern of woodland blocks and fields indicate a higher susceptibility. However, existing human influence, the broad scale of the valley, the opportunity to back cloth development and lack of intervisibility with adjoining landscapes result in there being opportunity to accommodate development. The overall susceptibility is judged to be medium. Part of the LLCT is within the East Ayrshire SLA, indicating a medium value.</p> <p>Overall, this LLCT is judged to be of <b>medium</b> sensitivity to development of the type and scale proposed.</p>
<p><b>Assessment of landscape effects during construction:</b></p> <p>Direct effects during construction of the GGRP will be concentrated west and south of Kirkconnel. No designated areas will be directly affected. Effects will include limited disturbance to surface vegetation in pastoral fields, clearance of conifer woodland at Libry Moor and construction of steel lattice towers. Temporary access tracks, working areas and pulling areas will also result in localised disturbance.</p> <p>The scale of change is judged to be medium and the geographical extent is judged to be small. Overall, the magnitude of change during construction will be <b>medium</b>, resulting in a <b>moderate</b> and <b>significant</b> effect on localised extents of the LLCT, reducing to <b>minor</b> and <b>not significant</b> for the LLCT as a whole.</p>
<p><b>Assessment of landscape effects during operation:</b></p> <p>Direct effects resulting from the GGRP will occur to the west and south of Kirkconnel. No designated areas will be directly affected. The ZTV indicates widespread visibility across the LLCT, though some areas of conifer forestry, woodland and built development at Kirkconnel will reduce actual visibility.</p> <p>The steel lattice towers and conductors of the proposed development will cross against the grain of the valley, broadly on a north-south alignment before passing south-east through Libry Moor. The tops of steel lattice towers will occasionally appear skylined where seen in closer distance views from localised lower-lying extents of the LLCT (VP1, VP2, VP3), which may interrupt some of the open and long views characteristic of the LLCT. Towers of the lower-lying sections of the route may occasionally appear at odds with the underlying scale of the valley, particularly where towers are located at the transition from the valley floor to the more elevated valley sides though this will be experienced from localised extents of the LLCT near VP2 and VP3. There will be some permanent loss of conifers near the Glenmuckloch substation and where the OHL crosses through Libry Moor, though retained conifer forestry surrounding these sections of the route will minimise the influence of felling.</p> <p>However, the containing landform to the north and south of the valley and areas of woodland and conifer forestry provide back clothing for the proposed development in longer views from the LLCT. The proposed development will often be seen in views with an existing influence of wind farm development, with operational wind turbines in adjacent LLCTs forming existing skyline features in outward views from the LLCT. There will be minimal adverse influence on the setting that the LLCT forms for the settlement of Kirkconnel and the sequential experience of the landscape of the valley from the A76.</p> <p>The scale of change is judged to be medium and the geographical extent is judged to be medium. The overall magnitude of landscape change is judged to be <b>medium</b>, resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for this LLCT.</p>
<p><b>Potential for future cumulative effects:</b></p>

<sup>16</sup> Adapted from NatureScot National Landscape Character Assessment (2019), LCT 165 UPPER DALE – DUMFRIES & GALLOWAY and LCT 89 UPLAND RIVER VALLEYS – AYRSHIRE

Landscape Effects on Upper Nith Valley LLCT
The under-construction Sandy Knowe Wind Farm (24 turbines at 125m to tip) which forms part of the baseline and proposed Sandy Knowe Extension (6 turbines at 149.9m tip height) are located within this LLCT. There is likely to be intervisibility between the GGRP and the consented Lethans Wind Farm (22 turbines at 220m to tip) and Glenmuckloch Wind Farm (8 turbines at 121.2m to tip) which are located within the adjacent Southern Uplands with Forest LLCT to the north. In combined or successive views with these consented schemes, steel lattice towers within the GGRP will appear as smaller scale features and in some views appear below the horizon, in contrast with Lethans and Glenmuckloch Wind Farms which will appear as much larger scale features along the horizon.
The scale of the additional change is judged to be small and the geographical extent is judged to be medium. The overall magnitude of change is considered to be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative landscape effect for this LLCT.

Table 6.11: Landscape Effects on Southern Upland LLCT

Landscape Effects on Southern Upland LLCT
<p><b>Key characteristics<sup>17</sup>:</b></p> <ul style="list-style-type: none"> <li>Large, smooth dome/conical shaped hills, covered with grass and moorland vegetation.</li> <li>Open and exposed character.</li> <li>Dramatically sculpted landforms and awe-inspiring scale.</li> <li>Distinctive dark brown/purple colour of heather on some of the higher areas.</li> <li>Stone dykes occasionally define the lower limit of this landscape.</li> <li>Wind farms locally characteristic, away from the more dramatic, scenic and sculptural slopes and skylines.</li> <li>Largely undeveloped with a small number of isolated properties, accessed from adjoining valley landscapes.</li> </ul> <p>The operational Sanquhar Community, Whiteside Hill, Hare Hill Phase 1 and Hare Hill Phase 2 Wind Farms are located within this LLCT. The existing 132kV South West Scotland (SWS) Project passes through this LLCT near Cannock Hill.</p>
<p><b>Sensitivity:</b></p> <p>The prominent skylines help to define this landscape and form an important contrast to adjoining landscapes, indicating higher susceptibility. However, the presence of wind farms and communication towers, the opportunity for back clothing against slopes and overall scale of the landscape indicate some opportunity to accommodate development. The overall susceptibility is judged to be high. Parts of this LLCT are within the East Ayrshire SLA and the Thornhill Uplands RSA, indicating a medium value.</p> <p>Overall, this LLCT is judged to be of <b>medium</b> sensitivity to development of the type and scale proposed.</p>
<p><b>Assessment of landscape effects during construction:</b></p> <p>Direct effects during construction will occur in one unit of this LLCT: the Drumbuie Moorhead area south of Kirkconnel. No designated areas will be directly affected. Effects will include limited disturbance to moorland and rough grazing. Temporary access tracks, working areas and pulling areas will also result in localised disturbance.</p> <p>The scale of change is judged to be small and the geographical extent is judged to be small. Overall, the magnitude of change during construction will be <b>low</b>, resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for the LLCT.</p>
<p><b>Assessment of landscape effects during operation:</b></p> <p>One unit of this LLCT will be directly impacted by the GGRP during operation. No designated areas will be directly affected. The ZTV indicates widespread visibility from the northern extents of the LLCT unit near Drumbuie Moorhead. Intervening landform limits visibility of the route in more distant views further south of Cloud Hill, Whing Head and Welltrees Tappin.</p> <p>The ZTV also indicates localised visibility from the western unit of the LLCT near The Knipe (approximately 4-6km east of the proposed development), however the presence of conifer forestry to the east of this unit will limit actual visibility and the intervening distance will limit perceptibility of steel lattice towers and conductors.</p> <p>The OHL will gradually ascend the mid-slope contours of the LLCT, passing from approximately 260m AOD near Glengape and 350m AOD near Drumbuie Moorhead before passing downslope into the adjacent Incised Tributary Valley LLCT. The OHL will avoid elevated landform within the LLCT, including at Black Hill (501m AOD). In views from the lower-lying adjacent Upper Nith Valley LLCT, for which the LLCT forms the containing skyline, the OHL will generally be seen back clothed by more elevated landform and will therefore not adversely affect the setting that the LLCT forms for the adjacent valleys. In views from elevated landform within the LLCT (VP7), the OHL will appear back clothed by landform, and will be absorbed by the relatively large scale of the upland landscape.</p>

<sup>17</sup> Adapted from NatureScot National Landscape Character Assessment (2019), LCT 177 SOUTHERN UPLANDS – DUMFRIES & GALLOWAY and LCT 81 SOUTHERN UPLANDS – AYRSHIRE

Landscape Effects on Southern Upland LLCT
The scale of change is judged to be small and the geographical extent is judged to be small. Overall, the magnitude of landscape change is judged to be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this LLCT.
<p><b>Potential for future cumulative effects:</b></p> <p>The proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) is located within this LLCT approximately 3km to the south-west of the GGRP (refer to <b>Figure 6.7</b>). Any inter-visibility between the two developments will be available from the northern extents of the LLCT in combined and successive views as well as sequential views from the SUW that passes through this LLCT. Due to the lower height of the steel lattice towers (maximum height of 39.09) in contrast with the 200m tip height of the wind turbines at Sanquhar II, the GGRP will appear as smaller scale and less prominent.</p> <p>The scale of the additional change is judged to be small and the geographical extent is judged to be medium. The overall magnitude of change is considered to be <b>low</b>, resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative landscape effect for this LLCT.</p>

Table 6.12: Landscape Effects on Incised Tributary Valley LLCT

Landscape Effects on Incised Tributary Valley LLCT
<p><b>Key characteristics:</b></p> <ul style="list-style-type: none"> <li>Steep-side and relatively deep tributary valleys which feed into the River Nith.</li> <li>Intensive management is generally prevented by gradient, leading to a rough texture and blocks of native broadleaf riparian woodland.</li> <li>The Kello Water (northernmost) unit of this LLCT features little or no contemporary man-made developments.</li> <li>The Euchar Water (southernmost) unit includes a small road and isolated historic dwellings and is increasingly being influenced by electrical generation and transmission infrastructure, particularly in its upper section.</li> <li>The landform of lower sections of both units of this LLCT are less pronounced, but remain attractive and intimate landscapes, of complex topography and enclosed with woodland, contrasting with the more open farmland of adjacent character types.</li> </ul> <p>The existing 132kV South West Scotland (SWS) Project passes through the Euchar Water unit of this LLCT near Glenglass.</p>
<p><b>Sensitivity:</b></p> <p>There is little intervisibility with other landscapes and already some electrical transmission infrastructure in one unit of this LLCT, indicating lower susceptibility. However, the small scale of the landscape, irregular and complex pattern and sense of seclusion limit the potential to accommodate development. Overall, susceptibility is judged to be higher. Although there are no landscape designations here, the LLCT is distinctive and relatively rare, indicating a medium value.</p> <p>Overall, this LLCT is judged to be of <b>high</b> sensitivity to development of the type and scale proposed.</p>
<p><b>Assessment of landscape effects during construction:</b></p> <p>Direct effects during construction of the GGRP will occur in both units of this LLCT. However, in the Kello Water unit, it is likely that this will be limited to laying down of material. In the Euchar Water unit, effects will include limited disturbance to moorland and rough grazing. Temporary access tracks, working areas and pulling areas will also result in localised disturbance.</p> <p>The scale of change is judged to be small and the geographical extent is judged to be small. Overall, the magnitude of change during construction will be <b>low</b>, resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for the LLCT.</p>
<p><b>Assessment of landscape effects during operation:</b></p> <p>The GGRP will directly impact both units of this LLCT. The ZTV indicates widespread visibility across the Kello Water unit of the LLCT and the western extents of the Euchar Water unit of the LLCT, though riparian woodland will occasionally limit actual visibility, particularly in the north-east of the Kello Water unit.</p> <p>The steel lattice towers and conductors of the GGRP will cross against the grain of the valley of the Kello Water unit, broadly on a north-south alignment, and will result in permanent loss of small areas of conifer and broadleaved woodland. Steel lattice towers will be at odds with the small scale of the valley, although the towers will be located on the transitional edges of the LLCT. The steel lattice towers and the conductors of the proposed development will pass more gradually down the northern slope of the Euchar Water unit, and will result in permanent loss to conifer forestry near Benzien Craig. However, there is an existing influence of the existing substation, existing steel lattice towers of the South West Scotland (SWS) Project, the Euchar Water Works facilities and commercial forestry in this unit of the LLCT. Operational wind turbines located in the uplands adjacent to this unit of the LLCT form skyline features and scale indicators in the western extents of the unit.</p>

Landscape Effects on Incised Tributary Valley LLCT
The scale of change is judged to be large and the geographical extent is judged to be small. Overall, the magnitude of change during operation will be <b>medium</b> , resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for the LLCT.
<b>Potential for future cumulative effects:</b>
The proposed Glenglass Substation Extension is located within the western extent of this LLCT on the lower slopes of the Euchar Water Valley. Cumulative effects as a result of the GGRP in combination with the Glenglass Substation Extension will be limited due to the presence of the existing Glenglass Substation and the size of the extension in relation to the existing substation.
The scale of the additional change is judged to be small and the geographical extent is judged to be small. The overall magnitude of change is considered to be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative landscape effect for this LLCT.

Table 6.13: Landscape Effects on Southern Upland with Forest LLCT

Landscape Effects on Southern Upland with Forest LLCT
<b>Key characteristics<sup>18</sup>:</b>
<ul style="list-style-type: none"> <li>■ Large, smooth dome-shaped hills with large-scale dark green forests on slopes and over lower summits.</li> <li>■ Predominantly simple, gently rolling landform.</li> <li>■ Some areas of more complex and smaller-scale landscapes, with steep slopes enclosing heads of valleys and/or where uplands remain open.</li> <li>■ Changing landscapes with large-scale forestry operations and wind farm development.</li> <li>■ Forested areas dominated by commercial conifer plantation, interspersed with mixed conifers and broadleaf planting, and undergoing felling and replanting in large coupes.</li> <li>■ Wind farms and electrical transmission infrastructure are a key characteristic within the study area.</li> <li>■ Expansive scale.</li> </ul>
Sandy Knowe Wind Farm (under construction) and the operational Glenmuckloch Community Energy Park are located within this LLCT.
<b>Sensitivity:</b>
Underlying landform is large in scale, but the presence of forestry and proximity to development reduce how this is perceived. The presence of conifer plantation, undulating topography and presence of wind farm development indicate potential to accommodate OHL development. The overall susceptibility is judged to be low. There are no landscape designations across this LLCT which indicates a lower value.
Overall, this LLCT is judged to be of <b>low</b> sensitivity to development of the type and scale proposed.
<b>Assessment of landscape effects during construction:</b>
No construction will take place in this LLCT. However, indirect effects will result from visibility of construction activities. The scale of change is judged to be small and the geographical extent is judged to be small. Overall, the magnitude of change is judged to be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for the LLCT.
<b>Assessment of landscape effects during operation:</b>
The GGRP will not directly impact this LLCT, but indirect effects will result from visibility of it. The ZTV indicates visibility of the GGRP from the north-east of the southern unit of this LLCT, near Wham Rig, Polnagrie Hill and Mynwhirr Hill. However, this actual visibility will be limited by areas of mature woodland and conifer plantation. Sandy Knowe Wind Farm (under construction) is partially located within this LLCT and exerts influence on landscape character. The ZTV also indicates visibility of the GGRP from the transitional edge of the northern unit of this LLCT, near Niviston Hill, Kirkland Hill, Todholes Hill and Bail Hill. The steel lattice towers and conductors of the GGRP will form fairly distant features in outward views from this LLCT. Where outward views are afforded from the southern unit of the LLCT, the GGRP will be seen crossing pastoral landscape of the Upper Nith Valley LLCT and through conifer forestry at Libry Moor. Outward views from the northern unit of the LLCT are generally more open, although the GGRP will be partially screened by intervening forestry located in the adjacent Upper Nith Valley LLCT. Steel lattice towers and conductors will be back clothed by more distant landform in outward views from the LLCT.
The scale of change is judged to be small and the geographical extent is judged to be small. Overall, the magnitude of change is judged to be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for the LLCT.
<b>Potential for future cumulative effects:</b>
The under-construction Sandy Knowe Wind Farm (24 turbines at 125m to tip) which forms part of the baseline is located in the southern unit of this LLCT, as well as a number of consented and proposed wind farm developments, including the consented Sanquhar Six Wind Farm (6 turbines at 130m to tip), the proposed Sanquhar II Wind Farm (50 turbines at 200m to tip), the proposed Eucharhead Wind Farm (21 turbines at 230m to tip)

<sup>18</sup> Adapted from NatureScot National Landscape Character Assessment (2019), LCT 178 SOUTHERN UPLANDS WITH FOREST – DUMFRIES AND GALLOWAY

Landscape Effects on Southern Upland with Forest LLCT
and proposed Sandy Knowe Extension (6 turbines at 149.9m tip height). The GGRP will be seen in exterior views from this LLCT unit however will be perceived as smaller scale and more distant features within the landscape, compared to the larger scale vertical features within the consented and proposed wind turbines located within the LLCT.
The scale of the additional change is judged to be small and the geographical extent is judged to be medium. The overall magnitude of change is considered to be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative landscape effect for this LLCT.

#### Visual Effects During Construction and Operation

**6.86** This section presents the assessment of effects of the GGRP on views and visual amenity across the study area during the construction and operational phases of the project.

**6.87** The assessment assumes that all effects are **long term** (during the c. 80 year lifespan of the GGRP) and reversible, unless stated otherwise.

**6.88** The assessment below also provides consideration of potential 'additional' cumulative effects arising in conjunction with other relevant consented and/or proposed developments. The relevant developments comprise those listed in **Tables 6.8-6.9** and shown on **Figure 6.7**.

Table 6.14: Viewpoint 1: A76 near Crockroy

Viewpoint 1: A76 near Crockroy				
<b>Grid Reference</b>	270528	612262	<b>Figure Number</b>	6.8
<b>Local Landscape Character Type</b>	Upper Nith Valley LLCT		<b>Designated Landscape or Wild Land Area</b>	N/A
<b>Direction of View</b>	North-east to south-east		<b>Distance to nearest project component (km)</b>	0.4km
<b>Location, description of existing view and potential receptors:</b>				
This viewpoint is adjacent to the A76, the main road through the study area, and is representative of sequential views for road users, including tourists and workers, and views from residential properties close to the road.				
The road is busy and fast-moving vehicles are often visible. There are fields of improved and semi-improved pasture either side of the road with small belts of coniferous trees and individual dwellings also visible nearby. Local distribution overhead electricity lines, supported by wood poles, cross the road near this location. The valley slope to the south rises steadily toward the Southern Uplands. To the north, there is a small undulation in the valley form which prevents visibility of the River Nith and other features in the valley floor. Further north, the skyline is formed by the Southern Uplands. Turbines at Sandy Knowe Wind Farm are visible across the horizon to the south. There are also several wind turbines visible at Hare Hill Phases 1 & 2 to the south-west, two turbines visible at Glenmuckloch Community Energy Park to the north-west and a communication tower at Todholes Hill to the north-east. Phased restoration and ongoing mineral works can be seen at Glenmuckloch to the north.				
<b>Sensitivity:</b>				
Road users of the A76, some of whom may be tourists and visitors by virtue of its promotion as a tourist route, are considered to be of medium susceptibility to changes in the view. Residential receptors are considered to be of high susceptibility to changes in the view.				
Although tourists, visitors and residential receptors may attach a higher value to views, the viewpoint does not afford views across areas designated for scenic quality and there are no components in the view which indicate notable non-designated scenic quality. Therefore, the value of the view available from this location is considered to be medium.				
On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be <b>medium</b> .				
<b>Assessment of visual effects during construction:</b>				
During the construction phase, disturbance associated with preparatory groundworks including the introduction of a new temporary access track will be evident in views east from this location. Preparatory groundworks, partially constructed steel lattice towers, temporary lighting, and scaffolding across the A76 will be seen in the middle distance of the view. Construction vehicles and plant on temporary access tracks will also be apparent in views east and south. Coniferous trees associated with the residential property at Crockroy Rigg will largely filter views of construction activity in views south-east, however there may be some glimpsed views in between breaks in vegetation. The steel lattice towers and conductors introduced during the construction phase will remain evident in views throughout the operational phase. Combined with associated construction activities this will result in a medium scale change. The geographical extent of similar views is judged to be small.				

Viewpoint 1: A76 near Crockroy			
Overall, the magnitude of change during construction will be <b>medium</b> , resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for this viewpoint.			
<b>Assessment of visual effects during operation:</b>			
The GGRP will be visible to the east, crossing the A76 and against the skyline. Intervening landform will screen the visible extent of the GGRP to the north and north-east. To the east, tower 31 will be visible along the horizon in the middle distance and will appear as a large scale vertical feature in the view. To the south-east, a group of coniferous trees associated with the residential property at Crockroy Rigg will largely filter views of the GGRP in this direction, however there is likely to be glimpsed views of tower 29 through gaps in these trees. The new substation at Glenmuckloch, and associated security lighting (when activated/in operation), will be screened by intervening vegetation.			
The scale of change is judged to be medium and the geographical extent is judged to be small. Overall, the magnitude of change during operation will be <b>medium</b> , resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for this viewpoint.			
<b>Potential for future cumulative effects:</b>			
The consented Glenmuckloch Wind Farm (8 turbines at 149.9m to tip), the consented Lethans Wind Farm (22 turbines at 220m to tip) and the proposed Lethans Extension (10 turbines at 251m to tip) will be visible in views to the north from this viewpoint. The GGRP will be seen in combined and successive views with these developments, however in combined views will largely appear as much smaller features back clothed by landform, compared to the consented and proposed wind farms that will appear as larger scale features across the horizon to the north. In successive views with these wind farms, the GGRP will be largely screened by intervening blocks of coniferous forestry to the east.			
The scale of the additional change is judged to be small and the geographical extent is judged to be small. The overall magnitude of change is considered to be low, resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative visual effect for this viewpoint.			

Table 6.15: Viewpoint 2: Lagrae Road

Viewpoint 2: Lagrae Road				
<b>Grid Reference</b>	271712	612876	<b>Figure Number</b>	6.9
<b>Local Landscape Character Type</b>	Upper Nith Valley LLCT		<b>Designated Landscape or Wild Land Area</b>	N/A
<b>Direction of View</b>	North-west to south-west		<b>Distance to nearest project component (km)</b>	0.2km
<b>Location, description of existing view and potential receptors:</b>				
This viewpoint is adjacent to a local access road which connects rural properties with the A76 near Kirkconnel. It is representative of views from rural properties north-west of the nearby settlement within the valley of the River Nith.				
The road is lined by traditional drystone walls with undulating fields of improved and semi-improved grazing to either side. To the south-east, sheds and outdoor storage space at The Knowe farmstead are visible. Local distribution overhead electricity lines, supported by wood poles, cross the road near this location. There is an overbridge which crosses the railway visible along a nearby access track to the south-west; the River Nith is in the valley beyond this, screened from view by intervening topography. A mosaic of broadleaf woodland, conifer plantation, pasture and rough moorland is visible on the southern valley slopes which lead to the Southern Uplands. Wind turbines at Sandy Knowe, Hare Hill Phases 1 & 2 and at Sanquhar Community Windfarm are visible against the skyline. To the north, the skyline is formed by the Southern Uplands above nearby undulations which screen much of the valley beyond.				
<b>Sensitivity:</b>				
Residential receptors are considered to be of high susceptibility to changes in the view.				
Although residents may attach a higher value to views, the viewpoint does not afford views across areas designated for scenic quality and there are no components in the view which indicate notable non-designated scenic quality. Therefore, the value of the view available from this location is considered to be medium.				
On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be <b>high</b> .				
<b>Assessment of visual effects during construction:</b>				
During the construction phase, disturbance associated with preparatory groundworks including the felling of broadleaved woodland along the railroad, scaffolding to the north and south of the railroad, the introduction of a new temporary access track, temporary lighting and partially constructed steel lattice towers will be evident in the middle distance of views west. Ground level disturbance will be screened by intervening landform in views north-west and will be barely perceptible in more distant views south-west. Construction vehicles and plant on temporary access tracks will also be apparent. The steel lattice towers and conductors introduced during the construction phase will remain evident in views throughout the operational phase. Combined with associated construction activities this will result in a medium scale change. The geographical extent of similar views is judged to be small.				
Overall, the magnitude of change during construction will be <b>medium</b> , resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for this viewpoint.				

Viewpoint 2: Lagrae Road			
<b>Assessment of visual effects during operation:</b>			
The GGRP will be visible to the south-west, crossing the valley, and to the south where it will traverse the mid-slopes above the valley at Libry Moor. To the south-west, steel lattice towers will be visible in the middle distance (within 0.4km) as large scale features in the view looking across the valley. To the south however, steel lattice towers will be visible at distances over 1km, appearing as smaller scale features back clothed against the hills which contain the valley and form the distant horizon to the south, reducing their prominence in the view. In this direction, the steel lattice towers will also be seen in the context of turbines at Sandy Knowe, Hare Hill Phases 1 & 2 and at Sanquhar Community Windfarm, which will appear as larger scale features in comparison to the steel lattice towers. To the north-west, further steel lattice towers will be visible in the middle distance as the line runs parallel to the local access road and will be partially screened by intervening roadside vegetation and drystone walls. Two of the partially visible towers will be visible extending above the horizon and the remaining two will be back clothed by hill slopes that contain the northern edge of the Nith Valley.			
The scale of change is judged to be medium and the geographical extent is judged to be small. Overall, the magnitude of change during operation will be <b>medium</b> , resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for this viewpoint.			
<b>Potential for future cumulative effects:</b>			
A small number of turbines at the consented Sanquhar Six (6 turbines at 130m to tip) and the proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) will be visible in views to the south from this viewpoint. Turbines at the proposed Sandy Knowe Extension (6 turbines at 149.9m to tip) will also be visible in this direction. The GGRP will be seen in combined views with these developments however the wind farm developments will be seen at distances over 4km and will appear as small scale features. The addition of vertical features in views to the south as a result of the GGRP, Sandy Knowe Extension, Sanquhar Six and Sanquhar II Wind Farms will not be a notable change as they will be seen in the context of existing wind farm development in this direction.			
Turbines at the consented Glenmuckloch Wind Farm (8 turbines at 149.9m to tip), the consented Lethans Wind Farm (22 turbines at 220m to tip) and the proposed Lethans Extension (10 turbines at 251m to tip) will be visible in combined views with the GGRP to the north-west. In this direction, most of the steel lattice towers in the GGRP will appear as smaller scale vertical features than the consented and proposed wind farms in this direction and will be back clothed by landform, reducing their prominence.			
The scale of the additional change is judged to be small and the geographical extent is judged to be small. The overall magnitude of change is considered to be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative visual effect for this viewpoint.			

Table 6.16: Viewpoint 3: A76 near Guildhall Bridge

Viewpoint 3: A76 near Guildhall Bridge				
<b>Grid Reference</b>	272286	612445	<b>Figure Number</b>	6.10
<b>Local Landscape Character Type</b>	Upper Nith Valley LLCT		<b>Designated Landscape or Wild Land Area</b>	N/A
<b>Direction of View</b>	North-west to south-west		<b>Distance to nearest project component (km)</b>	1.0km
<b>Location, description of existing view and potential receptors:</b>				
This viewpoint is adjacent to the A76, which is the main road through the study area, and is representative of sequential views for road users, including tourists, residents and workers, travelling through the Nith Valley. There is a public seating area nearby, but these benches are not known to be in regular use.				
The road is busy and fast-moving vehicles are often visible. To the north, trains passing on the nearby railway can also be seen. The River Nith is to the south, visible between trees and areas of scrub which line it. To the west, the majority of undulating valley floor is used for areas of improved and semi-improved grazing, along with small blocks and belts of mixed woodland. Rural residential properties and farmsteads, often with associated mature trees, can be seen in this direction. The majority of Kirkconnel is screened by mature woodland to the east. The skyline is formed by the Southern Uplands and upper valley slopes feature areas of rougher grazing and larger blocks of commercial plantation. Turbines at Sandy Knowe and Hare Hill Phases 1 & 2 are visible to the south-west and at Glenmuckloch Community Energy Park to the north-west. The communication tower at Todholes Hill can be seen to the north-east.				
<b>Sensitivity:</b>				
Road users of the A76, some of whom may be tourists and visitors by virtue of its promotion as a tourist route, are considered to be of medium susceptibility to changes in the view.				
Although tourists, visitors and residential receptors may attach a higher value to views, the viewpoint does not afford views across areas designated for scenic quality and there are no components in the view which indicate notable non-designated scenic quality. Therefore, the value of the view available from this location is considered to be medium.				
On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be <b>medium</b> .				

Viewpoint 3: A76 near Guildhall Bridge	
<b>Assessment of visual effects during construction:</b>	
<p>During the construction phase, preparatory groundworks associated with the introduction of temporary access tracks, temporary lighting and partially constructed steel lattice towers will be visible in the middle distance of views looking west, partially screened by intervening landform and vegetation. Scaffolding to the south of the railway will be glimpsed beyond intervening vegetation in views west. The movement of construction vehicles and plant on temporary access tracks will be seen in the middle distance of views looking west. Ground level disturbance will be screened by intervening landform in more distant views looking south and south-west. The felling of forestry for the wayleave and the associated groundworks at Libry Moor will be screened by retained forestry to the north of the wayleave. The steel lattice towers and conductors introduced during the construction phase will remain evident in views throughout the operational phase. Combined with associated construction activities this will result in a medium scale change. The geographical extent of similar views is judged to be small.</p> <p>Overall, the magnitude of change during construction will be <b>medium</b>, resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for this viewpoint.</p>	
<b>Assessment of visual effects during operation:</b>	
<p>The GGRP will be visible crossing the valley to the west and traversing the mid-slopes above the valley to the south. To the west and north-west, steel lattice towers will be visible in the middle distance of views, with those to the north-west seen against a backdrop of hills that contain the Nith Valley to the north. Most of these towers to the west and north-west will be fully visible, however some will be filtered by intervening pockets of deciduous and coniferous trees. The new substation at Glenmuckloch and associated security lighting (when activated/in operation) will be screened by coniferous forestry in views north-west. To the south-west and south, visibility of the GGRP will be reduced due to pockets of mixed woodland and blocks of coniferous on the southern valley slopes that will screen the GGRP. The tops of some steel lattice towers however are likely to be visible above the forestry.</p> <p>The scale of change is judged to be medium and the geographical extent is judged to be small. Overall, the magnitude of change during operation will be <b>medium</b>, resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for this viewpoint.</p>	
<b>Potential for future cumulative effects:</b>	
<p>A small number of turbines at the consented Sanquhar Six (6 turbines at 130m to tip) and the proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) will be visible in views to the south from this viewpoint. Turbines at the proposed Sandy Knowe Extension (6 turbines at 149.9m to tip) will also be visible in this direction. The GGRP will be seen in combined views with these developments however the wind farm developments will be seen at distances over 3.5km and will appear as small scale features. The addition of vertical features in views to the south as a result of the GGRP, Sandy Knowe Extension, Sanquhar Six and Sanquhar II Wind Farms will not be a notable change as they will be seen in the context of existing wind farm development in this direction.</p> <p>Turbines at the consented Glenmuckloch Wind Farm (8 turbines at 149.9m to tip), the consented Lethans Wind Farm (22 turbines at 220m to tip) and the proposed Lethans Extension (10 turbines at 251m to tip) will be visible in combined views with the GGRP to the north-west. In this direction, most of the steel lattice towers in the GGRP will appear as smaller scale vertical features than the consented and proposed wind farms in this direction and will be back clothed by landform, reducing their prominence.</p> <p>The scale of the additional change is judged to be small and the geographical extent is judged to be small. The overall magnitude of change is considered to be <b>low</b>, resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative visual effect for this viewpoint.</p>	

Table 6.17: Viewpoint 4: Main Street, Kirkconnel

Viewpoint 4: Main Street, Kirkconnel			
<b>Grid Reference</b>	273680	612110	<b>Figure Number</b> 6.11
<b>Local Landscape Character Type</b>	Upper Nith Valley LLCT		<b>Designated Landscape or Wild Land Area</b> N/A
<b>Direction of View</b>	West - South-west - south		<b>Distance to nearest project component (km)</b> 2.4km
<b>Location, description of existing view and potential receptors:</b>			
<p>This viewpoint is adjacent to the A76, which is the main road through Kirkconnel, and it is representative of sequential views for road users, including tourists, and for residents within the settlement.</p> <p>The road is busy and passing traffic is noticeable. Properties within the settlement limit the extent of view available to the north, north-east and west. Street lighting and overhead lines are prominent nearby. The view is relatively open to the south but the nearby River Nith is largely obscured by scrub woodland. Beyond the river, areas of housing and industry are visible within the adjoining settlement of Kelloholm. Areas of open ground appear to be a mix of sports pitches, informal recreational space and rough grazing. To the south-west, turbines at Sandy Knowe Wind Farm are visible along the horizon. South of Kelloholm, the skyline is formed by the Southern Uplands where there are wind turbines visible at Sanquhar Community Windfarm and Whiteside Hill.</p>			
<b>Sensitivity:</b>			

Viewpoint 4: Main Street, Kirkconnel	
<p>Road users of the A76, some of whom may be tourists and visitors by virtue of its promotion as a tourist route, are considered to be of medium susceptibility to changes in the view. Residential receptors are considered to be of high susceptibility to changes in the view.</p> <p>Although tourists, visitors and residents may attach a higher value to views, the viewpoint does not afford views across areas designated for scenic quality and there are no components in the view which indicate notable non-designated scenic quality. Therefore, the value of the view available from this location is considered to be medium.</p> <p>On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be <b>high</b>.</p>	
<b>Assessment of visual effects during construction:</b>	
<p>During construction, ground level disturbance will be screened by intervening landform and vegetation. Partially constructed towers and temporary lighting will be seen in distant successive views looking west to south. The felling of forestry for the wayleave and the associated groundworks at Libry Moor will be screened by retained forestry to the north of the wayleave. The steel lattice towers and conductors introduced during the construction phase will remain in views throughout the operational phase. Combined with associated construction activities this will result in a small scale change. The geographical extent of similar views is judged to be small.</p> <p>Overall, the magnitude of change during construction will be <b>small</b>, resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this viewpoint.</p>	
<b>Assessment of visual effects during operation:</b>	
<p>There will be a degree of visibility of the GGRP in open views to the south, beyond Kelloholm, and to the south-west on the mid-slopes above the valley along Libry Moor. To the west, the GGRP will be largely screened by buildings and tree cover within Kirkconnel. To the south-west, visibility of the GGRP will be limited to the tops of steel lattice towers in the distance which will be seen extending above intervening deciduous woodland and coniferous forestry at Libry Moor that will screen the lower parts of the towers. These tops however will be back clothed by landform beyond and therefore will be barely perceptible. To the south, towers will be visible along the hill slopes in the distance beyond Kelloholm, some back clothed by landform. As the line begins to run southwards towards Glenglass substation, a small number of towers will be seen extending above the distant skyline, however these will appear as small and distant features, some of which screened by deciduous tree planting in the middle distance. From this viewpoint, the GGRP will also be seen in the context of Sandy Knowe Wind Farm, Sanquhar Community Windfarm and Whiteside Hill Wind Farm and will appear as less prominent features in comparison to the existing visible wind turbines.</p> <p>The scale of change is judged to be small and the geographical extent is judged to be small. Overall, the magnitude of change during operation would be <b>low</b>, resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this viewpoint.</p>	
<b>Potential for future cumulative effects:</b>	
<p>The GGRP will be seen in combined views with a small number of turbines at the consented Sanquhar Six (6 turbines at 130m to tip) and the proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) to the south-west. Turbines at the proposed Sandy Knowe Extension (6 turbines at 149.9m to tip) will also be visible in this direction. Intervening deciduous woodland will reduce visibility of the GGRP and the visual relationship with these consented and proposed wind farms. Additionally, given the distance of over 3km between the consented and proposed wind farms and the viewpoint, the turbines will appear as small scale features in a view already altered by vertical man-made features.</p> <p>The scale of the additional change is judged to be small and the geographical extent is judged to be small. The overall magnitude of change is considered to be <b>low</b>, resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative visual effect for this viewpoint.</p>	

Table 6.18: Viewpoint 5: South Kelloholm

Viewpoint 5: South Kelloholm			
<b>Grid Reference</b>	273188	611630	<b>Figure Number</b> 6.12
<b>Local Landscape Character Type</b>	Upper Nith Valley LLCT		<b>Designated Landscape or Wild Land Area</b> N/A
<b>Direction of View</b>	North-west – west		<b>Distance to nearest project component (km)</b> 2.3km
<b>Location, description of existing view and potential receptors:</b>			
<p>This viewpoint is located on a local road within Kelloholm and is representative of views experienced from residential properties and users of open space near the southern edge of the settlement.</p> <p>A rural road (C125N) and several storage sheds can be seen running adjacent, at slightly higher elevation, to Dryburn Road in close-distance views south-west to south-east. Beyond this, views to the south are foreshortened by ascending landform with fields of rough grazing beyond post and wire fencing. Turbines within the Sandy Knowe Wind Farm and Hare Hill Phase 1 &amp; 2 Wind Farm can be seen across the horizon formed by the ascending landform in this direction. A block of coniferous trees at Kelloside Plantation is visible in the middle distance to the south-west.</p> <p>Semi-detached and terraced residential properties form the foreground view to the east and south-east, with the rolling profile of the Southern Uplands forming the distant backdrop beyond. To the north-east, the two wind turbines that form Sunnyside Wind Cluster are visible behind the foreground residential properties. To the north and west, the view overlooks rough grassland and grazing pasture in the foreground which is backed by the surrounding hill slopes of the Nith Valley. Two wind turbines within the Glenmuckloch Community Energy Park are visible on these hill slopes</p>			

Viewpoint 5: South Kelloholm			
to the north-west. Kirkconnel and the remaining parts of Kelloholm are largely screened by landform in the foreground due to their position lower down in the valley.			
<b>Sensitivity:</b>			
Residential and recreational receptors are considered to be of high susceptibility to changes in the view.			
Although residents and recreational receptors may attach a higher value to views, the viewpoint does not afford views across areas designated for scenic quality and there are no components in the view which indicate notable non-designated scenic quality. Therefore, the value of the view available from this location is considered to be medium.			
On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be <b>high</b> .			
<b>Assessment of visual effects during construction:</b>			
During construction, ground level disturbance will be screened by intervening landform and vegetation. Partially constructed towers and temporary lighting will be seen in distant successive views looking west to south-west. The steel lattice towers and conductors introduced during the construction phase will remain in views throughout the operational phase. Combined with associated construction activities this will result in a small scale change. The geographical extent of similar views is judged to be small.			
Overall, the magnitude of change during construction will be <b>small</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this viewpoint.			
<b>Assessment of visual effects during operation:</b>			
The GGRP will be partially visible in views to the west and north-west. Most of the steel lattice towers in this view will either be fully or partially screened by intervening pockets of deciduous woodland or blocks of coniferous forestry the middle distance within the valley. Where towers are only partially screened, the upper sections or tops will be visible and will be back clothed against hill slopes beyond, reducing their prominence in the view. Only the tops of towers 29 and 31 will be visible against the skyline, however at distances of over 2 km, they will be barely perceptible. The Glenmuckloch substation and associated security lighting (when activated/in operation) will be fully screened by coniferous forestry in views north-west.			
The scale of change is judged to be small and the geographical extent is judged to be small. Overall, the magnitude of change during operation will be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this viewpoint.			
<b>Potential for future cumulative effects:</b>			
The GGRP will be seen in combined views with the consented Glenmuckloch (8 turbines at 149.9m tip height) and Lethans (22 turbines at 220m tip height) Wind Farms, which will appear as skyline features beyond the GGRP in views north-west. The proposed Lethans Extension (10 turbines at 251m tip height) Wind Farm will also be seen against the skyline, slightly increasing the horizontal extent of the consented Glenmuckloch and Lethans Wind Farm. The introduction of these developments will result in a notable change to the view, introducing man-made vertical features to the skyline. In combination with these developments, the steel lattice towers within the GGRP will appear as smaller scale and less prominent features as they will largely be seen below the skyline, back clothed by landform.			
The scale of change is judged to be small and the geographical extent is judged to be small. Overall, the magnitude of change during operation will be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this viewpoint.			

Table 6.19: Viewpoint 6: Libry Moor

Viewpoint 6: Libry Moor				
<b>Grid Reference</b>	272437	610800	<b>Figure Number</b>	6.13
<b>Local Landscape Character Type</b>	Upper Nith Valley LLCT		<b>Designated Landscape or Wild Land Area</b>	N/A
<b>Direction of View</b>	South to west		<b>Distance to nearest project component (km)</b>	0.8km
<b>Location, description of existing view and potential receptors:</b>				
This viewpoint is located on D&G Core Path 84, which provides recreational access to the Southern Uplands from Kelloholm and residential access for a small number of rural properties. The route runs south-west from the rural road (C125N) near Kelloside Plantation to Mynwhirr Hill (418m AOD). The viewpoint is representative of views experienced by recreational receptors and similar views experienced from rural residential properties to the south of Kirkconnel.				
The route is a forestry track and passes through a stand of coniferous trees at Libry Moor. From this relatively elevated location, there are open views north-east across the River Nith valley, with the Southern Uplands forming the skyline. Rough and semi-improved grassland form the foreground of the view and extends into the middle distance of the view. A narrow belt of small deciduous trees and shrubs line the eastern side of the route, partially obscuring views to the south-east. Smaller belts of coniferous trees are seen across the middle distance of views south-east and				

Viewpoint 6: Libry Moor			
east. Operational turbines at Sandy Knowe are visible to the south-west and turbines at Sanquhar Community Wind Farm and Whiteside Hill Wind Farm are visible in views south. Outward views north, west and south-west from the path are foreshortened by forestry.			
<b>Sensitivity:</b>			
Residential and recreational receptors are considered to be of high susceptibility to changes in the view.			
Although recreational receptors and residents may attach a higher value to views, the viewpoint does not afford views across areas designated for scenic quality and there are no components in the view which indicate notable non-designated scenic quality. Therefore, the value of the view available from this location is considered to be medium.			
On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be <b>high</b> .			
<b>Assessment of visual effects during construction:</b>			
During construction, ground level disturbance will be screened by intervening landform and vegetation in the middle distance of views looking south and south-west. The movement of construction vehicles and plant on existing forestry access tracks may be glimpsed in between breaks in vegetation. Preparatory groundworks, the introduction of temporary access tracks, movement of construction vehicles and plant, temporary lighting and partially constructed towers will be seen in more distant views south-east as the line ascends towards more elevated landform. Some felling of coniferous forestry for the creation of the wayleave may be perceptible, however the associated groundworks will be screened by retained forestry to the north of the wayleave. The steel lattice towers and conductors introduced during the construction phase will remain in views throughout the operational phase. Combined with associated construction activities this will result in a medium scale change. The geographical extent of similar views is judged to be small.			
Overall, the magnitude of change during construction will be <b>medium</b> , resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for this viewpoint.			
<b>Assessment of visual effects during operation:</b>			
The GGRP will be seen in middle-distance views south and south-west from this location, below the existing turbines in Sanquhar Community and Whiteside Hill Wind Farms. Steel lattice towers will be partially visible at distances of 0.8 km and over, as they cross Libry Moor. Most of the visible towers will be back clothed by Hunters Hill and Hog Hill to the south, and some are likely to be partially screened by intervening vegetation in the foreground, as well as blocks of coniferous forestry in the middle distance. To the south-east, towers will appear as distant features on the skyline as the GGRP changes direction and begins to ascend over the hills towards the south-east.			
The scale of change is judged to be medium and the geographical extent is judged to be small. Overall, the magnitude of change during operation will be <b>medium</b> , resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for this viewpoint.			
<b>Potential for future cumulative effects:</b>			
The GGRP will be seen in combined views with a small number of turbines at the consented Sanquhar Six (6 turbines at 130m to tip) and the proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) to the south-west. Turbines at the proposed Sandy Knowe Extension (6 turbines at 149.9m to tip) will also be visible in views to the west. The introduction of these developments will not result in a notable change in the view as views to the south, south-west and west have already been influenced by man-made vertical features, and the steel lattice towers within the GGRP will appear as smaller scale and less prominent features as they will largely be seen below the skyline, back clothed by landform.			
The scale of the additional change is judged to be small and the geographical extent is judged to be small. The overall magnitude of change is considered to be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative visual effect for this viewpoint.			

Table 6.20: Viewpoint 7: Southern Upland Way (SUW) near Whing Head

Viewpoint 7: Southern Upland Way (SUW) near Whing Head				
<b>Grid Reference</b>	275098	605654	<b>Figure Number</b>	6.14
<b>Local Landscape Character Type</b>	Southern Upland LLCT		<b>Designated Landscape or Wild Land Area</b>	N/A
<b>Direction of View</b>	North-west		<b>Distance to nearest project component (km)</b>	2.8km
<b>Location, description of existing view and potential receptors:</b>				
This viewpoint is located on the Southern Upland Way (SUW) long distance footpath to the south-west of Sanquhar near Whing Head. The viewpoint is representative of views experienced by recreational receptors on this part of the SUW, which runs between St Johns Town of Dalry and Sanquhar.				
From this relatively elevated location, views are relatively open and feature undulating moorland extending from the foreground to middle distance of views. A post and wire fence crosses the foreground of the view looking south-west to north-west. Occasional blocks of coniferous forestry are seen in the middle distance of the view, including near Black Hill in views west and at Ulzieside Plantation in views north. In the middle distance of views looking west, the Euchar Water is screened by intervening undulating landform. The River Nith valley is seen in longer-distance views north-				

Viewpoint 7: Southern Upland Way (SUW) near Whing Head			
<p>west to north, with the settlements of Kirkconnel and Sanquhar visible within the valley floor. Longer-distance views of undulating landform of the Southern Uplands forms the skyline of views looking west to north. Intervening landform foreshortens longer distance views looking south-west and east.</p> <p>Operational turbines at Whiteside Hill and Sanquhar Community Wind Farms are evident in the middle distance of the view looking south-west to west, with hubs and blade tips seen against the skyline. Operational turbines at Hare Hill Phases 1&amp;2 are seen in longer-distance views south-west. The two turbines at Glenmuckloch Community Energy Park are seen in longer-distance views north-west.</p>			
<p><b>Sensitivity:</b></p> <p>Recreational receptors are considered to be of high susceptibility to changes in the view.</p> <p>Although recreational receptors may attach a higher value to views, the viewpoint does not afford views across areas designated for scenic quality and there are no components in the view which indicate notable non-designated scenic quality. Therefore, the value of the view available from this location is considered to be medium.</p> <p>On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be <b>high</b>.</p>			
<p><b>Assessment of visual effects during construction:</b></p> <p>During the construction phase, preparatory groundworks associated with the introduction of temporary access tracks, movement of construction vehicles and plant, the felling of coniferous forestry near Benzien Craig, temporary lighting and partially constructed steel lattice towers will be visible in distant views north-west. Where the GGRP passes further north beyond Drumbuie Moorhead, intervening landform and vegetation will screen some ground level disturbance and partially constructed towers will appear as small scale and distant features. The steel lattice towers and conductors introduced during the construction phase will remain in views throughout the operational phase. Combined with associated construction activities this will result in a medium scale change. The geographical extent of similar views is judged to be small.</p> <p>Overall, the magnitude of change during construction will be <b>medium</b>, resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for this viewpoint.</p>			
<p><b>Assessment of visual effects during operation:</b></p> <p>The GGRP will be seen in distant views north-west, crossing at lower elevations on the opposite side of the Euchar Water, back clothed by landform and forestry. Theoretically, the GGRP will occupy a wide horizontal extent of north-westerly views, however in reality the steel lattice towers will appear as small scale features, due to distances of <math>\geq 2.8</math> km between the viewpoint and towers, and will appear less prominent than the existing wind turbines that are visible along the skyline above. Some of the more distant towers to the north-west are also likely to be fully or partially screened by coniferous forestry. The new substation at Glenmuckloch, and associated security lighting (when activated/in operation), will be screened by intervening forestry in distant views north-west.</p> <p>The scale of change is judged to be medium and the geographical extent is judged to be medium. Overall, the magnitude of change during operation will be <b>medium</b>, resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for this viewpoint.</p>			
<p><b>Potential for future cumulative effects:</b></p> <p>The GGRP will be seen in combined views with the consented Sanquhar Six (6 turbines at 130m to tip) and the proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) to the west. Turbines at the proposed Sandy Knowe Extension (6 turbines at 149.9m to tip) will also be visible in views to the north-west. Views in these directions have already been influenced by man-made vertical features, and the turbines at Sanquhar Six and Sanquhar II will appear as smaller scale and more distant features than the existing turbines at Whiteside Hill which are closer to the viewpoint. The turbines at Sandy Knowe Extension will appear as a cohesive extension to the operational Sandy Knowe Wind Farm. The steel lattice towers within the GGRP will appear as smaller scale and less prominent features than the existing, consented and proposed turbines as they will largely be seen below the skyline, back clothed by landform.</p> <p>The scale of the additional change is judged to be small and the geographical extent is judged to be medium. The overall magnitude of change is considered to be <b>low</b>, resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative visual effect for this viewpoint.</p>			

Table 6.21: Viewpoint 8: Nith Valley near Hall Bridge

Viewpoint 8: Nith Valley near Hall Bridge			
<b>Grid Reference</b>	268550	613089	<b>Figure Number</b> 6.15
<b>Local Landscape Character Type</b>	Upper Nith Valley LLCT		<b>Designated Landscape or Wild Land Area</b> N/A
<b>Direction of View</b>	East – south-east		<b>Distance to nearest project component (km)</b> 2.5km
<b>Location, description of existing view and potential receptors:</b>			

Viewpoint 8: Nith Valley near Hall Bridge			
<p>This viewpoint is located on a local access road west of Kirkconnel at Hall Bridge. The road provides access to Glen Hall from the A76 and passes over the railway which broadly follows the River Nith. The viewpoint is representative of views experienced by travellers on the train and similar views experienced from residential properties near the road.</p> <p>Views to the east and west overlook the railway in the foreground, therefore passing trains are noticeable. To the north and north-east, the view is foreshortened by deciduous woodland. Beyond the railway to the east there are open views across the southern side of the Nith Valley with long distance views of the Southern Uplands beyond. To the south-east and south, the view overlooks the wooded valley floor with glimpsed views of the River Nith between trees, backed by the rising pastoral slopes of the valley. A block of coniferous forestry and pockets of deciduous woodland can be seen across these slopes, as well as a small group of some farm buildings nestled within woodland. A number of turbines at Sanquhar Wind farm are visible along the horizon to the south-east. A small number of deciduous trees obscure the foreground view to the south. To the south-west the view is largely contained by the rising slopes of the valley, and to the west there are filtered views of hills in the distance beyond the railway.</p>			
<p><b>Sensitivity:</b></p> <p>Those traveling by train, whose attention is likely to be somewhat focused on views of the surrounding landscape from the train are considered to be of medium susceptibility to changes in the view. Residential receptors are considered to be of high susceptibility to changes in the view.</p> <p>Although those travelling by train and residential receptors may attach a higher value to views, the viewpoint does not afford views across areas designated for scenic quality and there are no components in the view which indicate notable non-designated scenic quality. Therefore, the value of the view available from this location is considered to be medium.</p> <p>On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be <b>medium</b>.</p>			
<p><b>Assessment of visual effects during construction:</b></p> <p>During construction, ground level disturbance will be screened by intervening landform and vegetation. Partially constructed towers and temporary lighting will be seen in distant views looking east and south-east. The steel lattice towers and conductors introduced during the construction phase will remain in views throughout the operational phase. Combined with associated construction activities this will result in a small scale change. The geographical extent of similar views is judged to be small.</p> <p>Overall, the magnitude of change during construction will be <b>small</b>, resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this viewpoint.</p>			
<p><b>Assessment of visual effects during operation:</b></p> <p>The GGRP will be largely screened from this viewpoint by intervening landform, deciduous woodland and coniferous forestry. Steel lattice towers 31 and 32 however, will be partially visible in the middle distance of the view looking south-east, back clothed by woodland the more distant hills of the Southern Uplands beyond. Further south-east, tower 29 may be partially visible behind an intervening deciduous tree in the foreground, however the remainder of the GGRP will be screened by coniferous forestry as it continues south-east over Libry Moor.</p> <p>The scale of change is judged to be small and the geographical extent is judged to be small. Overall, the magnitude of change during operation will be <b>low</b>, resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this viewpoint.</p>			
<p><b>Potential for future cumulative effects:</b></p> <p>The proposed Sandy Knowe Extension (6 turbines at 149.9m to tip) will be seen against the skyline in views south. The proposed turbines will appear as a cohesive and relatively discrete extension to the operational Sandy Knowe Wind Farm, which forms an existing influence on the skyline. The steel lattice towers within the GGRP will appear as smaller scale and less prominent features in successive distant views.</p> <p>The scale of the additional change is judged to be small and the geographical extent is judged to be small. The overall magnitude of change is considered to be <b>low</b>, resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative visual effect for this viewpoint.</p>			

Table 6.22: Viewpoint 9: Fingland Road at Pates Bridge

Viewpoint 9: Fingland Road at Pates Bridge			
<b>Grid Reference</b>	277265	611186	<b>Figure Number</b> 6.16
<b>Local Landscape Character Type</b>	Upper Nith Valley LLCT		<b>Designated Landscape or Wild Land Area</b> N/A
<b>Direction of View</b>	West		<b>Distance to nearest project component (km)</b> 4.7km
<b>Location, description of existing view and potential receptors:</b>			
<p>This viewpoint is located on Fingland Road to the west of Crawick, at the point where the road crosses the railway at Pates Bridge. The viewpoint is representative of views experienced by local road users, travellers on the train and similar views experienced from residential properties near the road.</p>			



Viewpoint 9: Fingland Road at Pates Bridge			
Views to the north-west and south-east overlook the railway in the foreground, therefore passing trains are noticeable. To the west, there are open views across undulating fields of improved and semi-improved grazing within the Nith Valley, as well as woodland lining the River Nith along the valley floor and pockets of mixed woodland and coniferous forestry on the southern valley slopes. In this direction, turbines at Sandy Knowe Wind Farm and Hare Hill Phase 1 and 2 Wind Farms can be seen on the distant valley slopes and along the distant skyline. The top of a spoil heap at a nearby disused tip is also visible in the middle distance above intervening vegetation in the foreground. To the north-west, the railway below is visible before disappearing behind vegetation and woodland in the middle distance. Fields of improved and semi-improved grazing and belts of woodland can be seen on the ascending northern slopes of the valley, and a second spoil heap is visible on the horizon forming a prominent feature. To the north, the view is largely contained by the rising valley sides, obscured by a belt of vegetation in the foreground. To the east and south-east, the view overlooks further fields and the woodland covered valley slopes, with distant views of the Southern Uplands beyond. Views to the south are foreshortened by roadside vegetation.			
<b>Sensitivity:</b>			
Road users, whose views of the surrounding landscape are typically transient in nature, are considered to be of medium susceptibility to changes in the view. Those traveling by train, whose attention is likely to be somewhat focused on views of the surrounding landscape from the train are also considered to be of medium susceptibility to changes in the view. Residential receptors are considered to be of high susceptibility to changes in the view.			
Although those travelling by train and residential receptors may attach a higher value to views than road users travelling at speed, the viewpoint does not afford views across areas designated for scenic quality and there are no components in the view which indicate notable non-designated scenic quality. Therefore, the value of the view available from this location is considered to be medium.			
On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be <b>medium</b> .			
<b>Assessment of visual effects during construction:</b>			
During construction, intervening landform and vegetation will screen some ground level disturbance. Movement of construction vehicles and plant will be barely perceptible given the intervening distance. Partially constructed towers and temporary lighting will appear as small scale and distant features in views looking west and south-west. The steel lattice towers and conductors introduced during the construction phase will remain in views throughout the operational phase. Combined with associated construction activities this will result in a small scale change. The geographical extent of similar views is judged to be small.			
Overall, the magnitude of change during construction will be <b>small</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this viewpoint.			
<b>Assessment of visual effects during operation:</b>			
The GGRP will be seen in longer-distance views west and south-west, back clothed by the upper slopes of the southern valley side. Views of many of the steel lattice towers will be filtered by coniferous forestry and belts of mixed woodland on the slopes of Libry Moor. At distances of over 4.5 km, the towers will appear as small features in the view and are unlikely to appear prominent due to their position below the skyline. The GGRP will also be seen in the context of the existing turbines at Sandy Knowe and Hare Hill Phase 1 and 2 Wind Farms above.			
The scale of change is judged to be small and the geographical extent is judged to be small. Overall, the magnitude of change during operation will be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this viewpoint.			
<b>Potential for future cumulative effects:</b>			
The GGRP will be seen in combined views with a small number of turbines at the consented Sanquhar Six (6 turbines at 130m to tip) and the proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) to the south-west. Turbines at the proposed Sandy Knowe Extension (6 turbines at 149.9m to tip) will also be visible in this direction. The introduction of these developments will not result in a notable change in the view as views to the south and south-west have already been influenced by man-made vertical features, and the steel lattice towers within the GGRP will appear as smaller scale and less prominent features as they will largely be seen below the skyline, back clothed by landform.			
The scale of the additional change is judged to be small and the geographical extent is judged to be small. The overall magnitude of change is considered to be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative visual effect for this viewpoint.			

Table 6.23: Viewpoint 10: Core Path at Kirkland Road

Viewpoint 10: Core Path at Kirkland Road				
<b>Grid Reference</b>	272294	614189	<b>Figure Number</b>	6.17
<b>Local Landscape Character Type</b>	Upper Nith Valley LLCT		<b>Designated Landscape or Wild Land Area</b>	N/A
<b>Direction of View</b>	West		<b>Distance to nearest project component (km)</b>	1.1km
<b>Location, description of existing view and potential receptors:</b>				

Viewpoint 10: Core Path at Kirkland Road			
This viewpoint is located on Core Path 88 (Kirkconnel to Black Law via Fingland & Kirkland) at Kirkland. The viewpoint is representative of views experienced by recreational receptors and similar views experienced from rural residential properties at Kirkland and Old Kirkland.			
Views to the west overlook a foreground of rough grassland and semi-improved grazing pasture. Blocks of coniferous forestry frame the view in this direction and also partially occupy the middle distant horizon. A wood pole line and drystone dyke cross the fields in the middle distance. Distant hills that form the upper valley sides can be seen extending above the middle distant horizon. To the north, west and south, the view is largely foreshortened by mixed woodland and the roofs of rural residential properties at Old Kirkland in the foreground.			
<b>Sensitivity:</b>			
Recreational and residential receptors are considered to be of high susceptibility to changes in the view.			
Although recreational receptors and residents may attach a higher value to views, the viewpoint does not afford views across areas designated for scenic quality and there are no components in the view which indicate notable non-designated scenic quality. Therefore, the value of the view available from this location is considered to be medium.			
On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this viewpoint is judged to be <b>high</b> .			
<b>Assessment of visual effects during construction:</b>			
During construction, ground level disturbance will be screened by intervening landform and vegetation in the middle distance of views looking west and south-west. Partially constructed towers and temporary lighting will be seen in the middle distance of views looking west. The steel lattice towers and conductors introduced during the construction phase will remain in views throughout the operational phase. Combined with associated construction activities this will result in a small scale change. The geographical extent of similar views is judged to be small.			
Overall, the magnitude of change during construction will be <b>small</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this viewpoint.			
<b>Assessment of visual effects during operation:</b>			
The GGRP will be seen in middle distance views to the west. From this viewpoint, towers 38-40 will be visible however towers 38 and 39 will be partially screened by blocks of coniferous forestry, with the tower tops remaining visible above the forestry. Tower 40 will appear prominent as it will be fully visible against the skyline, however at a distance of approximately 1km from the viewpoint. Glennmuckloch substation, and associated security lighting (when activated/in operation), will be screened by intervening coniferous forestry to the west.			
The scale of change is judged to be small and the geographical extent is judged to be small. Overall, the magnitude of change during operation will be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this viewpoint.			
<b>Potential for future cumulative effects:</b>			
The GGRP will be seen in combined and successive views with the consented Glennmuckloch (8 turbines at 149.9m tip height) and Lethans (22 turbines at 220m tip height) Wind Farms, which will appear as skyline features beyond the GGRP in views north-west. The introduction of these developments will result in a notable change to the view, introducing man-made vertical features to the skyline. In combination with these developments, the steel lattice towers within the GGRP will appear as smaller scale and less prominent features.			
The scale of the additional change is judged to be small and the geographical extent is judged to be small. The overall magnitude of change is considered to be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative visual effect for this viewpoint.			

#### Effects on Views from Settlements

**6.89** Receptors who will experience views from settlements are assumed in most instances to be local residents at their residential properties and curtilages who will regularly experience the available views. Residential receptors are therefore considered to have a high susceptibility to changes in the view. The settlements in the surrounding area from which potential views of the GGRP are possible are assessed in **Tables 6.24** to **6.25** below.

**6.90** The assessment below also provides consideration of potential 'additional' cumulative effects arising in conjunction with other relevant consented and/or proposed developments. The relevant developments comprise those listed in **Tables 6.8-6.9** and shown on **Figure 6.7**.

Table 6.24: Sanquhar

Sanquhar			
<b>Representative Viewpoints</b>	N/A	<b>Distance to nearest project component (km)</b>	4.6 km
<b>Location, description of existing view and potential receptors:</b>			
Sanquhar is identified as a District Centre within the Dumfries and Galloway LDP 2. The settlement is located in the east of the Study Area and is accessed by the A76. The settlement is also accessed by the Glasgow South Western Line, and Sanquhar train station is located on the north-			

Sanquhar			
western edge of the settlement. Residential development is located to the north and south of the A76, and primarily comprises semi-detached and terraced houses.			
The settlement is located within a lower lying area adjacent to the River Nith, which runs on a north-west to south-east alignment along the south-western edge of the settlement.			
Outward views from the centre of the settlement are foreshortened by intervening buildings. More open and longer distance views south and west are afforded from the western edge of the settlement. Views comprise pastoral fields bisected by riparian woodland along the River Nith. Occasional blocks of forestry and pockets of woodland extend through the middle distance of views, with the rising uplands forming the background and skyline of long-distance views. Open views are afforded from a small number of elevated properties on the northern edge of the settlement. The foreground of views comprises the Glasgow South Western Line, backed by the settlement centre. Rolling uplands with occasional blocks of forestry form the background of views.			
Hare Hill, Whiteside Hill and Sanquhar Community wind farms are seen in long-distance views south-west from the settlement. The two turbines forming Sunnyside Wind Cluster appear in glimpsed long-distance views north-west from the settlement.			
<b>Sensitivity:</b>			
Residential receptors are considered to be of high susceptibility to changes in the view.			
Although residents may attach a higher value to views, the settlement does not afford views across areas designated for scenic quality and there are no components of views from the settlement which indicate notable non-designated scenic quality. Therefore, the value of the view available from this location is considered to be medium.			
On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this settlement is judged to be <b>high</b> .			
<b>Assessment of visual effects during construction:</b>			
During construction, intervening landform and vegetation will screen some ground level disturbance. Movement of construction vehicles and plant will be barely perceptible given the intervening distance. Partially constructed towers and temporary lighting will appear as small scale and distant features in views looking west and south-west. The steel lattice towers and conductors introduced during the construction phase will remain in views throughout the operational phase. Combined with associated construction activities this will result in a small scale change. The geographical extent of similar views is judged to be small.			
Overall, the magnitude of change during construction will be <b>small</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this settlement.			
<b>Assessment of visual effects during operation:</b>			
The GGRP will be seen in distant views to the west and south-west from Sanquhar, at distances of over 4km. Visibility of the GGRP is likely to be most perceptible from the west and southern edges of the settlement, as well as from the northern edge which sits at a higher elevation and offers some open views across the Nith Valley. Where towers are visible, they will appear as small features in the view due to the distance between the settlement and the GGRP, and will often be seen below the horizon, back clothed by the upper slopes of the southern valley side. Towers will also be seen in the context of existing wind turbines at Sandy Knowe, Hare Hill Phase 1 and 2 Wind Farms and Sanquhar Community Windfarm. From remaining locations throughout the settlement, visibility of the GGRP will be limited due to intervening built form that screens most outward and long-distance views from the settlement.			
The scale of change is judged to be small and the geographical extent is judged to be small. Overall, the magnitude of change during operation will be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this settlement.			
<b>Potential for future cumulative effects:</b>			
Where the GGRP will be visible, from the edges and more elevated parts of the settlement, it will be seen in combined views with a small number of turbines at the consented Sanquhar Six (6 turbines at 130m to tip) and the proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) to the south-west. Turbines at the proposed Sandy Knowe Extension (6 turbines at 149.9m to tip) will also be visible in this direction. Cumulative views however will be screened to varying degrees across Sanquhar by intervening woodland, vegetation and built form. Views to the south and south-west from the settlement have already been influenced by man-made vertical features. The steel lattice towers within the GGRP, and the consented and proposed turbines will appear as relatively distant features.			
The scale of the additional change is judged to be small and the geographical extent is judged to be small. The overall magnitude of change is considered to be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative visual effect for this settlement.			

Table 6.25: Kirkconnel/Kelloholm

Kirkconnel/Kelloholm			
<b>Representative Viewpoints</b>	VP4: Main Street, Kirkconnel VP5: Dryburn Road, Kelloholm	<b>Distance to nearest project component (km)</b>	1.7km
<b>Location, description of existing view and potential receptors:</b>			

Kirkconnel/Kelloholm			
Kirkconnel and Kelloholm are identified together as a district centre within the Dumfries and Galloway LDP 2.			
Kirkconnel is located on the A76 and Kelloholm extends further to the south-east. The settlements are former mining communities, comprising primarily semi-detached and terraced houses on either side of the River Nith. The settlements are also accessed by the Glasgow South Western Line, and the Kirkconnel train station is located just north of Main Street. Kirkconnel is a linear and relatively nucleated settlement, whereas residential properties in Kelloholm extend across a wider area interspersed with open space, playgrounds and sports fields.			
The settlements are located in a relatively low-lying area in the River Nith valley. Outward views from the centre of both settlements are generally foreshortened by intervening buildings and vegetation. Where glimpsed views are afforded in between intervening features, views south comprise pastoral fields, backed by rising landform and coniferous forestry at Libry Moor. Kelloholm is located at a slightly higher elevation than Kirkconnel, and long-distance views are afforded from the peripheries of the settlement and from properties adjacent to open space. Long-distance views north towards the Southern Uplands are afforded from the southern edge of Kelloholm. Landform slopes upwards towards the uplands to the south of the settlement, and thus longer-distance views south-west to south-east are foreshortened by intervening landform.			
<b>Sensitivity:</b>			
Residential receptors are considered to be of high susceptibility to changes in the view.			
Although residents may attach a higher value to views, the settlement does not afford views across areas designated for scenic quality and there are no components of views from the settlement which indicate notable non-designated scenic quality. Therefore, the value of the view available from this location is considered to be medium.			
On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors at this settlement is judged to be <b>high</b> .			
<b>Assessment of visual effects during construction:</b>			
During construction, ground level disturbance will be screened by intervening landform and vegetation in views from the settlement. Partially constructed towers and temporary lighting will be seen in distant successive views looking west to south. The felling of forestry for the wayleave and the associated groundworks at Libry Moor will be screened by retained forestry to the north of the wayleave. Movement of construction vehicles and plant will be glimpsed in primarily distant views. Closer distance views from the settlement edge towards the construction access point near Kello Bridge will be filtered by deciduous woodland. The steel lattice towers and conductors introduced during the construction phase will remain in views throughout the operational phase. Combined with associated construction activities this will result in a small scale change. The geographical extent of similar views is judged to be small.			
Overall, the magnitude of change during construction will be <b>small</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this settlement.			
<b>Assessment of visual effects during operation:</b>			
The GGRP will be seen in views to the north-west, west and south at distance over 1.5 km. The degree of visibility will vary throughout the settlements but will be most notable on the western and southern edges. Properties on these edges of the settlement with open views to the west and south are likely to experience visibility of the towers, particularly those on the elevated southern edge of Kelloholm (represented by VP5). From many locations throughout these settlements, towers will likely be seen below the horizon, back clothed by the upper valley slopes beyond and in the context of existing wind turbines at Sandy Knowe, Hare Hill Phase 1 and 2 Wind Farms and Sanquhar Community Windfarm. From remaining locations throughout the settlements, visibility of the GGRP will be limited due to intervening built form and/ or vegetation that provides a degree of screening against outward and long-distance views.			
The scale of change is judged to be small and the geographical extent is judged to be small. Overall, the magnitude of change during operation will be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this settlement.			
<b>Potential for future cumulative effects:</b>			
From the western and southern edges of the settlement, the GGRP will be visible in combined views with a small number of turbines at the consented Sanquhar Six (6 turbines at 130m to tip) and the proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) to the south and south-west. Turbines at the proposed Sandy Knowe Extension (6 turbines at 149.9m to tip) will also be visible in these directions. Cumulative views however will be screened to varying degrees across the settlement by intervening woodland, vegetation and built form. Views to the south and south-west from the settlement have already been influenced by man-made vertical features, and the steel lattice towers within the GGRP, and the turbines at Sanquhar Six and Sanquhar II will appear as smaller scale and less prominent features than the existing turbines that are located closer to the settlements in this direction. Turbines at the proposed Sandy Knowe Extension however will appear as larger and relatively evident features due to their closer proximity to the settlements.			
The scale of the additional change is judged to be small and the geographical extent is judged to be small. The overall magnitude of change is considered to be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative visual effect for this settlement.			

#### Effects on Views from Routes

**6.91** Sequential visual effects are assessed through considering the potential effects of the GGRP in isolation, and in the context of other existing, consented and proposed developments on key routes through the study area. The routes to be assessed were identified through analysis of the ZTVs shown on **Figure 6.2**. The assessment of potential effects on sequential views from these routes is detailed in **Tables 6.26** to **6.30** below.

**6.92** The assessment below also provides consideration of potential 'additional' cumulative effects arising in conjunction with other relevant consented and/or proposed developments. The relevant developments comprise those listed in **Tables 6.8-6.9** and shown on **Figure 6.7**.

**Table 6.26: A76**

A76			
<b>Representative Viewpoints</b>	VP1: A76 near Crockroy; VP3: A76 near Guildhall Bridge; VP4: Main Street, Kirkconnel;	<b>Distance to nearest project component (km)</b>	<0.1km
<b>Location, description of existing view and potential receptors:</b>			
<p>The A76 is a major trunk road that crosses between Kilmarnock and Dumfries in the south-west of Scotland. Within the Study Area, the road is located within the River Nith valley and crosses on a north-west to south-east alignment between New Cumnock and Sanquhar. The road forms part of a recognised transport corridor, running broadly parallel to the Glasgow South Western Line, and is relatively busy with traffic. The road also forms part of the promoted Burns Heritage Trail tourist route.</p> <p>From New Cumnock to Guildhall Bridge, the road runs south of the River Nith, at times crossing the lower valley slopes. Whilst occasional woodland screens outward views from this section of the road, wide and open outward views are generally afforded looking north-east to north-west and are channelled along the River Nith valley. Views south of the road are foreshortened by rising landform in the middle distance of the view.</p> <p>The A76 crosses to the north of the River Nith at Guildhall Bridge and passes through Kirkconnel, where outward views are foreshortened by buildings. Outward views from the road to the east of the settlement are occasionally screened by intervening woodland. Where views are afforded between breaks in vegetation, views south comprise rolling pastoral fields with pockets of woodland. Long-distance views of the rolling uplands form the skyline beyond.</p> <p>Operational wind turbines of Glenmuckloch Community Energy Park, Hare Hill Wind Farm, Sanquhar Community Wind Farm and Sunnyside Wind Cluster are glimpsed in oblique views from the A76.</p>			
<b>Sensitivity:</b>			
<p>Road users of the A76, some of whom may be tourists and visitors by virtue of its promotion as a tourist route, are considered to be of medium susceptibility to changes in the view.</p> <p>A section of the road within the western part of the study area passes through the East Ayrshire SLA. As such, some stretches of the road afford views across areas designated for scenic quality, however from sections of the road that do not lie within a designated landscape, there are no components in views which indicate notable non-designated scenic quality. Therefore, the value of the view available from the A76 is considered to be medium.</p> <p>On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors on this road is judged to be <b>medium</b>.</p>			
<b>Assessment of visual effects during construction:</b>			
<p>During construction, disturbance associated with preparatory groundworks including the introduction of new temporary access tracks will be evident in views from sections of the road. Preparatory groundworks, partially constructed steel lattice towers, temporary lighting and scaffolding across the A76 will be seen in close to middle distance views from the road. Construction vehicles and plant on temporary access tracks will also be apparent in views north and south from the road. Visibility of ground level disturbance will be experienced from relatively localised extents of the A76 between Polneul Bridge and Guildhall Bridge. In more distant views from the route, intervening landform and vegetation will screen and filter ground level disturbance, though some distant views of partially constructed towers will be glimpsed in between intervening vegetation.</p> <p>The steel lattice towers and conductors introduced during the construction phase will remain in views throughout the operational phase. Combined with associated construction activities this will result in a medium scale change experienced from localised extents of the A76. The geographical extent of similar views is judged to be small. The magnitude of change during construction will be <b>medium</b>, resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for localised sections of the road, reducing to <b>minor (adverse)</b> and <b>not significant</b> for the route as a whole.</p>			
<b>Assessment of visual effects during operation:</b>			
<p>The ZTV (<b>Figure 6.2</b>) indicates that the GGRP will be theoretical visible from the section of the A76 between Sanquhar and Polshill to the east of New Cumnock. From this section of the road, the GGRP will be seen in sequential views when travelling both east and west along the road. It will be seen in very close proximity where the GGRP passes over the road between Rigg Farm and Crockroy. At this location, towers will appear as large scale and dominant new features in views to the north and south from the road. In longer distance and more direct sequential views, towers will be largely back clothed by the Nith Valley landform, however from some locations towers will be visible against the skyline where the GGRP turns south and ascends over Drumbuie Moorhead. In these views, the GGRP will also be seen in the context of existing turbines within Hare Hill Phase 1 and 2 Wind Farms and Sanquhar Community Wind Farm. Visibility from the road will also be intermittent due to intervening roadside vegetation and built form which will filter or screen views towards the GGRP along some sections of the road.</p>			

A76
<p>The scale of change is judged to be medium from localised extents of the A76 and the geographical extent is judged to be small. The magnitude of change during operation will be <b>medium</b>, resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for localised sections of the road, reducing to <b>minor (adverse)</b> and <b>not significant</b> for the route as a whole.</p>
<b>Potential for future cumulative effects:</b>
<p>A small number of turbines at the consented Sanquhar Six Wind Farm (6 turbines at 130m to tip) and the proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) will be visible in sequential views to the south from the A76. Turbines at the proposed Sandy Knowe Extension (6 turbines at 149.9m to tip) will also be visible in this direction. The GGRP will be seen in both sequential and combined views with these developments. Views to the south from the A76 have already been influenced by man-made vertical elements.</p> <p>The scale of the additional change is judged to be small and the geographical extent is judged to be large. The overall magnitude of change is considered to be <b>low</b>, resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative visual effect for this route.</p>

**Table 6.27: U432N (minor road in Euchar Water Valley)**

U432N (minor road in Euchar Water Valley)			
<b>Representative Viewpoints</b>	N/A	<b>Distance to nearest project component (km)</b>	<0.1km
<b>Location, description of existing view and potential receptors:</b>			
<p>This minor road (U432N) is located within the Euchar Water Valley and provides access from Sanquhar into the valley to Glenglass as it broadly follows the route of the Euchar Water. The lower section of the road passes through fields of improved and semi-improved grazing where views are largely open and look across the surrounding undulating slopes of the valley. Belts of woodland can be seen in the middle distance across the fields with blocks of coniferous forestry visible on higher and more distant slopes. Local distribution overhead electricity lines, supported by wood poles, are visible running parallel to the road. Existing wind turbines at Sanquhar Community Windfarm and Sandy Knowe Wind Farm are visible across the distant horizon to the west. As the road ascends towards the head of the valley, views become more contained by roadside trees and vegetation as well as the steeper enclosing slopes of rough grassland. Woodland that lines the Euchar Water is visible at a lower elevation from the road to views to the south. Turbines at Whiteside Hill Wind Farm become visible on across the horizon to the south-west. Further towards the head of the valley, a block of coniferous forestry is visible on the northern valley slopes as well at Glenglass Substation.</p>			
<b>Sensitivity:</b>			
<p>Road users on this road, some of whom may be local residents, are considered to be of medium susceptibility to changes in the view.</p> <p>The road does not lie within a designated landscape, and there are no components in views which indicate notable non-designated scenic quality. Therefore, the value of the views available from this road is considered to be medium.</p> <p>On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors on this road is judged to be <b>medium</b>.</p>			
<b>Assessment of visual effects during construction:</b>			
<p>During construction, disturbance associated with preparatory groundworks, scaffolding, temporary lighting and partially constructed steel lattice towers will be evident foreground and middle distance views from the section of the road west of Glenmaddie. From the lower section of the road between Old Barr and Sanquhar, views of construction will be limited to the scaffolding and partially constructed steel lattice towers in the distance, due to distances of over 3km between the GGRP and the road. Construction vehicles and plant on temporary access tracks will also be apparent. The steel lattice towers and conductors introduced during the construction phase will remain evident in views throughout the operational phase. Combined with associated construction activities this will result in a medium scale change. The geographical extent is judged to be medium.</p> <p>Overall, the magnitude of change during construction will be <b>medium</b>, resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for this minor road.</p>			
<b>Assessment of visual effects during operation:</b>			
<p>The ZTV (<b>Figure 6.2</b>) indicates that there will be theoretical visibility of the GGRP from the eastern and western extents of this minor road, within &lt;1km-4.5km of the GGRP. Steel lattice towers will be visible in views to the west and north-west from the section of the road between Old Barr and Sanquhar and will appear as distant features largely back clothed by landform. Views of the GGRP from the section of the road between Old Barr and Glenmaddie Wood will be screened by the steep valley sides. As the GGRP extends onto the northern slopes of the valley near Glenglass, steel lattice towers will become prominent features along the skyline in views to the north and north-west, however will be seen in the context of the existing wind turbines at Sanquhar Community Windfarm and Whiteside Hill Wind Farm.</p> <p>The scale of change is judged to be large from localised extents of the roads and the geographical extent is judged to be medium. The magnitude of change during operation will be <b>high</b>, resulting in a <b>major (adverse)</b> and <b>significant</b> effect for the section of the road between Glenmaddie and Glenglass, reducing to <b>minor (adverse)</b> and <b>not significant</b> for the remainder of the minor road.</p>			
<b>Potential for future cumulative effects:</b>			
<p>A small number of turbines at the consented Sanquhar Six (6 turbines at 130m to tip) and the proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) will be visible in views to the west and south-west from this road. The GGRP will be seen in combined and sequential views with these developments however the wind farm developments will be seen at greater distances and will appear as small scale features. The addition of</p>			

U432N (minor road in Euchar Water Valley)
vertical features in views to the south as a result of the GGRP and Sanquhar Six and Sanquhar II Wind Farms will not be a notable change as they will be seen in the context of existing wind farm development in this direction.
The scale of the additional change is judged to be small and the geographical extent is judged to be medium. The overall magnitude of change is considered to be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative visual effect for this minor road.

Table 6.28: U459N and U460N north of the A76 (minor roads passing towards Lagrae and Kirkland)

U459N and U460N north of the A76 (minor roads passing towards Lagrae and Kirkland)			
<b>Representative Viewpoints</b>	VP2: Lagrae Road VP10: Core Path at Kirkland Road	<b>Distance to nearest project component (km)</b>	<0.1km
<b>Location, description of existing view and potential receptors:</b>			
The two minor roads to the north-west of Kirkconnel provide access from the A76 up onto the northern slopes of the Nith Valley. The U459N provides access from the A76 to Lagrae and the U460N provides access from the A76 to Kirkland.			
Both minor roads are lined by traditional drystone walls and pass between undulating fields of improved and semi-improved grazing. When ascending northwards up onto the valley side, views towards the more distant and elevated hills that form the northern edge of the Nith Valley are available from both roads, as well as blocks of coniferous forestry located on these valley slopes. From the U459N, local distribution overhead electricity lines, supported by wood poles, are visible in foreground and middle distant views to the north and south-east. There is also visibility of the former Glenmuckloch opencast coal working site in views to the west from the U459N. Views to the south from both roads offer wide open views across the valley. In this direction, wind turbines at Sandy Knowe, Hare Hill Phases 1 & 2 and at Sanquhar Community Windfarm are visible against the skyline. On the Kirkland road, visibility becomes more limited where the road reaches Kirkland, as roadside trees and surrounding forestry partially contain views.			
<b>Sensitivity:</b>			
Road users on these minor roads, some of whom may be local residents, are considered to be of medium susceptibility to changes in the view.			
The minor roads do not lie within a designated landscape, and there are no components in views which indicate notable non-designated scenic quality. Therefore, the value of the views available from these minor roads is considered to be medium.			
On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors on these roads is judged to be <b>medium</b> .			
<b>Assessment of visual effects during construction:</b>			
During construction, disturbance associated with preparatory groundworks including the felling of broadleaved woodland, scaffolding, the introduction of a new temporary access track, temporary lighting and partially constructed steel lattice towers will be evident in the middle distance of views west of these minor roads. Ground level disturbance will be visible in close proximity views from sections of the U459N where the GGRP runs parallel to the road however from other sections will be screened by intervening landform. From the U460N, ground level disturbance may be seen in more distant views to the west. Construction vehicles and plant on temporary access tracks will also be apparent. The steel lattice towers and conductors introduced during the construction phase will remain evident in views throughout the operational phase. Combined with associated construction activities this will result in a medium scale change. The geographical extent is judged to be medium.			
Overall, the magnitude of change during construction will be <b>medium</b> , resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for these minor roads.			
<b>Assessment of visual effects during operation:</b>			
The ZTV ( <b>Figure 6.2</b> ) indicates that there will be widespread theoretical visibility within <1km-1.5km of the GGRP from these minor roads. From both roads, the GGRP will be visible to the south-west, crossing the valley, and to the south where it will traverse the mid-slopes above the valley at Libry Moor. To the south-west, steel lattice towers will be visible in the middle distance as large scale features in the view looking across the valley. To the south however, steel lattice towers will be visible at distances over 1km, appearing as smaller scale features back clothed against the hills which contain the valley and form the distant horizon to the south. In this direction, the steel lattice towers will also be seen in the context of turbines at Sandy Knowe, Hare Hill Phases 1 & 2 and at Sanquhar Community Windfarm, which will appear as larger scale features in comparison to the steel lattice towers. To the north-west from the U459N, further steel lattice towers will be visible in the foreground as the line runs parallel to the road and will appear as large scale features in the view. The tops of the Glenmuckloch substation building, security lighting (when activated/in operation) and associated infrastructure will be seen in glimpsed views beyond intervening coniferous forestry. The GGRP however will be visible in the context of existing human influence, including the former opencast coal working site and forestry. From the northern extent of the U460N, actual visibility will be reduced by surrounding tree planting at Kirkland however a small number of steel lattice towers will be visible in the middle distance in views to the west.			
The scale of change is judged to be large from localised extents of the roads and the geographical extent is judged to be medium. The magnitude of change during operation will be <b>high</b> , resulting in a <b>major (adverse)</b> and <b>significant</b> effect for the section of the U459N that will run parallel to the GGRP, reducing to <b>moderate (adverse)</b> and <b>significant</b> for the remainder of the U459N and the U460N.			
<b>Potential for future cumulative effects:</b>			

U459N and U460N north of the A76 (minor roads passing towards Lagrae and Kirkland)
A small number of turbines at the consented Sanquhar Six (6 turbines at 130m to tip) and the proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) will be visible in views to the south from these minor roads. Turbines at the proposed Sandy Knowe Extension (6 turbines at 149.9m to tip) will also be visible in this direction. The GGRP will be seen in combined views with these developments however the wind farm developments will be seen at greater distances and will appear as small scale features. The addition of vertical features in views to the south as a result of the GGRP and consented and proposed wind farms will not be a notable change as they will be seen in the context of existing wind farm development in this direction.
The scale of the additional change is judged to be small and the geographical extent is judged to be medium. The overall magnitude of change is considered to be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative visual effect for these minor roads.

Table 6.29: C125N (minor road passing south of Kelloholm)

C125N (minor road passing south of Kelloholm)			
<b>Representative Viewpoints</b>	VP5: South Kelloholm	<b>Distance to nearest project component (km)</b>	1.1km
<b>Location, description of existing view and potential receptors:</b>			
This rural road (C125N) passes to the south of Kelloholm and joins the A76 at Guildhall. To the south of the road, views overlook ascending fields of rough grazing on the south side of the Nith Valley with some longer distance views foreshortened by this ascending landform. Turbines within the Sandy Knowe Wind Farm and Hare Hill Phase 1 & 2 Wind Farm can be seen in oblique views to the south and south-west across the horizon formed by the ascending landform in this direction. A block of coniferous trees at Kelloside Plantation screens views to the south from a short section of the road. To the north and west, the view overlooks rough grassland and grazing pasture, in the foreground, as well as properties at Kelloholm, backed by the surrounding hill slopes of the Nith Valley. Two wind turbines within the Glenmuckloch Community Energy Park are visible on these hill slopes to the north-west. Kirkconnel and the remaining parts of Kelloholm are largely screened by landform and woodland along the River Nith.			
<b>Sensitivity:</b>			
Road users on this road, some of whom may be local residents, are considered to be of medium susceptibility to changes in the view.			
The road does not lie within a designated landscape, and there are no components in views which indicate notable non-designated scenic quality. Therefore, the value of the views available from this road is considered to be medium.			
On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors on this road is judged to be <b>medium</b> .			
<b>Assessment of visual effects during construction:</b>			
During construction, ground level disturbance will be screened by intervening landform and vegetation. Partially constructed towers and temporary lighting will be seen in distant successive views looking west to south-west. The steel lattice towers and conductors introduced during the construction phase will remain in views throughout the operational phase. Combined with associated construction activities this will result in a small scale change. The geographical extent is judged to be small.			
Overall, the magnitude of change during construction will be <b>small</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this minor road.			
<b>Assessment of visual effects during operation:</b>			
The ZTV ( <b>Figure 6.2</b> ) indicates that there will be widespread theoretical visibility from approximately 6km of the road within 1-4km of the GGRP. The GGRP will be visible in some oblique views to the south and south-west and in the direction of travel to the north-west. From sections of the road however, views of the GGRP to the south and south-west will be screened by the ascending landform in the foreground view. Where steel lattice towers are visible, including to the north-west, they will either be fully or partially screened by intervening pockets of deciduous woodland or blocks of coniferous forestry the middle distance within the valley. Where towers are only partially screened, the upper sections or tops will be visible and most will be back clothed against hill slopes beyond, reducing their prominence in the view. The Glenmuckloch substation and associated security lighting (when activated/in operation) to the north-west will be fully screened by coniferous forestry.			
The scale of change is judged to be small and the geographical extent is judged to be medium. Overall, the magnitude of change during operation will be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this minor road.			
<b>Potential for future cumulative effects:</b>			
A small number of turbines at the consented Sanquhar Six (6 turbines at 130m to tip) and the proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) will be visible in views to the south and south-west from this road. Turbines at the proposed Sandy Knowe Extension (6 turbines at 149.9m to tip) will also be visible in these directions. The GGRP will be seen in combined and sequential views with these developments. The addition of vertical features in views to the south as a result of the GGRP and the consented and proposed wind farms will not be a notable change as they will be seen in the context of existing wind farm development in this direction.			
The scale of the additional change is judged to be small and the geographical extent is judged to be medium. The overall magnitude of change is considered to be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative visual effect for this minor road.			

Table 6.30: Glasgow South Western Line

Glasgow South Western Line			
<b>Representative Viewpoints</b>	VP8: Nith Valley near Hall Bridge VP9: Fingland Road at Pates Bridge	<b>Distance to nearest project component (km)</b>	<0.1km
<b>Location, description of existing view and potential receptors:</b>			
<p>The Glasgow South Western Line is a mainline railway that connects Glasgow to Stranraer and Carlisle via Kilmarnock. The line crosses the Study Area on a north-west to south-east alignment from Mansfield to Sanquhar, broadly running parallel to the A76 through the floor of the River Nith valley. The train stations at New Cumnock, Kirkconnel and Sanquhar are calling points on the line. Outward views from the line are often foreshortened by intervening woodland, localised landform and built elements including walls. Where outward views are afforded, views are generally channelled by the side slopes of the River Nith valley.</p> <p>Long-distance views of Hare Hill, Whiteside Hill and Sanquhar Community wind farms are afforded from sections of the line in the north-west and north of the Study Area, with turbines partially screened by intervening landform. Glimpsed views of turbines at the Sunnyside Wind Cluster are afforded from sections of the line in the north-east of the Study Area.</p>			
<b>Sensitivity:</b>			
<p>Those traveling by train, whose attention is likely to be somewhat focused on views of the surrounding landscape from the train are considered to be of medium susceptibility to changes in the view.</p> <p>A section of the railway within the western part of the study area passes through the East Ayrshire SLA. As such, some stretches of the line afford views across areas designated for scenic quality, however from sections of the line that do not lie within a designated landscape, there are no components in views which indicate notable non-designated scenic quality. Therefore, the value of the view available from the railway is considered to be medium.</p> <p>On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors travelling along the railway is judged to be <b>medium</b>.</p>			
<b>Assessment of visual effects during construction:</b>			
<p>During construction, disturbance associated with preparatory groundworks including the introduction of new temporary access tracks will be evident in views from sections of the railway. Preparatory groundworks, partially constructed steel lattice towers, temporary lighting and scaffolding across the railway will be seen in close to middle distance views from the railway. Construction vehicles and plant on temporary access tracks will also be apparent in views north and south from the railway. Visibility of ground level disturbance will be experienced from relatively localised extents of the railway between Grass Cleuch and Guildhall Bridge.</p> <p>From other sections of the railway, intervening landform and vegetation screen and filter outward views and will minimise visibility of construction activities, though some distant views of partially constructed towers will be glimpsed in between breaks in intervening vegetation.</p> <p>The steel lattice towers and conductors introduced during the construction phase will remain in views throughout the operational phase. Combined with associated construction activities this will result in a medium scale change experienced from localised extents of the railway. The geographical extent of similar views is judged to be small. The magnitude of change during construction will be <b>medium</b>, resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for localised sections of the railway, reducing to <b>minor (adverse)</b> and <b>not significant</b> for the railway as a whole.</p>			
<b>Assessment of visual effects during operation:</b>			
<p>The ZTV (Figure 6.2) indicates that the GGRP will be theoretical visible from the section of the railway line between Sanquhar and Mansfield. From this section of the railway line, the GGRP will be seen in sequential yet transient views when travelling both east and west on the train. It will be seen in very close proximity but glimpsed views where the GGRP passes over the railway to the north-west of Kirkconnel. At this location, towers will appear as large scale and dominant new features in views to the north and south from passing trains. In longer distance sequential views, towers will be largely back clothed by the Nith Valley landform, however from some locations towers will be visible against the skyline where the OHL turns south and ascends over Drumbuie Moorhead. Visibility from the railway line will also be intermittent due to intervening vegetation and tree belts that line some sections of the railway, providing filtering and/ or screening of the GGRP. Similarly, embankments along the railway line will also provide various degrees of screening towards the GGRP.</p> <p>The scale of change is judged to be medium from localised extents of the railway and the geographical extent is judged to be small. However, given the speed of travel and glimpsed nature of the view where the GGRP appears within close proximity of the railway, the magnitude of change during operation will be <b>minor (adverse)</b> and <b>not significant</b> for the railway as a whole.</p>			
<b>Potential for future cumulative effects:</b>			
<p>A small number of turbines at the consented Sanquhar Six Wind Farm (6 turbines at 130m to tip) and the proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) will be visible in sequential views to the south from the railway. Turbines at the proposed Sandy Knowe Extension (6 turbines at 149.9m to tip) will also be visible in this direction. The GGRP will be seen in both sequential and combined views with these developments. Views to the south from the railway have already been influenced by man-made vertical elements.</p>			

Glasgow South Western Line
The scale of the additional change is judged to be small and the geographical extent is judged to be large. The overall magnitude of change is considered to be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative visual effect for the railway as a whole.

Table 6.31: Southern Upland Way

Southern Upland Way			
<b>Representative Viewpoints</b>	VP7: Southern Upland Way (SUW)	<b>Distance to nearest project component (km)</b>	2.8km
<b>Location, description of existing view and potential receptors:</b>			
<p>The Southern Upland Way (SUW) is a long-distance footpath crossing 344km between Portpatrick and Cockburnspath in southern Scotland. Within the south-eastern extents of the Study Area, the SUW crosses broadly on a south-west to north-east alignment between Polskeoch and Knockenstob. Near Polskeoch, the route passes on forestry road, where outward views are foreshortened by intervening forestry, towards Polskeoch bothy. From the named property of Dalgonar, the route crosses undulating moorland and ascends slopes via a footpath near the named property of Polgown. Open outward views are afforded from this section of the route, including views of the Lowther Hills to the north-east. After passing Cloud Hill (451m AOD) and Whing Head, the route descends towards Whing Burn. Occasional blocks of forestry and pockets of woodland are seen in the middle distance of views from this section of the route, partially foreshortening long-distance views. The route crosses the Euchar Water into Sanquhar, from which outward views are foreshortened by intervening buildings. Beyond Sanquhar, the route continues north-east, ascending valley sides towards the uplands beyond.</p> <p>Whiteside Hill Wind Farm is seen in views north-west from the route. Longer-distance views of Sanquhar Community Wind Farm and Hare Hill Wind Farm are afforded in views further north-west.</p>			
<b>Sensitivity:</b>			
<p>Recreational receptors are considered to be of high susceptibility to changes in the view.</p> <p>Although recreational receptors may attach a higher value to views, sections of the route from which visibility is indicated are not located within areas designated for scenic quality and do not afford views across these areas. The value of the view available from this location is considered to be medium.</p> <p>On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors travelling along this route is judged to be <b>high</b>.</p>			
<b>Assessment of visual effects during construction:</b>			
<p>During construction, preparatory groundworks associated with the introduction of temporary access tracks, movement of construction vehicles and plant, the felling of coniferous forestry near Benzien Craig, temporary lighting and partially constructed steel lattice towers will be visible in distant views from elevated sections of the route near Whing Head. In views from lower-lying sections of the route near Sanquhar, intervening landform and vegetation will screen some ground level disturbance, and movement of construction vehicles and plant will be barely perceptible given the intervening distance. Partially constructed towers will appear as small scale and distant features in views looking west and south-west. The steel lattice towers and conductors introduced during the construction phase will remain in views throughout the operational phase. Combined with associated construction activities this will result in a medium scale change for localised sections of the route near Whing Head (VP7). The geographical extent of similar views is judged to be small. This will reduce to a small scale change experienced from the route as a whole.</p> <p>The magnitude of change during construction will be <b>medium</b>, resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for short localised sections of the route near Whing Head, reducing to <b>minor (adverse)</b> and <b>not significant</b> for this route as a whole.</p>			
<b>Assessment of visual effects during operation:</b>			
<p>The ZTV (Figure 6.2) indicates that the GGRP will be theoretical visible from the section of the SUW between north of Sanquhar and Cloud Hill (451 AOD) to the south. Visibility will likely be most notable at higher elevation between Cloud Hill and Whing where open long distance views are available with limited intervening features. Here the GGRP will occupy a wide horizontal extent of views to the north-west but will be back clothed by landform and appear as relatively small scale features in relation to the scale of landscape. The GGRP will also be seen in the context of existing wind turbines at Whiteside Hill Wind Farm as well as Sanquhar Community Wind Farm and Hare Hill Wind Farm to the west and south-west. As the route passes at lower elevation along Whing Burn, intervening landform slightly reduces visibility. Further north-east, where the route descends into Sanquhar, visibility will be reduced by intervening woodland along the Euchar Water and built form within Sanquhar that will screen views towards the GGRP.</p> <p>The scale of change is judged to be medium and the geographical extent is judged to be medium. Overall, the magnitude of change during operation will be <b>medium</b>, resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for localised sections of the route, reducing to <b>minor (adverse)</b> and <b>not significant</b> for this route as a whole.</p>			
<b>Potential for future cumulative effects:</b>			
<p>The consented Sanquhar Six Wind Farm (6 turbines at 130m to tip), proposed Sanquhar II Wind Farm (50 turbines at 200m to tip), proposed Eucharhead Wind Farm (21 turbines at 230m) and the proposed Sandy Knowe Extension (6 turbines at 149.9m to tip) will be visible in sequential views from the SUW. The GGRP will be seen in both sequential and combined views with these developments however at a greater distance than</p>			

Southern Upland Way
some of these wind farms. As such, steel lattice towers within the GGRP will appear as smaller and less prominent features in views that have already been altered by larger scale man-made vertical features.
The scale of the additional change is judged to be small and the geographical extent is judged to be medium. The overall magnitude of change is considered to be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative visual effect for this route.

Table 6.32: Core Path 84 (Kirkconnel to Mynwhirr Hill)

Core Path 84 (Kirkconnel to Mynwhirr Hill)			
Representative Viewpoints	VP6: Libry Moor	Distance to nearest project component (km)	<0.1km
<b>Location, description of existing view and potential receptors:</b>			
Core Path 84 provides access to the Southern Uplands from Kelloholm. The core path comprises approximately 11.2km of forestry track running on a south-west to north-east alignment from the south-western edge of Kelloholm to Mynwhirr Hill (418m AOD). From Kelloside Plantation, the route ascends rolling moorland, passing blocks of coniferous forestry and woodland at Libry Moor. From the named property of Corserig, the path broadly follows the alignment of Polbroc Burn through a block of coniferous forestry. Outward views from this section of the path are screened by intervening forestry. To the west of Corserig Hill, the path emerges from forestry and crosses the southern slopes of Mynwhirr Hill before connecting to Core Path 443 (Bank Hill to Graystone Hill) to the south and further forestry tracks to the west.			
Outward views from the route are often screened by intervening forestry and landform, however more open views are afforded from the northern extents of the route between Hunter's Hill and Kelloside Plantation. The foreground of views east comprises rolling moorland with occasional blocks of forestry. The River Nith valley is seen in long-distance views backed by the Southern Uplands, which form the skyline of views north and north-east. Views west from this section of the route are generally foreshortened by intervening forestry at Libry Moor.			
Operational turbines at Sanquhar Community Wind Farm and Whiteside Hill Wind Farm are visible in views south from the path, at times appearing prominently with turbine hubs and blade tips seen against the skyline. Operational turbines at Hare Hill Wind Farm appear in views west from the path.			
<b>Sensitivity:</b>			
Recreational receptors are considered to be of high susceptibility to changes in the view.			
Although recreational receptors may attach a higher value to views, sections of the route from which visibility is indicated are not located within areas designated for scenic quality and do not afford views across these areas. The value of the view available from these locations are considered to be medium.			
On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors travelling along this route is judged to be <b>high</b> .			
<b>Assessment of visual effects during construction:</b>			
During construction, preparatory groundworks including the felling of conifer forestry, the introduction of new temporary access tracks, movement of construction vehicles and plant, temporary lighting and partially constructed steel lattice towers will be evident in close distance views from sections of the route which cross the GGRP. In more distant views from the route to the north and south of the GGRP, ground level disturbance will be partially screened by intervening landform and vegetation in the middle distance of views. The movement of construction vehicles and plant on existing forestry access tracks may be glimpsed in between breaks in vegetation. Preparatory groundworks, the introduction of temporary access tracks, movement of construction vehicles and plant, and partially constructed towers will also be seen in more distant views from the route as the line ascends towards more elevated landform to the south-east. The steel lattice towers and conductors introduced during the construction phase will remain in views throughout the operational phase. Combined with associated construction activities this will result in a large scale change. The geographical extent of similar views is judged to be small.			
Overall, the magnitude of change during construction will be <b>high</b> , resulting in a <b>major (adverse)</b> and <b>significant</b> effect for a localised section of this route, within approximately 500m of the GGRP, reducing to <b>minor (adverse)</b> and <b>not significant</b> for the route as a whole.			
<b>Assessment of visual effects during operation:</b>			
The ZTV ( <b>Figure 6.2</b> ) indicates that theoretical visibility of the GGRP will be widespread from Core Path 84. The GGRP will cross the over the route at Sandy Knowe, where the route passes through coniferous forestry on Libry Moor. Here, towers will be visible overhead and appear as large scale and dominant new features. From the section of route to the north-east of Sandy Knowe, there will be visibility of the GGRP across Libry Moor with some towers be back clothed by landform. From the section of route to the south-west of Sandy Knowe, visibility is likely to be reduced due to surrounding coniferous forestry that will filter and/ or screen views towards the towers.			
The scale of change is judged to be large and the geographical extent is judged to be medium. Overall, the magnitude of change during operation will be <b>high</b> , resulting in a <b>major (adverse)</b> and <b>significant</b> effect for a localised section of this route, within approximately 500m of the GGRP, reducing to <b>minor (adverse)</b> and <b>not significant</b> for the route as a whole.			
<b>Potential for future cumulative effects:</b>			

Core Path 84 (Kirkconnel to Mynwhirr Hill)
There will be some sequential views of the consented Sanquhar Six Wind Farm (6 turbines at 130m to tip), proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) and proposed Eucharhead Wind Farm (21 turbines at 230m) from the Core Path. There will also be some visibility of turbines at the proposed Sandy Knowe Extension (6 turbines at 149.9m to tip). The GGRP will be seen in both sequential and combined views with these developments, and at close proximity where the route passes under the GGRP. Visibility from the Core Path however will be reduced by surrounding coniferous forestry which contains outwards views from the route. As such, sequential visibility of the GGRP and the consented and proposed wind farms will be limited.
The scale of the additional change is judged to be small and the geographical extent is judged to be medium. The overall magnitude of change is considered to be <b>low</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> cumulative visual effect for this route.

Table 6.33: Core Path 88 (Kirkconnel to Black Law via Fingland & Kirkland)

Table 6.30: Core Path 88 (Kirkconnel to Black Law via Fingland & Kirkland)			
Representative Viewpoints	VP10: Core Path at Kirkland Road	Distance to nearest project component (km)	0.5km
<b>Location, description of existing view and potential receptors:</b>			
Core Path 88 provides access into the hills north of the Nith Valley from Kirkconnel. The core path comprises approximately 11.8km of hill track running on a south to north alignment from the western edge of Kirkconnel to Black Law (408m AOD). From Kirkconnel, the route ascends the northern slopes of the Nith Valley, running parallel to the wooded Polbower Burn, before reaching Kirkland. At Kirkland, outwards views are limited due to intervening woodland and forestry which contain most views. Beyond Kirkland, the route joins the hill track, passing St Connel's Church then broadly following the Glenaylmer Burn. Outward views from this section are largely screened by intervening landform however views to the south-west back down the valley are available. As the route continues up towards Fingland, views become even more contained by upland valley landform, until the Core Path reaches Black Law where open elevated views across the surrounding landscape are likely.			
Operational turbines at Sanquhar Community Wind Farm, Whiteside Hill Wind Farm and Hare Hill Wind Farm are likely to be visible in views south from the most elevated section of the route on the slopes of Black Law.			
<b>Sensitivity:</b>			
Recreational receptors are considered to be of high susceptibility to changes in the view.			
Although recreational receptors may attach a higher value to views, sections of the route from which visibility is indicated are not located within areas designated for scenic quality and do not afford views across these areas. The value of the view available from this location is considered to be medium.			
On balance, taking account of the judgements of susceptibility and value, overall sensitivity of receptors travelling along this route is judged to be <b>high</b> .			
<b>Assessment of visual effects during construction:</b>			
During construction, ground level disturbance will be screened by intervening landform and vegetation in the middle distance of views looking west and south-west. Partially constructed towers and temporary lighting will be seen in the middle distance of views looking west. The steel lattice towers and conductors introduced during the construction phase will remain in views throughout the operational phase. Combined with associated construction activities this will result in a small scale change. The geographical extent of similar views is judged to be small.			
Overall, the magnitude of change during construction will be <b>small</b> , resulting in a <b>minor (adverse)</b> and <b>not significant</b> effect for this route.			
<b>Assessment of visual effects during operation:</b>			
The ZTV ( <b>Figure 6.2</b> ) indicates that there will be theoretical visibility of the GGRP from the section of track between Kirkconnel and the upland section that runs parallel to the Glenaylmer Burn. From the lower section of the route between Kirkconnel and Glenwharrie, actual visibility will be reduced due to woodland and vegetation that lines the Polbower Burn, as well as forestry and mixed woodland at Kirkland. From a short section of the route at Kirkland however, there will be visibility of a small number of towers in views to the west, as represented by VP10. From the section that runs parallel to the Glenaylmer Burn further north-east, the GGRP, including parts of the Glenmuckloch substation and associated security lighting (when activated/in operation), is likely to be visible in more distant yet glimpsed views, including from St Connel's Church. Due to the angle of views from this more elevated part of the route however, towers are likely to be back clothed by landform and less prominent in the view.			
The scale of change is judged to be medium and the geographical extent is judged to be small. Overall, the magnitude of change during operation will be <b>medium</b> , resulting in a <b>moderate (adverse)</b> and <b>significant</b> effect for localised sections of the route, reducing to <b>minor (adverse)</b> and <b>not significant</b> for the route as a whole.			
<b>Potential for future cumulative effects:</b>			
There will be some combined views of the consented Sanquhar Six Wind Farm (6 turbines at 130m to tip), proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) and proposed Eucharhead Wind Farm (21 turbines at 230m) with turbines visible across the distance skyline to the south from the Core Path. Turbines at the proposed Sandy Knowe Extension (6 turbines at 149.9m to tip) will also be visible in this direction. The GGRP will be seen in combined views with these developments, and will largely appear below the skyline, back clothed by landform. Both the consented			

Table 6.30: Core Path 88 (Kirkconnel to Black Law via Fingland & Kirkland)

and proposed wind farms and the GGRP will appear as distant features in a view that has already been influenced by man-made vertical structures. From some sections of the route, views will be screened by intervening woodland, forestry or landform.

The scale of the additional change is judged to be small and the geographical extent is judged to be medium. The overall magnitude of change is considered to be **low**, resulting in a **minor (adverse)** and **not significant** cumulative visual effect for this route.

#### Effects on Views and Visual Amenity of Residential Receptors

**6.93** Landscape Institute (LI) Guidance<sup>19</sup> recommends a four step approach to considering a potential 'Residential Visual Amenity Threshold', beyond which effects may be of "such nature and/or magnitude that it potentially affects 'Living Conditions' or residential Amenity" (Para. 2.1, Page 5). The first three steps of the approach "fall broadly within the normal scope of LVIA consisting of an assessment of the magnitude and significance of visual effect (in the EIA context) and change to visual amenity likely to be experienced by occupants at those individual residential properties which were identified" (Para. 3.2, Page 6). The fourth step "requires a further assessment of change to visual amenity examining whether the Residential Visual Amenity Threshold is likely to be, or has been, reached. Whether or not this final step is engaged depends on the circumstances specific to the case." (Para. 3.3, Page 6). The approach to the assessment of Residential Visual Amenity is detailed further in **Appendix 6.1**.

**6.94** In line with the first three steps outlined in the RVAA guidance, effects on views and visual amenity, as experienced by residential receptors within 600m of the GGRP, are considered within **Tables 6.34-6.38** below. The assessment of visual effects does not identify visual effects of such magnitude that they warrant further assessment in respect of a detailed Residential Visual Amenity Assessment (RVAA), particularly given the intervening distance between the GGRP and residential properties and/or screening of the GGRP by intervening vegetation.

**6.95** As outlined in the RVAA guidance (para 4.23), residential receptors (people) are considered to be of high susceptibility to changes in views from their places of residence (property, curtilage, and access). An appreciation of the surrounding views is often material to the quality of life from residential properties; therefore, the value of these views is typically considered to be high. Taking account of the susceptibility of receptors and the value of views from properties, the overall sensitivity of all residential receptors is judged to be **high**.

Table 6.34: Residential Property Group A: The Knowe

Residential Property Group A: The Knowe			
Residential Properties	3-4 Knowe Cottages, Knowebrae, The Steading Cottage and Knowe Farm	Distance to nearest project component (m)	502m
<b>Description of property/property group, location, and existing context:</b>			
<p><b>3 and 4 Knowe Cottages:</b> Semi-detached properties located in the north-west of the group, to the north of the minor road. Primary views are orientated south-west across a private garden enclosed by a low stone wall. There is minimal vegetation within the property curtilages, with views open in all directions. The two operational turbines of the Glenmuckloch Community Energy Park are seen in open middle distance views west from the property curtilage, partially screened by intervening undulating topography.</p> <p><b>Knowebrae, The Steadings Cottage, Knowe Farm:</b> A cluster of properties situated within the farm complex in the centre of the group, south of the minor road. Primary views are orientated south and south-east. Vegetation obscures long-distance views east.</p>			
<b>Assessment of visual effects during construction:</b>			
<p><b>3 and 4 Knowe Cottages:</b> Disturbance associated with preparatory groundworks including the introduction of a new temporary access track, temporary lighting and partially constructed steel lattice towers will be seen in the middle distance of views west from property curtilages, partially screened by intervening landform. Ground level disturbance will be barely perceptible in more distant views south-west and south. Construction vehicles and plant on temporary access tracks and the minor road to the south of the properties will also be apparent. The steel lattice towers and conductors introduced during the construction phase will remain evident in views throughout the operational phase.</p> <p>The magnitude of visual change during construction for these residential properties will be <b>medium</b> and taking account of the high sensitivity will result in a <b>moderate</b> and <b>significant</b> visual effect on views.</p> <p><b>Knowebrae, The Steadings Cottage, Knowe Farm:</b> Construction vehicles and plant on the minor road to the north of the properties will be glimpsed in views from the property curtilage. Ground level disturbance will be screened by intervening landform in views west and will be barely</p>			

Residential Property Group A: The Knowe

perceptible in more distant views south. The magnitude of visual change during construction for these residential properties will be **low** and taking account of the high sensitivity will result in a **minor** and **not significant** visual effect on views.

#### Assessment of visual effects during operation:

**3 and 4 Knowe Cottages:** Steel lattice towers and conductors of the GGRP will be seen against the skyline in the middle distance of views west from property curtilages, with the bases of towers partially screened by intervening landform. In primary views looking south-west, steel lattice towers will be seen in glimpsed distant views beyond intervening buildings of the farm complex to the south of the properties. Steel lattice towers will appear as small scale features back clothed against more distant landform. Similar views are illustrated by **Viewpoint 2: Lagrae Road (Figure 6.9)**.

The magnitude of visual change during operation for these residential properties will be **medium** and taking account of the high sensitivity will result in a **moderate** and **significant** visual effect on views. However, the nearest steel lattice tower will be located approximately 506m to the west of the properties, and will be seen in secondary views from the property curtilage.

**Knowebrae, The Steadings Cottage, Knowe Farm:** Views north-west toward GGRP are obscured by large farm buildings. The GGRP will be seen in more distant views south from the property curtilage, glimpsed in between intervening vegetation and buildings. The magnitude of visual change during operation for these residential properties will be **low** and taking account of the high sensitivity will result in a **minor** and **not significant** visual effect on views.

Table 6.35: Residential Property Group B: Rigg Farm

Residential Property Group B: Rigg Farm			
Residential Properties	The Bothy, Shepherds Cottage, Cheese Cottage, The Rigg Farmhouse, Rigg Villa, Rigg Cottage	Distance to nearest project component (m)	279m
<b>Description of property/property group, location, and existing context:</b>			
<p><b>Rigg Cottage and Rigg Villa:</b> Detached properties located in the north and east of the property group, to the north of the A76. Primary views are orientated east, away from the GGRP. Woodland along the A76 and vegetation to the west of Rigg Villa will screen views towards the GGRP from the property and curtilage. Rigg Cottage is located at slightly lower elevation in the east of the property group, with rolling landform to the west of the property also screening outward views west.</p> <p><b>Cheese Cottage, The Bothy, The Rigg Farmhouse, Shepherds Cottage:</b> Semi-detached properties located within the interior of the farm complex, north of the A76. Dense woodland around the farm complex partially screens views from the property curtilages in all directions.</p>			
<b>Assessment of visual effects during construction:</b>			
<p><b>Rigg Cottage and Rigg Villa:</b> Movement of construction vehicles and plant will be glimpsed in distant views north-west from Rigg Cottage, though screened by intervening woodland in views from Rigg Villa. Ground level disturbance and partially constructed steel lattice will be screened by intervening woodland in views north-west and west from Rigg Villa, and will be screened by intervening landform in views from Rigg Cottage.</p> <p><b>Cheese Cottage, The Bothy, The Rigg Farmhouse, Shepherds Cottage:</b> Ground level disturbance, movement of construction vehicles and plant and partially erected steel lattice will be screened by intervening woodland in views north-west, west and south.</p> <p>The magnitude of visual change during construction for all residential properties within the group will be <b>low</b> and taking account of the high sensitivity will result in a <b>minor</b> and <b>not significant</b> visual effect on views.</p>			
<b>Assessment of visual effects during operation:</b>			
<p><b>Rigg Cottage and Rigg Villa:</b> Views west towards the GGRP will be screened by vegetation and intervening landform. The tops of steel lattice towers will be glimpsed above intervening woodland and in between breaks in vegetation in views from the property curtilages.</p> <p><b>Cheese Cottage, The Bothy, The Rigg Farmhouse, Shepherds Cottage:</b> Views west towards the GGRP will be screened by vegetation along the property boundary and A76 as well as large buildings within the farm complex. The tops of steel lattice towers will be glimpsed above intervening woodland and in between breaks in vegetation in views from the property curtilages.</p> <p>The magnitude of visual change during operation for all residential properties within the group will be <b>low</b> and taking account of the high sensitivity will result in a <b>minor</b> and <b>not significant</b> visual effect on views.</p>			

<sup>19</sup> The Landscape Institute (February 2019) Technical Guidance Note 2/19: Residential Visual Amenity Assessment (RVAA)

Table 6.36: Residential Property P1: Crockroy Rigg

Residential Property P1: Crockroy Rigg	
Distance to nearest project component (m)	330m
<b>Description of property/property group, location, and existing context:</b>	
A semi-detached property located adjacent to commercial use buildings south of the A76. Primary views are orientated north-west and south-east towards deciduous trees and coniferous shelterbelt that line the property boundary, obscuring views in this direction.	
<b>Assessment of visual effects during construction:</b>	
Movement of construction vehicles and plant, which will be using the access track for the property, will be evident in primary views north-west, partially screened by intervening buildings and vegetation. Ground level disturbance and partially constructed steel lattice will be screened by intervening coniferous shelterbelt in views east.	
The magnitude of visual change during construction for all residential properties within the group will be <b>low</b> and taking account of the high sensitivity will result in a <b>minor</b> and <b>not significant</b> visual effect on views.	
<b>Assessment of visual effects during operation:</b>	
Views east in the direction of the GGRP are largely screened by coniferous trees along the property boundary. Conductors will be glimpsed in middle distance views south-east from the property curtilage in between breaks in vegetation.	
The magnitude of visual change during operation will be <b>low</b> and taking account of the high sensitivity will result in a <b>minor</b> and <b>not significant</b> visual effect on views.	

Table 6.37: Residential Property P2: Crockroy Cottage

Residential Property P2: Crockroy Cottage	
Distance to nearest project component (m)	362m
<b>Description of property/property group, location, and existing context:</b>	
A detached property occupying a slightly elevated position overlooking the River Nith valley. Sandy Knowe Wind Farm is seen in middle distance views south, partially screened by rolling intervening landform and outbuildings. The two operational turbines of the Glenmuckloch Community Energy Park are seen in distant views north. Primary views are orientated north-east towards the GGRP. There is minimal vegetation within the property curtilage, leaving views open in most directions. Sheds and outbuildings south-west of the property partially obscure views.	
<b>Assessment of visual effects during construction:</b>	
Movement of construction vehicles and plant, which will be using the access track for the property, will be evident in primary views north-east. Disturbance associated with preparatory groundworks including the introduction of new temporary access tracks, temporary lighting and partially constructed steel lattice towers will be seen in the middle distance of views north-east to south-east. The steel lattice towers and conductors introduced during the construction phase will remain evident in views throughout the operational phase. Combined with associated construction activities this will result in a medium scale change.	
Overall, the magnitude of change during construction will be <b>medium</b> , resulting in a <b>moderate (adverse)</b> and <b>significant</b> visual effect on views.	
<b>Assessment of visual effects during operation:</b>	
The steel lattice towers and conductors of the GGRP will be seen against the skyline in open middle-distance views looking north-east to south-east across a medium angle of the view. The magnitude of visual change during operation will be <b>medium</b> and taking account of the high sensitivity will result in a <b>moderate</b> and <b>significant</b> visual effect on views.	

Table 6.38: Residential Property P3: Carserigg

Residential Property P3: Carserigg	
Distance to nearest project component (m)	367m

<sup>20</sup> The current status of this property is uncertain, however the assessment has been undertaken based on the assumption that it is currently or may in the future be occupied as a residential property

Residential Property P3: Carserigg
<b>Description of property/property group, location, and existing context:</b>
A detached property located on the forested southern slopes of the River Nith valley. Primary views are orientated east, away from GGRP development. Secondary views west are screened by large outbuildings in the farm complex. Views north are screened by mixed woodland which lines the Polbroc Burn. Views south and south-east, towards the GGRP, are screened by dense coniferous forestry. The blade tips of Sandy Knowe Wind Farm and Sanquhar Community Wind Farm are glimpsed above intervening forestry and landform in views south.
<b>Assessment of visual effects during construction:</b>
Ground level disturbance and partially constructed steel lattice will be screened by intervening conifer forestry in views south. Movement of construction vehicles and plant will be glimpsed in between breaks in vegetation in views south. The magnitude of visual change during construction for all residential properties within the group will be <b>low</b> and taking account of the high sensitivity will result in a <b>minor</b> and <b>not significant</b> visual effect on views.
<b>Assessment of visual effects during operation:</b>
The tops of steel lattice towers and conductors will be glimpsed in views south from the property curtilage beyond intervening vegetation. The magnitude of visual change during operation will be <b>low</b> and taking account of the high sensitivity will result in a <b>minor</b> and <b>not significant</b> visual effect on views.

Table 6.39: Residential Properties P4: Euchan Filter Station House and P5: Euchan Filter Station Cottage

Residential Properties P4: Euchan Filter Station House and P5: Euchan Filter Station Cottage	
Distance to nearest project component (m)	238m
<b>Description of property/property group, location, and existing context:</b>	
Two detached properties located to the north and south of the minor road within the Euchan Water Valley. The Euchan Filter Station House (P4) <sup>20</sup> is located at lower elevation at the floor of the incised valley, and steep intervening landform will partially screen outward views towards the GGRP. The cottage (P5) is located on the northern slopes of the valley, with views from rear windows focused towards the GGRP.	
<b>Assessment of visual effects during construction:</b>	
Ground level disturbance will be screened by intervening landform in views west, however the movement of construction vehicles and plant, temporary lighting and upper parts of steel lattice towers will be glimpsed against the skyline in views from the property curtilages. Ground level disturbance associated with the felling of conifer forestry at Benzien Craig will be seen in views west from the property curtilages.	
The steel lattice towers and conductors introduced during the construction phase will remain evident in views throughout the operational phase. Combined with associated construction activities this will result in a medium scale change.	
Overall, the magnitude of change during construction will be <b>medium</b> , resulting in a <b>moderate (adverse)</b> and <b>significant</b> visual effect on views.	
<b>Assessment of visual effects during operation:</b>	
Steel lattice towers and conductors of the GGRP will appear in views west, descending the slopes of the Euchan Water Valley. Felling at Benzien Craig will be evident in middle distance views west.	
The magnitude of visual change during operation will be <b>medium</b> and taking account of the high sensitivity will result in a <b>moderate</b> and <b>significant</b> visual effect on views.	

#### Potential for Future Cumulative Effects on Views from Residential Properties

**6.96** In views from lower-lying residential properties located within the Upper Nith Valley (Property Group A, Property Group B, P1 and P2), turbines of consented and proposed wind farms located to the north of the valley (the consented Glenmuckloch Wind Farm (8 turbines at 149.9m to tip), consented Lethans Wind Farm (22 turbines at 220m to tip) and proposed Lethans Extension (10 turbines at 251m to tip)) will be visible in combined and successive views with the GGRP. The steel lattice towers of the GGRP will typically appear as smaller features compared to the consented and proposed wind farms that will be seen as larger scale features across the horizon. Turbines of consented and proposed wind farms to the south of the valley (the consented Sanquhar Six (6 turbines at 130m to tip), proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) and proposed Sandy Knowe Extension (6 turbines at 149.9m to tip)) will be visible in combined and successive views with the GGRP. The introduction of these developments will not result in a



notable change in the view as views to the south and south-west have already been influenced by man-made vertical features. The steel lattice towers of the GGRP will appear as smaller scale and less prominent features as they will largely be seen below the skyline, back clothed by landform. The scale of the additional change is judged to be small and the geographical extent is judged to be small. The overall magnitude of change is considered to be low, resulting in a **minor** (adverse) and **not significant** cumulative visual effect for these residential properties.

**6.97** In views from residential property P3, turbines of consented and proposed wind farms located to the north of the valley (the consented Glenmuckloch Wind Farm (8 turbines at 149.9m to tip), consented Lethans Wind Farm (22 turbines at 220m to tip) and proposed Lethans Extension (10 turbines at 251m to tip)) will be screened by intervening woodland and forestry. Blade tips of the proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) will be seen against the skyline, glimpsed beyond intervening coniferous forestry and across part of the skyline with the existing presence of the Sanquhar Community Wind Farm. Views towards the proposed Sandy Knowe Extension (6 turbines at 149.9m to tip) consented Sanquhar Six (6 turbines at 130m to tip) will be screened by intervening forestry and landform. The tops of steel lattice towers of the GGRP will appear in glimpsed views south beyond intervening vegetation, in combination with the proposed Sanquhar II Wind Farm. Given the limited visibility of both developments, the scale of the additional change is judged to be small and the geographical extent is judged to be small. The overall magnitude of change is considered to be low, resulting in a **minor** (adverse) and **not significant** cumulative visual effect for these residential properties.

**6.98** In views from residential properties P4 and P5, blade tips of the proposed Sanquhar II Wind Farm (50 turbines at 200m to tip) will be seen against the skyline, beyond steep intervening landform which partially screens the bases of turbines. Whilst these turbines will form relatively prominent features in close views north-west, the proposed turbines will appear as a slight extension to the operational Sanquhar Community Wind Farm, which forms an existing skyline feature in relatively close views west. The GGRP will be seen in front of the proposed Sanquhar II Wind Farm in combined and successive views. Given the existing influence of the operational Sanquhar Community Wind Farm in views, the scale of the additional change is judged to be small and the geographical extent is judged to be small. The overall magnitude of change is considered to be low, resulting in a **minor** (adverse) and **not significant** cumulative visual effect for these residential properties.

#### Proposed Mitigation

**6.99** Beyond embedded mitigation through routeing and design and reinstatement of disturbance associated with the construction of the GGRP (including restoration of damaged stone dykes), no additional mitigation measures have been identified that would materially reduce the level of effects assessed.

#### Residual Effects

**6.100** Residual construction and operational effects will reflect the construction and operational effects identified. Significant effects are summarised in **Table 6.40**.

#### Cumulative Operational Effects

**6.101** No significant operational cumulative effects have been identified within the assessment of landscape and visual receptors. The GGRP will be visible in combined, successive and sequential views with the consented Lethans, Glenmuckloch and Sanquhar Six Wind Farms and the proposed Lethans Extension, Sanquhar II, Eucharhead and Sandy Knowe Extension Wind Farms. The GGRP and these consented and proposed schemes however will occupy views that have already been altered by vertical man-made development. Many of the existing wind turbines that are visible will appear as larger scale features than the GGRP and at closer distances than the consented and proposed wind farms. As such, it is concluded that the addition of the consented and proposed schemes along with the GGRP will result in an overall low magnitude of change and no significant cumulative landscape or visual effects.

**6.102** The GGRP in combination with the proposed Glenglass Substation Extension will not give rise to any significant landscape and visual cumulative effects, due to the presence of the existing Glenglass Substation. The size of the proposed extension in relation to the existing substation will result in the extension appearing as a small scale change that will be absorbed by the existing components of Glenglass Substation.

#### Summary of Significant Effects

**6.103** The table below summarises significant effects during the construction and operational phases of the GGRP (which may include construction related temporary lighting and permanent security lighting when activated). At construction stage the occurrence

of significant visual effects are limited to a small number of receptors either in close proximity to the GGRP or where a wider horizontal field of view is occupied by construction activity. The nature of effects at construction stage is adverse. Significant adverse effects are predicted from a limited number of receptors with closer proximity views.

**6.104** Whilst significant effects on views experienced from a small number of residential properties were identified, the assessment of visual effects does not identify visual effects of such magnitude that they warrant further assessment in respect of a detailed Residential Visual Amenity Assessment (RVAA), particularly given the intervening distance between the GGRP for those residential properties identified with a moderate (adverse) and significant visual effect.

Table 6.40: Summary of Significant Effects

Receptor	Level and direction of effects
<b>Construction Stage</b>	
Upper Nith Valley LLCT	Moderate (adverse) locally, reducing to minor and not significant for the LLCT as a whole
Viewpoint 1: A76 near Crockroy	Moderate (adverse)
Viewpoint 2: Lagrae Road	Moderate (adverse)
Viewpoint 3: A76 near Guildhall Bridge	Moderate (adverse)
Viewpoint 6: Libry Moor	Moderate (adverse)
Viewpoint 7: Southern Upland Way (SUW) near Whing Head	Moderate (adverse)
A76	Moderate (adverse) locally, reducing to minor (adverse) and not significant for the route as a whole
U432N (minor road in Euchar Water Valley)	Moderate (adverse)
U459N and U460N north of the A76 (minor roads passing towards Lagrae and Kirkland)	Moderate (adverse)
Glasgow South Western Line	Moderate (adverse) locally, reducing to minor (adverse) and not significant for the route as a whole
Southern Upland Way	Moderate (adverse) locally, reducing to minor (adverse) and not significant for the route as a whole
Core Path 84 (Kirkconnel to Mynwhirr Hill)	Major (adverse) locally, reducing to minor (adverse) and not significant for the route as a whole
Residential Property Group A: The Knowe (properties 3 and 4 Knowe Cottages)	Moderate (adverse)
Residential Property P2: Crockroy Cottage	Moderate (adverse)
Residential Property P4: Euchar Filter Station House and cottage	Moderate (adverse)
<b>Operational Stage</b>	
Upper Nith Valley LLCT	Moderate (adverse)
Incised Tributary Valley LLCT	Moderate (adverse)
Viewpoint 1: A76 near Crockroy	Moderate (adverse)
Viewpoint 2: Lagrae Road	Moderate (adverse)
Viewpoint 3: A76 near Guildhall Bridge	Moderate (adverse)

Receptor	Level and direction of effects
Viewpoint 6: Libry Moor	Moderate (adverse)
Viewpoint 7: Southern Upland Way (SUW) near Whing Head	Moderate (adverse)
A76	Moderate (adverse) locally, reducing to minor (adverse) and not significant for the route as a whole
U432N (minor road in Euchar Water Valley)	Major (adverse) locally, reducing to minor (adverse) and not significant for the route as a whole
U459N and U460N north of the A76 (minor roads passing towards Lagrae and Kirkland)	Major (adverse) locally, reducing to moderate (adverse) and significant for the route as a whole
Southern Upland Way	Moderate (adverse) locally, reducing to minor (adverse) and not significant for the route as a whole
Core Path 84 (Kirkconnel to Mynwhirr Hill)	Major (adverse) locally, reducing to minor (adverse) and not significant for the route as a whole
Core Path 88 (Kirkconnel to Black Law via Fingland & Kirkland)	Moderate (adverse) locally, reducing to minor (adverse) and not significant for the route as a whole
Residential Property Group A: The Knowe (properties 3 and 4 Knowe Cottages)	Moderate (adverse)
Residential Property P2: Crockroy Cottage	Moderate (adverse)
Residential Property P4: Euchar Filter Station House and cottage	Moderate (adverse)