



Gamesa Energy UK Ltd

**STEPHENSON
HALLIDAY**

ENVIRONMENTAL PLANNING - LANDSCAPE ARCHITECTURE



**CARSCREUGH RENEWABLE ENERGY
PARK**

ENVIRONMENTAL STATEMENT
ADDENDUM

REVISED LANDSCAPE AND VISUAL
IMPACT ASSESSMENT

VOLUME 2
TEXT AND APPENDICES

JUNE 2009



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PREPARED ON BEHALF OF:

GAMESA ENERGY UK LTD

Rowan House
Cedar Court
Hazell Drive
Newport
Gwent
NP10 8FY

PREPARED BY:

STEPHENSON HALLIDAY LTD.

32 Lowther Street
Kendal
Cumbria
LA9 4DH

Tel: 01539 739000
www.stephenson-halliday.com

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6. Landscape and Visual Amenity

6.1 Introduction

Stephenson Halliday Ltd. were commissioned by Gamesa Energy UK Ltd to prepare a revised Landscape and Visual Impact Assessment (Chapter 6) in preparation for an Addendum to the original Carscreugh Renewable Energy Park Environmental Statement (April 2006) for Dumfries and Galloway Council (DGC) to address issues raised during the consultation process. Volumes 2 and 3 of the Environmental Statement Addendum (ES/A) responds specifically to landscape concerns raised by Scottish Natural Heritage and Dumfries and Galloway Council. The Carscreugh Renewable Energy Park (REP) proposals are predominantly the same as in the 2006 ES with the exception of the proposed location of the anemometer mast, which has been relocated to minimise effects on Cultural Heritage features and the red line boundary, which has been reduced in extent to conform more closely to the operational requirements of the proposal rather than a more notional boundary.

Over three years have elapsed since the original Environmental Statement (April 2006). This revised Landscape and Visual Impact Assessment (LVIA) takes account of recent LVIA guidance documents and includes an updated Cumulative Landscape and Visual Assessment to address changes in the baseline operational, consented and proposed wind farms within the study area since the date of the original Environmental Statement (April 2006).

The ES/A largely follows the structure of the 2006 submission. Whilst a considerable amount of the illustrative LVIA material represented in this document derives from the original baseline work undertaken by RPS on behalf of GEUKL (which the authors gratefully acknowledge) this Carscreugh REP ES/A study prepared by Stephenson Halliday on behalf of GEUKL is intended to be a read, for ease of use and completeness, predominantly as a stand alone document.

The following table summarises the issues and concerns raised by Scottish Natural Heritage and Dumfries and Galloway Council in relation to the Landscape and Visual Impact Assessment and identifies where these have been addressed within the Addendum documents.

Table 6.1: Summary of issues raised during consultation and location of response within the Addendum:

Issues raised by Consultees	Response in Addendum
The methodology for determining the sensitivity of the landscape is inadequate and ES tables 6.2 and 6.4 underestimate the sensitivity of some landscape character types (SNH Letters 30 th June 2006 and 18 th August 2006)	Section 6.3 of the addendum details the methodology employed in undertaking the revised landscape and visual impact assessment. It identifies how landscape sensitivity, visual receptor sensitivity, magnitude of effect and significance of effects have been derived. Section 6.3.2 describes the methodology employed by the SEI in determining landscape sensitivity to the presence of wind turbines. Table 6.7 provides a summary of the amended conclusions on landscape and visual effects and their significance.
The consideration and conclusions on magnitude of change in ES are inadequate (SNH Letter 30 th June 2006 and D and GC internal landscape advice dated 31 st August 2006))	A revised set of wire frame diagrams and photomontages have been produced to provide greater clarity of and accurately reflect the magnitude of the landscape and visual
The photomontages in ES are unclear (SNH Letter 30 th June 2006 and D and GC internal landscape advice dated 31 st August 2006)	

SNH considers that the way in which the turbines are rendered on the photomontages understates their visual prominence in ES (SNH letter 18 th August 2006)	effects of the proposals. These are provided in Volume 3 of the Addendum.
For some of the montages in ES the viewing does not allow for desk top viewing (Letter from SNH 18 th August 2006)	The revised wireframe diagrams and photomontages contained within Volume 3 of the Addendum have all been produced with a viewing distance of 300mm which conforms with SNH guidance and allows for comfortable desktop viewing.
Consideration of the impact on the directly adjacent and very distinctive drumlin landscape is absent in the ES (SNH Letter 30 th June 2006)	Section 6.8.2 of the Addendum provides a revised assessment of the proposals impacts on all the landscape character types within the 30km study area including the drumlin landscapes LCT 12 and 13.

6.2 Scope of Assessment

The ES/A study reconsiders the predicted construction and operational effects of the Carscreugh Renewable Energy Park proposals on the landscape resources and visual amenity following further field studies, computer visualisation work and a review of documentary and cartographic data.

The Gamesa Energy UK Ltd proposals for the Carscreugh REP were prescribed in the 2006 Environmental Statement dated April 2006 with any updates within Volume 1 of the ES/A. The proposals consist of 18 turbines with a tower height of 44m and a rotor diameter of 52m together with associated meteorological mast, control building, approximately 5 km of tracks, 4 borrow pits and associated fencing set across the spine of Carscreugh Fell.

These original receptors were identified and agreed with SNH / D&GC at scoping stage in 2005. Following the D&GC and SNH review in 2006 and subsequent liaison with the consultees in 2009 additional landscape and visual receptors are incorporated into the ES/A study in response to the issues raised by SNH and D&GC over the intervening period and as a result of the 2009 ES/A review process.

The potential landscape and visual effects of the proposed development are regarded as a key issue for assessment and are organised in the following sections:

- **Method of assessment** – an outline of general methodology, with reference to established guidance;
- **Baseline landscape assessment** – to identify/ confirm the fabric, character and quality of the landscape, which would be affected by the proposal, including a review of the extent, purposes and special characteristics of landscape planning designations within the study area;
- **Project Description and mitigation** – a description of the aspects of the proposed wind farm development which have the potential to cause a landscape and/or visual effect, and the measures, which have been incorporated into the project design to mitigate these effects;
- **Visual Analysis** – comprising an assessment of the visual effects of the proposed development with reference to computer generated Visibility Maps to ascertain from where the development could be visible and potential receptors that could be affected by potential changes in views, together with a viewpoint analysis to determine the

magnitude and significance of the changes in the view from a selection of viewpoint locations that represent the main landscape and visual receptors in the study area;

- **Assessment of landscape effects** – an assessment of the significance of effects arising from the proposed wind farm on the landscape fabric, landscape character and quality of the landscape types and designated areas within the study area;
- **Assessment of visual effects** – an assessment of the significance of effects arising from the proposed wind farm on the visual amenity, receptors and viewpoints in the study area;
- **Cumulative Landscape and Visual effects** - to establish whether there are likely to be any cumulative effects on landscape and visual amenity as a result of the Carscreugh REP proposal in conjunction with other operational, consented or proposed projects in the planning process. This part of the assessment is presented in Appendix D; and
- **Summary and conclusions** – a summary of the assessment results and concluding discussion on the acceptability of the proposed wind farm in landscape and visual terms.

The assessment of landscape and visual effects are illustrated with reference to figures LVIA 01 to LVIA 12 and with viewpoint photographs, wireframes and photomontages (Visualisations 1-25). All figures illustrating this chapter are included in Volume 3 of the ES/A.

6.3 Guidance and Methodology

6.3.1 General Approach

The assessment has been based on the following best practice guidance:

- Guidelines for Landscape and Visual Assessment (Landscape Institute and Institute of Environmental Management and Assessment 2002); and
- Landscape Character Assessment: Guidance for England and Scotland (The Countryside Agency and Scottish Natural Heritage 2002).

It also takes account of advice within the following documents:

- Environmental Impact Assessment Regulations 1999;
- Guidelines on the Environmental Impact of Windfarms and Small Scale Hydro Electric Schemes (SNH 2001);
- Visual Representation of Windfarms: Good Practice Guidance (SNH 2006); and
- Cumulative Effect of Windfarms (SNH 2005)
- The Inventory of Historic Gardens and Designed Landscape 2007;
- Scottish Natural Heritage / Land Use Consultants Dumfries and Galloway Landscape Assessment 1998;
- Scottish Natural Heritage / Land Use Consultants Ayrshire Landscape Assessment 1998;
- Scottish Executive: SPP6 Renewable Energy, 2007; PAN45 Renewable Energy Technologies, Revised 2002; PAN51 Planning Environmental Protection and Regulation, 2006;
- Town & Country Planning (Scotland Act) 1997;
- The Environmental Impact Assessment (Scotland) Regulations 1999;
- Dumfries and Galloway Structure Plan 1999;
- Technical Paper 5 of the Dumfries and Galloway Structure Plan: Wind Energy Diagram;
- Technical Paper 6 of the Dumfries and Galloway Structure Plan. Regional Scenic Areas;
- Ayrshire Joint Structure Plan Nov 2007;
- The Wigtown Local Plan adopted 2006.

6.3.2 Significance Criteria

The aim of the landscape and visual assessment is to identify, predict and evaluate potential key effects arising from the proposed development. Wherever possible identified effects are quantified, but the nature of landscape and visual assessment requires interpretation by professional judgement. In order to provide a level of consistency to the assessment, the prediction of magnitude and assessment of significance of the residual landscape and visual effects have been based on pre-defined criteria.

Landscape Sensitivity

The sensitivity of the landscape to change is not absolute and varies according to the existing landscape, the nature of the proposed development and the type of change being proposed. Accordingly the concept of 'sensitivity to change' is not part of the baseline description of the landscape of the study area, but is considered in relation to the assessment of the effects of the proposed development. In general terms, areas of high landscape quality and value are more sensitive to change than areas of lesser quality and value, and general guidance on the evaluation of sensitivity is provided in Table 6.2. However, the actual sensitivity would depend on the attributes of the landscape receiving the proposals, and the nature of those proposals.

In the case of Carscreugh REP, the sensitivity of landscape character types to the presence of wind turbines has been considered in terms of the particular qualities which define their character. These qualities include scale and enclosure, complexity and order, manmade influence, connections with adjacent landscape types and qualities of wildness, remoteness and tranquillity. The identification of levels of sensitivity for the various landscape character types within the study area by the Dumfries and Galloway Technical Paper No.5 and to a lesser extent by the Dumfries and Galloway Landscape Assessment address the region as a whole, and as such can be regarded as generalised conclusions for each landscape character type. This assessment has taken these general levels of sensitivity and refined them by considering the qualities of the landscape types within the study area to determine their sensitivity to the presence of wind turbines. In some instances, in view of the variable character within some of the regional landscape types, this assessment has considered sensitivity and levels of effects on landscape character within sub areas of the types, for example the receiving landscape type of Upland Fringe.

In addition, the assessment of sensitivity is based on consideration of the following parameters, together with the nature of the proposals, during the course of the assessment:

Landscape value: The importance attached to a landscape, often as a basis for designation or recognition which expresses national or regional consensus, because of its quality, cultural associations, scenic or aesthetic qualities;

Landscape quality: The state of repair or condition of elements of a particular landscape, its integrity and intactness and the extent to which its distinctive character is apparent; and

Landscape capacity: The capacity of a particular type of landscape to accommodate change brought about by wind farm development without unacceptable negative effects on its character, reflecting key aspects of landscape character including scale and complexity of the landscape and degree of 'wildness' or 'remoteness'.

Table 6.2: Landscape Sensitivity

Parameters	Sensitivity of Landscape		
	High	Medium	Low
Landscape value (designations)	National (e.g. National Parks and Areas of Outstanding Natural Beauty)	Regional (e.g. Area of Great/High Landscape Value)	No designation
Landscape quality	A landscape in good condition, predominantly intact and with a clearly apparent distinctive character	A landscape in moderate condition, reasonable intact, retaining a distinctive character	A landscape in poor condition, lacking in integrity, where landscape character has been adversely affected
Landscape capacity	Landscapes of distinctive character susceptible to relatively small changes	Landscapes reasonably tolerant of changes	Landscapes potentially tolerant of substantial change

Visual Sensitivity

The sensitivity of potential visual receptors will vary depending on the location and context of the viewpoint, the activity of the receptor and importance of the view. Visual receptor sensitivity is defined as high, medium, or low in accordance with the criteria in Table 6.3:

Table 6.3: Visual Receptor Sensitivity

High sensitivity	Residents experiencing principal views from dwellings, Patrons of outdoor recreational facilities such as strategic recreational footpaths and cycle ways, People experiencing views from important landscape features of physical cultural or historic interest beauty spots and picnic areas
Medium sensitivity	Road users and travellers on trains. Residents experiencing secondary views from dwellings, Users of secondary footpaths receiving views and people engaged in outdoor sport or recreation other than studying /appreciating the landscape such as hunting shooting golf and water based activities
Low sensitivity	Workers experiencing views from buildings, users of facilities and commercial buildings

Those living within view of the project are usually regarded as the highest sensitivity group along with those engaged in outdoor pursuits for whom landscape experience is the primary objective. The threshold for significance of visual effects relies to a great extent on professional judgement. Criteria and local circumstances require close study and careful consideration to decide if the effect on a single property will warrant classification as a highly significant issue. Generally it will be rare for the impact on a single dwelling to be categorised as of high significance for the development overall. However it may combine with similar impacts on many properties to give rise to a more general impact of high significance.

Magnitude of Effects

The magnitude of change arising from the proposed development at any particular viewpoint is described as substantial, moderate, slight or negligible based on the interpretation of a combination of largely quantifiable parameters, as follows:

- Distance of the viewpoint from the development;
- Duration of effect;
- Extent of the development in the view;
- Angle of view in relation to main receptor activity;
- Proportion of the field of view occupied by the development;
- Background to the development; and
- Extent of other built development visible, particularly vertical elements.

In order to differentiate between different levels of magnitude the following definitions are provided:

Substantial: total loss or major alteration to key landscape elements/features/characteristics such that post development the baseline landscape character or composition of the view will be fundamentally changed;

Moderate: partial loss or alteration to one or more key landscape elements/ features or characteristics such that post development the baseline landscape character or composition of the view will be partially changed;

Slight: Minor loss or alteration to one or more key landscape elements/features or characteristics such that post development the change/loss will be discernible but the underlying landscape character or composition of the view will be similar to the baseline; and

Negligible: Very minor loss or alteration to one or more key landscape elements / features/ characteristics of the baseline conditions. Change will be barely distinguishable approximating to no change.

Significance of Effects

The significance of any identified landscape or visual effect has been assessed in terms of major, moderate, minor or none. These categories have been based on combining viewpoint or landscape sensitivity and predicted magnitude of change, to determine significance of effects:

Table 6.4: Significance of Effects

LANDSCAPE AND VISUAL SENSITIVITY	Magnitude of Change			
		Substantial	Moderate	Slight
High	Major	Major / Moderate	Moderate	Moderate / Minor
Medium	Major / Moderate	Moderate	Moderate / Minor	Minor
Low	Moderate	Moderate / Minor	Minor	Minor / Negligible

Where the landscape or visual effect has been classified as Major or Major/Moderate this is considered to be equivalent to likely significant effects referred to in the Town and Country Planning (Environmental Impact Assessment) Regulations 1999. The conclusion that some effects are 'significant' must not be taken to imply that they are necessarily adverse or should warrant refusal. As with many aspects of landscape and visual assessment, significance of effect also needs to be qualified with respect to the scale over which it is felt. An effect may be locally significant, or significant with respect to a small number of receptors, but not significant when judged in a wider context.

Nature of Effects

Any effect may be described as temporary or permanent, direct or indirect, positive or negative and cumulative in accordance with the relevant EIA Regulations and these various types of effect have a bearing on the acceptability or otherwise of the type of effect. The various types of effect are described as follows:

Temporary/Permanent

If a proposal would result in an alteration to an environment whose attributes can be quickly recovered then judgements concerning the significance of effects should be tempered in that light. The Carsreugh REP application is for a 25 year operational period, and while this is not permanent it can properly be described as long term. Landscape and visual effects can be reversed and following decommissioning there would be no residual landscape and visual effects. A wind farm should therefore be regarded as a long term reversible addition to the landscape preserving the choice for future generations whether or not to retain what might be regarded as the landscape fabric of today.

Direct/Indirect

Direct and indirect landscape and visual effects are defined in GLVIA (2002). Direct effects may be defined 'as an effect that is directly attributable to a defined element or characteristic of the proposed development, for example the loss or removal of an element or feature such as a hedgerow or a prominent group of trees'. 'An indirect (or secondary) effect is an effect that is not a direct result of the proposed development but is often produced away from the site of the proposed development or as a result of a complex pathway or secondary association'. The direct or physical effects of the wind farm development are generally limited to an area around the base of each proposed turbine, access roads and other development infrastructure such as cable trenches, control building and grid connection. The main effects are often concerned with the visual effects (occasionally referred to as indirect effects) and relate to effects associated

with introduction of the wind farm seen in the context of the existing landscape and visual character of the view.

Positive/Negative (Beneficial/Adverse)

Positive effects upon landscape receptors may result from changes to a view involving positive enhancement measures or through the addition of well-designed elements, which add to the landscape experience or sense of place in a complementary manner. In the case of wind farm development it is not a clear cut matter to determine whether or not a change in the view should necessarily be regarded as an adverse or positive effect, because of the widely varying responses of individuals to this form of development. The perception of the viewer influences whether a significant visual effect would constitute acceptable change to the landscape. Public attitude surveys in the vicinity of existing operational wind farms in England, Scotland and Wales have consistently found that more people view wind farms positively than negatively and it appears to be the case that this proportion tends to increase post construction compared to pre-construction. A recent study is the 'Public Attitude to Windfarms' survey carried out for the Scottish Executive by MORI (August 2003).

This assessment has been carried out in a systematic manner based on a neutral perspective. It establishes the level where in the assessor's opinion 'significant' landscape and visual effects may arise in terms of the Environmental Impact Assessment Regulations.

Potential cumulative effects are covered in more detail in Appendix D and summarised at the end of this chapter.

6.3.3 Illustrative Tools

Visibility Maps

Computer generated Zone of Theoretical Visibility (ZTV) Maps have been prepared to assist in viewpoint selection and to appreciate the potential influence of the development in the wider landscape.

The Visibility Maps indicate areas from which it might be possible to secure views to part or parts of the proposed wind farm. However, use of the Visibility Maps needs to be qualified on the following basis:

- There are a number of areas within the Visibility Maps from which there is potential to view parts of the proposal, but which comprise open moor or agricultural land where the general public do not appear to exercise regular access;
- The Visibility Maps do not account for the effects of screening and filtering of views as a result of intervening features, such as buildings, trees and hedgerows; and
- The Visibility Maps do not account for the likely orientation of a viewer – for example when travelling in a vehicle.

The combined effect of these limitations means that the Visibility Maps tend to over-estimate the extent of visibility – both in terms of the land area from which the project is visible and also possibly the extent of visibility (e.g. number of turbines) from a particular viewpoint.

In addition, the accuracy of the Visibility Maps has to be considered, in particular:

- The Visibility Maps are generated from Ordnance Survey (OS) Landform Panorama digital data based on a gridded terrain model with 50m cell sizes. The resolution of this model cannot accurately represent small-scale terrain features, which can therefore give rise to inaccuracy in the predicted visibility. This can lead to either underestimation of

visibility – e.g. a raised area of ground permitting views over an intervening obstruction – or can lead to overestimation of visibility – such as where a roadside embankment obscures a view. These effects are said to be “random” and over the extents of the Visibility Maps are unlikely to present a significant error.

- The use of this type of Visibility Map is considered good practice and should be considered as a tool to assist in assessing the visibility of the project. The Visibility Maps do not present an absolute measure of visibility and do not represent the “visual impact” of the proposed wind farm.

Viewpoint Assessment

The assessment of landscape and visual effects is carried out from an agreed representative selection of viewpoints. The viewpoints were initially agreed with SNH / D&GC during the 2006 ES process using professional judgement with additional viewpoints added as issues arose during the consultation process following the submission of the ES.

The selected viewpoints are representative of the views experienced at different distances and directions from the site, as well as from the various landscape character types identified in the Study Area from which the proposed wind farm would be visible. Detailed analysis of the viewpoints includes description of the existing and predicted view, analysis of magnitude of change and the effects on landscape character and visual amenity.

The viewpoint analysis is illustrated with reference to a range of illustrative material, including photographs, wireframes and photomontages. All photographs included in the assessment were either received from the original RPS ES or taken with a 35mm SLR camera, with 50mm focal length lens, mounted on a level panoramic head tripod by Stephenson Halliday. All photographs and computer generated panoramas are constructed using computer software, for example Adobe Photoshop.

For each viewpoint a wireframe diagram was prepared using WindFarm computer software, based on OS Landform Panorama data.

In this assessment all of the photographs, wireframes and photomontages have been produced to record either a 90 or 180 degree angle of view, illustrating the view experienced at the viewpoint, and providing an indication of the visual context of the development. The visualisations have all been presented with a comfortable viewing distance of 300mm.

6.4 Baseline Description

The baseline study identifies:

- The physical setting and context of the proposals;
- The Landscape Character Types within the study area;
- Landscape Designations and Planning Policy;

6.4.1 Physical Setting and Context of the Carscreugh REP proposals

Regional Geology

The solid geology of the Rhins and Machars peninsulas and the Carrick Hills is largely composed of Ordovician and Silurian sandstone and shales originally overlain by Permian sandstone. These ancient sandstone horizons of Ordovician origin have resulted in an extensive undulating plateau landscape situated mainly above the 100m contour and the lower landscape of the Machars peninsula formed of later Silurian deposits and situated between 30 to 100 m AOD.

A study of the British Geological Survey 1:625,000 mapping identifies Carscreugh Fell as a residual outlier of Ordovician sandstone set within later Silurian sandstone deposits. The boundary between the two periods of sedimentary formation runs roughly west to east between Glenluce and the Dalveen Pass in the Lowther Hills. A notable feature of the landscape in the east of the study area is the igneous intrusions which have formed the large dome shaped mass of the Galloway Hills and areas of broadly conical hills of the knocks and fells rising above the plateau landscape in the Rhins and the Machars.

The drift geology of the landscape is represented by the raised beached formations along the peninsula coasts and inland by the widespread presence of drumlins across the study area, most noticeably in the Machars region east and south-east of Carscreugh Fell. Roche moutonnees occur as craggy outcrops in parts of the study area and together with the eroded granitic intrusions contrast with the smooth, gently undulating landscape of the plateau and the lower drumlins. This combination of landforms occurs over widespread areas, for example at Culvennan Fell and Moor Park to the west and south of Newton Stewart respectively.

Regional Hydrology

Between Newton Stewart and Stranraer four river systems have cut through the moorland plateau landscape of Dumfries and Galloway and southern Ayrshire. The Water of Luce passing west of Carscreugh Fell drains the plateau areas south of Glen App into Luce Bay. Tarf Water drains the moorlands east of Artfield and Carscreugh Fells before joining with the River Bladnoch east of Kirkcowan. The Bladnoch drains the northern Machars east of the Mochrum lochs into the Baldoon Sands of Wigtown Bay. Further eastwards the Cree River drains the densely forested areas of the plateau moorland areas into Wigtown Bay.

The relative uniformity of the contours in the plateaux in association with the layers of hard underlying bedrock has resulted in the formation of extensive moss and moorland vegetation across large areas of the landscape in the study area together with groups of notable lochs; for example Loch Trool, Loch Ochiltree and Loch Ronald.

Topographic Setting

Carscreugh Fell forms part of the discontinuous range of undulating fells between Loch Ryan and Wigtown Bay which defines the southern edge of the moorland plateau within the northern part of the study area. Challoch Hill (145m AOD), Camrie Fell (160m AOD) and Bught Fell (205m AOD) are located to the west of Carscreugh Fell. East of Carscreugh Fell the higher plateau moorland areas are defined by Barskeoch Fell (177m AOD), Fell End (200m AOD) and Culvennan Fell (213m AOD). Artfield Fell (244m AOD) forms a prominent outcrop to the north of Carscreugh Fell. To the south of these fells and the valleys of Lady Burn and Taft Water, the Machars peninsula comprises an extensive area of lower land generally between 30m and 100m AOD, dissected by a complex system of river valleys draining southwest and east of the peninsula. Knock Fell (175 m AOD) and Mochrum Fell (197m AOD) represent summits on the intermittent ridge which runs closely parallel with the west coast of the Machar peninsula, and which forms the watershed dividing the river systems.

Glacial deposits in the form of drumlins form a feature of lowland landscapes to the south of the uplands of Camrie, Carscreugh, and Barskeoch Fells, as well as in the vicinity of Culvennan Fell, to the south and west of Newton Stewart and on the Machar and Rhins peninsulas. They are distributed unevenly through these areas and are often interspersed with rocky outcrops and surrounded by flatter mosses and low moorland.

Landscape Context

Carscreugh Fell is located approximately 3.0 km north-east of the village of Glenluce with the valley of Drumphail Burn to the north, Tarf Water to the east, and Lady Burn to the south. Within the immediate vicinity of Carscreugh the transition from the Lady Burn valley to the south to the moorland plateau to the north is interrupted by the valley of Drumphail Burn, and the complex topography of small valleys, mosses and low rounded and rocky hills consists of elements of both the plateau moorland and lower lying mosses. To the west of Camrie Fell, the valley slopes of Water of Luce are incised by numerous small streams and burns. East and south of the Carscreugh lies an extensive area of lowland mosses extending to Tarf Water, including Dergoals Moss and Blairderry Moss, interspersed with low rocky outcrops, streams and rounded drumlins.

Immediately north of Carscreugh Fell, the shallow valley of Drumphail Burn separates Carscreugh Fell from the higher fells to the north, which include Bught Fell (204m AOD), Larig Fell (190m AOD), and Artfield Fell with Green Top (272m and 244m AOD). These fells form part of a prominent ridge which defines the edge of the undulating moorland plateau to the north. This ridge continues to the west of Water of Luce and includes Cairnscarrow, Braid Fell and Balker Moor. Small areas of drumlins are also present in this landscape which, although fewer in number than in other areas to the south, stand out in contrast against the irregular form of the hills.

In the vicinity of Carscreugh Fell, the mosaic of upland and lowland features of low fells, rocky knolls, river valleys, mosses and drumlins forms complex and generally large scale topography. Landcover is variable comprising heather and grassy moorland, rough grazing, improved pasture and coniferous woodland plantations. Within the flatter, lower land to the south in the valley of Lady Burn, improved pasture predominates and occupies the slopes of the drumlins, elevated above the flat, marshy land of the valley floor. Several extensive areas of coniferous forestry plantations are located on flatter land to the east of the Tarf Water and on Grennan and Blairderry Mosses.

Within the valley of the Lady Burn, as well as in other widespread areas of the Machar and Rhins peninsulas, are numerous shallow drumlins, for example Drumwhillian Hill (102m AOD) and Birrel Hill (119m AOD). The drumlins are often interspersed by low rocky hills, and are commonly perceived against a background of higher moorland plateau, where the forms of the shallow drumlin summits relate closely to the sweeping moorland horizons. The ranges of drumlins are clearly discernible from aerial photographs and the 1:25,000 Ordnance Survey mapping; however when viewed from the lower land of the A75 road corridor, they are perceived as part of the transition from the level valley floor to the moorland slopes of Carscreugh Fell, as opposed to clearly discernible, isolated features in their own right.

The area to the north of Carscreugh Fell is characterised by moorland and rough and semi-improved pasture land occupies the majority of the land as far as the minor road to the immediate south of Artfield Fell. North of this road unenclosed moorland dominated by heather and grasses and commercial coniferous forestry plantations extend over the moorland plateau. East of the Tarf Bridge, surrounding Loch Ronald, extensive coniferous plantations occupy the undulating topography.

South of Carscreugh Fell, moorland vegetation and moss occupy the flat valley floor between the rounded drumlins, between 80 - 100m AOD. The flows, mosses and moors, interspersed

with drumlins extend southwards from the lower slopes of Carscreugh Fell for over 14 km across the northern and central Machars peninsula.

The Carscreugh Fell REP site.

Carscreugh Fell comprises a low hill, approximately 3.6km in length and 1.5km wide set on a southwest to northeast axis between 100m and 160 m AOD. The southeast and northwest facing slopes of the hill are steeper than those facing northeast and southwest, resulting in a rounded, elongated form. Several small stream valleys are incised into the slopes of the hill, breaking up the mass of the hill and forming undulating spurs extending southwest from the summit. Viewed from the south, Carscreugh Fell appears as a low hill forming part of the undulating ridge which makes an intermediate horizon to the higher hills of the moorland plateau to the north, and is perceived as part of the valley landscape of low rounded drumlins interspersed with flat mosses. In views from the north, it appears as an inconspicuous undulation of the moorland plateau edge.

The summit and slopes of Carscreugh Fell consist predominantly of rough grazing, merging into unimproved and improved pasture on the hill slopes, and into moss vegetation and marshy pasture on the flat floor of the Lady Burn valley. The unclassified road to the southeast of the fell marks this lower transition. These pastures are enclosed, predominantly by stone walls with wire fences and some limited lengths of hedges. Tree cover is sparse, limited to small planted areas associated with the dwellings and farmsteads in the vicinity.

Settlement and Access

Glenluce village is the largest settlement in the vicinity of the site, set within the sheltered valley of the Lady Burn immediately east of the point at which it flows into the Water of Luce. Scattered isolated dwellings and farmsteads are located to the south and north of Carscreugh Fell itself, at Glenhowl, Whitecairn, Garvilland, Drumphail, Carscreugh Croft, Grennan and Carscreugh. Minor roads providing access to these dwellings run to the northwest and southeast of Carscreugh Fell. The road to the north of the fell runs within the valley of Drumphail Burn, and is relatively contained by landform and woodland cover; to the south the road skirts the edge of the fell avoiding the poorly drained mosses.

To the northeast and east of the village of Glenluce there are a limited number of dispersed small scale farm buildings and dwellings with some isolated remains of abandoned buildings situated on higher ground.

The A75 trunk road is located some 2.5 km to the south of the site, running west south west to east north east within the valley of the Lady Burn, along with a disused railway track marked by regenerating scrub and the remains of the Old Military Road. A prominent overhead transmission line on towers follows the line of the Lady Burn to the north of the A75.

Landscape Fabric

The landscape fabric of the Carscreugh Fell site consists of several physical resources which may potentially be affected by the Carscreugh Fell REP proposals. These resources are described in Table 6.5.

Table 6.5: Carscreugh Fell: Physical Landscape Resources

Vegetation cover	Existing pasture and moorland vegetation and underlying soil profiles on the summit and slopes of Carscreugh Fell.
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Tree cover	Small groups of trees within the site of the proposed wind farm.
Water courses	Three burns and numerous drainage channels feeding into the Lady Burn.
Ground Water	Part of the water catchments of the Drumphail Burn, the Lady Burn and Garvilland Loch
Minor road to the south east of the site	Existing agricultural track and verges between Lintmill Bridge and Grennan.
Field Boundaries	Stone walls and post and wire fences along access track and within the site.

6.4.2 Landscape Character Types within the Study Area

The landscape character types within the study area have been described with reference to the following landscape character assessments;

- Dumfries and Galloway Landscape Assessment, Land Use Consultants, March (1995);
- Ayrshire landscape assessment, Land Use Consultants (1998).

Regional Landscape Character Areas

The following regional character areas have been identified which together cover the study area. These are shown on Figure LVIA.04, and comprise;

- Rhins and Machars (Dumfries and Galloway);
- Galloway Uplands (Dumfries and Galloway);
- Carrick Hills and Valleys (South Ayrshire).

Rhins and Machars

The site of the proposed Carscreugh REP site is located within this character area, which occupies the central part of the study area. It includes the Rhins peninsula and the Mull of Galloway as well as the Machars peninsular, the lowlands to the south of Stranraer, and the plateau moorlands between the A75 road and the Dumfries and Galloway boundary to the north. The geology consists of Ordovician and Silurian greywackes and shales with new red sandstones covered by surface deposits on the Stranraer lowlands. Glacial processes of erosion and deposition have extensively modified the landform, resulting in a low lying, undulating landscape.

Landuse is predominantly agricultural and pastoral, with dairying the principal activity. Large farms and fertile enclosed grazing land are characteristic features of the landscape. Higher moorland plateaux occupy the northern parts of this region, where the upper catchments of the main rivers; Water of Luce, River Bladnoch and Tarf Water are situated.

Galloway Uplands

This character area occupies the eastern part of the study area, and extends between the Rivers Cree and Dee. The uplands are dominated by granite intrusions which form the summits of the Rhins of Kells, Merrick and Cairnsmoor of Fleet. The area is characterised by rugged topography and a sense of wildness and isolation.

The presence of extensive coniferous forestry is a major feature, prominent over much of the area. A large part of the forest cover is designated as the Galloway Forest Park where recreation is an important leisure and economic activity.

Carrick Hills and Valleys

The northern part of the study area falls within this landscape character area which consists of a complex area of hills and valleys between the coastal lowlands of South Ayrshire and the higher moorland plateaux to the south. The Southern Upland Fault, together with lesser parallel fault lines, runs south west to north east and determines the orientation of the valleys and ridges. Valleys are predominantly small in scale, settled and pastoral in character. The intervening ridges are more exposed, with forestry, rough grazing and moorland. The raised beaches of the coastline, interspersed by rocky headlands, form a characteristic feature.

Landscape Character Types

The Landscape Character Types (LCTs) within the study area are shown on Figure LVIA.06, Landscape Character Types. Carscreugh REP is situated in 'LCT16: Upland Fringe' which is described below. The remaining LCTs which occur within the study area are described in Appendix A.

LCT16: Upland Fringe

Throughout Dumfries and Galloway, this landscape type occurs between the lower / middle valleys of pastures and the lower foothills, at an elevation of 120 to 170 m. The part of this landscape character type within which the site of Carscreugh REP is located occupies the slopes between the lowlands east and south of Stranraer and the higher moorland plateaux to the east and north. A further area of this LCT occurs to the east of the River Cree within the study area, at some distance from the site. The Upland Fringe is noted as variable in character, and the following paragraphs are relevant to the area of Upland Fringe in which the proposed wind farm is situated.

The Dumfries and Galloway Landscape Character Assessment notes the following key characteristics for this LCT;

- Elevated, rolling pastures;
- Improved and rough grazing in close proximity;
- Hedgerow banks and treelines along roads in some lower areas;
- Dry stone dykes;
- Squared forest blocks, increasing afforestation evident;
- Contrast between wide open areas and more intimate landform;
- Panoramic views over valley lowlands;
- Small bridges over incised burns;
- Iron Age fortifications.

Topography

The Upland Fringe, situated above coastal flats or inland valleys, consists generally of valley slopes, with generally uneven, undulating topography consisting of numerous minor valleys, ridges and hollows. It is interrupted by major river valleys; to the west of the site the valley of Water of Luce divides the Upland Fringe from the part of the LCT above the Stranraer coastal flats. In the vicinity of the site the Upland Fringe consists of gentle, undulating slopes of the valley of the Lady Burn.

Landcover, Landuse and Landscape Elements

Typical landcover is rolling pasture with both rough and improved grassland, and small scale coniferous plantations which reinforce the enclosure provided by the topography. Coniferous plantations with angular or squared outlines are characteristic, as well as linear shelterbelts and lines of trees.

Fields are medium to large, with walls or hedge banks or wire fences in places. The landscape has a sense of upland exposure, but is predominantly well treed and settled. These areas were favoured for defensive sites during the Iron Age and forts, duns and other structures are characteristic features of the landscape.

Settlement and roads are sparse in these landscapes, with small numbers of isolated dwellings forming the only notable settlements.

Landscape Designations

Castle Kennedy and Lochinch Historic Garden and Designed Landscape extends to occupy the middle and higher slopes of the Upland Fringe to the west of Stanraer, and the section of this LCT to the northeast of Newton Stewart is located within the Galloway Hills Regional Scenic Area.

Scale of Landscape

The scale of this LCT varies according to the enclosure provided by landform and tree cover, as well as the elevation. Generally the higher slopes with less tree cover are large in scale, with the more enclosed minor valleys medium in scale.

Nature of Views

Views from the higher parts of the Upland Fringe are open and panoramic, extending over the adjoining landscape character types. At lower levels views are constrained by tree cover the landform of minor valleys and hollows.

Landscape quality

The quality of these landscapes is generally medium to good, with angular coniferous plantations, prominent caravan parks and dilapidated stone walls detracting in some parts.

Visual Receptors

Views within this LCT are experienced by a small number of residents of the dispersed dwellings, users of the sparse network of minor roads and caravan parks in the LCT.

The Dumfries and Galloway landscape assessment notes that *'There is limited potential for wind farm development in this landscape type due to its high visibility from surrounding settled lowlands. Opportunities for small scale developments may exist above and behind main visual horizons in local depressions where maximum backclothing and screening effect could be gained.'* It is relevant to note that this indication of capacity to accommodate wind turbines relates to the degree of visibility of large scale developments from within and adjacent to this LCT, rather than its sensitivity to the presence of wind turbines in terms of its characteristics and qualities, for example scale, relative simplicity, openness or remoteness.

6.4.3 Landscape Designations and Planning Policy

Landscape Designations

There are ten Regional Scenic Areas (RSAs) within Dumfries and Galloway, of which four are located within the 30km study area and are identified on Figure LVIA 05. Technical Paper 6 of the Structure Plan describes the methodology employed for the identification of Regional Scenic

Areas, identifies the areas of the ten RSAs and provides a description of each. The four RSAs within the study area are:

Mochrum Lochs RSA

The RSA centres on the Mochrum Lochs where the combination of scattered lochs within gently undulating rocky plateau moorland creates a unique and distinctive landscape and coastline.

Galloway Hills RSA

The western part of this RSA falls within the 30km study area. This area centres on the Rugged Granite Uplands and Coastal Granite Uplands of central Galloway, extending from the Ayrshire boundary south to where the hills meet the sea.

Rhins Coast RSA

The area comprises the attractive rocky coastline of the Rhins peninsular from the Wig in the north round past the Mull of Galloway in the south and northwards on the east coast of the peninsular to Ardwell.

Machars Coast RSA

The RSA area comprises the rocky coastline around the head of the Machars peninsular from Monreith to Garlieston

There are 8 Historic Gardens and Designed Landscapes (GDL) within the 30km study area which could be affected by the proposed wind farm. These are:

- Castle Kennedy and Lochinch Gardens, (9km);
- Ardwell House (17km);
- Lochryan (18km);
- Logan House (20km);
- Logan Botanic Gardens (21km);
- Monreith (22km);
- Glenapp (22km), (South Ayrshire);
- Galloway House (30km).

Table 6.6 provides a brief description of these properties:

Table 6.6: Historic Gardens and Designed Landscapes

Castle Kennedy and Lochinch Gardens	18th & 19th Century Parkland formal gardens and policy woodlands associated with Castle Kennedy
Ardwell House	19th Century designed landscape set within the Rhins RSA
Lochryan	18th & 19th Century formal landscape and parkland overlooking Cairn Point and Loch Ryan
Logan House	18th Century Private Estate and Designed Gardens & Policy
Logan Botanic Gardens	Woodlands 19th Century walled garden and woodland Temperate and Sub-Tropical Botanic Gardens
Monreith	19th Century Designed Parkland and Woodland
Glenapp Castle	18 th century terraced garden and policy woodlands

Galloway House Garlieston	18th & 19th Century Formal Landscape Parkland and Woodland .
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Planning Policy

The planning policy framework against which the Carscreugh REP proposals would be considered was detailed in Section 5.0 of the original Environmental Statement (April 2006). Those elements of development plan policy relevant to landscape and visual impact assessment are identified below. These have been updated to reflect subsequent changes to the Development Plan.

The Development Plan

The Development Plan for the area in which the Carscreugh proposal is located is comprised of:

- The Dumfries and Galloway Structure Plan, approved 1999
- The Wigtown Local Plan adopted in 2006

The Dumfries and Galloway Structure Plan provides strategic planning policy to promote sustainable development and guide the preparation of Local Plans for the period to 2009. Its preparation was informed by a number of technical papers on specific topics.

Detailed development control guidance at the local level is provided by the Wigtown Local Plan adopted in 2006.

Dumfries and Galloway Structure Plan 1999:

There are two policies within the Structure Plan that specifically address Renewable Energy developments (Policy S21) and Wind Farm and Wind Turbines developments policy S22.

Policy S22 is the most relevant of the Development Plan policies setting out the specific planning policy tests for Wind Farm proposals in Dumfries and Galloway. This policy states:

'Proposals for wind farms and wind turbines will be considered favourably in Potential Areas identified on the map showing Wind Energy Search Areas, where it can be clearly demonstrated:-

- They are in accordance with policy S21; and
- Take into account the guidance set out in the Wind Energy Strategy, pending completion of more detailed guidance in the Subject Local Plan.

In Intermediate Areas the Council will take into account the location of the proposed development and the issues identified for that area in determining its response to the proposal.

There will be a presumption against Wind Farm development in Sensitive Areas.

When assessing Wind Farm developments the Council will take into account existing sites with Planning Permission and the cumulative impact of such development proposals.

Development proposals for sites outside the search areas identified will be considered in terms of Policy S21 and Policy E3 until replaced by Local Plan guidance'

The Structure Plan includes a Wind Energy Diagram which identifies potential, intermediate and sensitive areas for wind farm development. It is the designations on this diagram that are referred to in the above policy. Dumfries and Galloway Council produced a technical paper (Technical Paper 5) which accompanies the Structure Plan and describes how the differing

areas were arrived at. The starting point for the identification of these areas was the ETSU Wind Speed Map. Areas with a wind speed outside of the range between 7.5 and 10.5 metres per second were discounted, and were not subject to further analysis. These areas have no designations within the Wind Energy Diagram. Areas where the wind speed was deemed appropriate were subject to further considerations in relation to a number of constraints including ecology, landscape archaeology and defence and transport and grid connections. These were then classified as:

- **Sensitive:** where the degree of sensitivity to wind farms was deemed to be greatest.
- **Intermediate:** where the constraint has a level of sensitivity to wind farm development but where it may be possible through sensitive siting and design to avoid any significant impacts.
- **Potential:** where the nature of the constraint would not be significantly affected or where the detailed nature of the constraint cannot be mapped at this strategic level.

The Wind Energy Diagram is an indicative plan at a very small scale. In relation to the Carscreugh proposal, it appears that the closest designation is an "intermediate" designation and appears to be centred on the high wind speed areas across Bught Fell (204m AOD) and the Bennan of Garvilland (184m AOD). The crest of Carscreugh Fell to the east of the Bught Fell hills is between 35-80m lower than Bught Fell and does not appear to be covered by the "intermediate" or any prescriptive designation. Carscreugh Fell has not been identified in Technical Paper 5 as an area of high wind speed and accordingly has not been subject to constraints identified in that document.

Structure Plan Policy S22 indicates that *'development proposals for sites outside the search areas identified will be considered in terms of policy S21 and Policy E3 until replaced by Local Plan guidance.'* The proposals site is not within any of the areas identified on the Wind Energy Diagram and so falls to be considered against the policies of S21 and E3 and any relevant policies of the Local Plan. Policy S22 at the second bullet point of paragraph 1 indicates that detailed guidance on Wind Farm and Wind Turbine Development would be the subject of detailed guidance within a Subject Local Plan. No subject plan or supplementary planning documents on wind energy developments have been produced.

Policy S21, Renewable Energy states:

'Development proposals for renewable energy sources will be considered positively provided they do not have significant adverse impact on:

- the built and natural heritage;
- areas and routes important for tourism or recreational use in the countryside;
- water and fishing interests;
- air quality; and
- the amenity of the surrounding area.
- All proposals will be required to provide detailed information on associated infrastructure required, including roads and grid connections, impact during construction and operational phases of the development, including visual impact, noise and odour issues and provisions made for the restoration of the site.'

This positively worded policy provides general policy support for renewable energy developments. The positive response to renewable energy proposals is, however, dependant on those proposals not having adverse impacts on the factors identified of such significance that would warrant withdrawal of that support. The purpose of the landscape and visual assessment

is to examine the impacts of the proposal on the natural heritage, areas and routes used for recreation and tourism and assess the visual impacts on amenity.

Policy E3, Landscape Character states:

'When assessing development proposals likely to have a significant impact on the landscape the Council will take into account the guidance set out in the Landscape Assessment.'

'The Council will encourage and where resources permit support initiatives to conserve and enhance the landscape character of Dumfries and Galloway.'

The supporting text to this policy at Paragraph 4.5 indicates that the Landscape Assessment divided Dumfries and Galloway into a number of landscape character areas and provided guidance as to how development could be accommodated within the landscape. The impacts of the proposal on the landscape character types of the receiving landscape are identified at section 6.8.2 below.

Policy S22 indicates that in assessing proposals for wind farms they will take into account existing sites with planning permission and the cumulative impact of such proposals. Paragraph 5.61 of the supporting text to this policy indicates that:

'The inter-visibility between new proposals and existing wind farms/turbines is an important consideration in the assessment of wind energy proposals. Where two or more wind farms are visible within the field of view, or are experienced sequentially along a route they will have a cumulative impact on the viewer. Cumulative impact should be minimised to prevent the creation of wind farm landscapes or wind farm routes.'

The Cumulative Landscape and Visual Impact Assessment has been reviewed and updated as detailed within Appendix D.

Structure Plan Policy E2 provides strategic guidance on the approach to developments which may affect Regional Scenic Areas. The policy States:

'The siting and design of development should respect the special nature of the development area. Developments within, or which would have a significant impact on Regional Scenic Areas (RSAs) may be permitted where it can be demonstrated that:-

1. *the landscape character and scenic interest for which the area has been designated would not be adversely affected; or*
2. *there is a specific need for the development at that location that could not be located in a less sensitive area.'*

The impacts of the proposal on landscape designations are assessed at section 6.8.3 below.

Structure Plan Policy E11 provides protection to Historic Gardens and Designed Landscapes. The policy states that:

'Development in, or affecting, the setting of a site listed in the Inventory of Historic Gardens and Designed Landscapes or mentioned in the list of Non-Inventory Sites will require an evaluation of the proposals impact on the site and its setting. There will be a presumption against development which would adversely affect the landscape features, character and setting of these sites and the approached and environs of Inventory Sites.'

Policy D36 of the Structure Plan is policy that is applicable to all forms of built development. It addresses issues of design and indicates that:

'The Council expects development proposals to take into account:-

1. *Siting, scale, form, massing, and layout in relation to townscape and landscape setting;*
 2. *Local building styles*
 3. *The access needs of all groups*
- Further policy guidance on the siting and design of developments will be provided in Local Plans.'*

Although this is a policy which seems principally aimed at improving the design of new buildings, it is nevertheless equally applicable to wind turbines and associated infrastructure.

Wigtown Local Plan Adopted 2006:

The Wigtown Local Plan is comprised of a number of documents. Sections 1-4 of the Local Plan form one document and provide detailed development management policies and proposals for the Wigtown area. Section 5 contains general policies and proposals, which are common to the other local plans within Dumfries and Galloway. The final document is the Proposals Map for the plan area and associated Inset Plans for settlements.

It is the policies contained within Section 5 which are those most applicable to the assessment of landscape and visual effects.

General Policy 7: Siting and Design states:

'The Council as planning Authority will require development to:

...

...

c) *have no material adverse effect on the local landscape character, avoiding prominent ridge lines or other visually sensitive sites*

d) *take into account the guidance and advice set out in the Landscape Assessment Study.*

...

General Policy 42: Regional Scenic Areas states:

'Regional Scenic Areas are defined on the Proposals Map. The planning authority will assess development proposals within Regional Scenic Areas using the criteria set out in Structure Plan Policy E2.'

General Policy 53a: Historic Gardens and Designed Landscapes states:

'Sites listed in the Inventory of Historic Gardens and Designed Landscapes are defined on the Proposals Map. The planning Authority will assess development proposals in or affecting the setting of a site against Structure plan Policy E11.'

6.5 Design Mitigation

The site selection rationale and iterative design process is described within the original Environmental Statement for the Carscreugh REP proposal. The proposed development considered by this assessment is unchanged, and these sections of the original ES remain relevant to this proposal. The design process has been a staged process with the aim of providing an optimal design configuration in respect of landscape and visual effects and a range of other environmental and technical factors.

6.5.1 Proposed Development

The wind farm development will comprise three distinct phases; a temporary construction phase, an operational phase and a short term decommissioning phase. The elements of the development with the potential to cause an effect on landscape character and visual amenity are described below:

Construction Phase

The construction phase is expected to last approximately 9-10 months. The activities and temporary features with the potential to cause an effect on the landscape and visual amenity include:

- Formation of highway access;
- Construction of site access tracks and crane hard-standings;
- Excavations and construction of turbine foundations;
- Excavations for underground cables;
- Temporary site compound and storage area;
- Construction of the control building;
- HGV deliveries to site and movement of vehicles on site;
- Erection of turbines;
- Formation of grid connection;
- Reinstatement works, including the removal of the temporary accommodation.

The location and management of these features have been carefully considered, and various mitigation measures have been incorporated into the construction programme to limit the transitory effects of the construction phase, as described below;

Site access, turbine foundations and cable routes

Ground disturbance would be restricted to the site access tracks and road widening areas; excavation for turbine bases and underground cable routes, as well as the areas occupied by the compound and storage areas and the surroundings of the control building. All ground areas disturbed by construction which are not surfaced as part of the proposals would be reinstated to the original condition.

The site access tracks would have a running width of 4m, widened to 6m on bends and surfaced with road stone, similar in form to the existing agricultural tracks. The alignment of proposed site access tracks has been designed to avoid environmentally sensitive areas and relate well to existing landscape patterns of field boundaries and contours.

The cables between turbines will all be laid underground in trenches, alongside the new tracks. This will limit the extent of ground disturbance arising from the works, minimising effects on the fabric of the landscape.

Temporary site compound and storage area

During construction the temporary compound will be located adjacent to the access road, as illustrated on Figure LVIA 02.

HGV deliveries and site vehicles

Vehicle movements during construction will consist of construction plant, aggregates and turbine components. Each turbine will be delivered in nine sections and be assembled, as they are unloaded from the delivery vehicles. Further information on anticipated vehicle movements is provided in Chapter 12 Traffic and Transportation (ES April 2006).

Erection of turbines

The turbines will be erected using cranes over a short period of time. Appearances of the crane in views of the site will occur intermittently over this period, each appearance being of a short duration.

Potential effects of construction phase

During the construction phase there will be a number of temporary visual impacts. These will be of short duration and only affect a limited part of the overall application site. In view of the limited duration of these effects, they are not considered to be significant.

Operational Phase

Operational elements with the potential to affect the landscape and visual amenity of the study area are:

- Wind turbines;
- Control building;
- Site access tracks; and
- Anemometer mast.

Wind turbines

Of the operational elements arising from the proposed wind farm, it is the turbines in their own right, including the movement of their blades that will constitute the greatest change in the wider environment. The proposed wind turbines have been assessed using a worse case scenario and is assumed they would have a maximum blade tip height of 70.0 m. The turbines will be three bladed, with tubular towers. Electrical transformers will be housed within or adjoining the base of each turbine tower.

Colour of the turbines

Turbine appearance is also influenced by their colour and level of reflectance of their surfaces. In identifying a suitable colour it is necessary to consider the character of the landscape that would accommodate the turbines, likely weather conditions and whether or not the turbines are likely to be seen against land or sky. Given the location of the turbines, many views would see the turbines against a backdrop of sky, as shown in the Visualisations. Nevertheless in views from the upper slopes of higher parts of the surrounding area they would be viewed against a background of moorland slopes. Accordingly it is considered that a stark white surface should be avoided and a more 'muted' approach should be sought. A pale grey colour is considered most appropriate with a semi-matt surface that minimises surface reflectance.

Control building and grid connection

The electricity produced by the wind turbines passes through a transformer before being transmitted via underground cables to the on site switchroom, located as shown on Figure LVIA 02.

Site access tracks/ roads

The site access tracks and site roads would be retained throughout the life of the development to provide controlled access for maintenance vehicles. They have been designed to fit with local topography and local landscape features, following field boundaries where possible. Visibility of the tracks would be limited due to the elevated nature of topography in relation to the surrounding areas.

Anemometer mast

The proposal includes a permanent free standing anemometer mast as shown on Figure LVIA 02.

Access tracks, site roads, anemometer mast and control building are not considered to result in significant residual effects on the landscape and visual amenity of the area, as a result of

appropriate siting, scale and design, and thus have not been considered in any further detail in this assessment. The assessment, which follows, has therefore been based on the potential residual effects of the wind turbines.

Decommissioning

The expected operational life of the wind farm is 25 years from the date of commissioning. At the end of this period a decision would be made as to whether to remove the turbines or apply for planning permission to extend the life of the development with a view to refurbishing or replacing the turbines. If the wind farm is decommissioned all the turbine components, transformers, substation and associated buildings would be removed. Access tracks would either be left on site to retain the benefit of improved site access, or reinstated to the original condition. The turbine foundations would be removed to 0.6 metres below the finished reinstated levels, graded over with soil and re-seeded. The wind farm can be decommissioned easily, rapidly dismantled and the land restored. Site restoration would be the subject of a planning obligation.

There would be a short term temporary impact associated with the removal of structures during the decommissioning stage of the project; however this would have a minimal landscape and visual effect on the locality and has not been considered further as part of this assessment.

In the circumstances that a development would result in an alteration to an environment whose attributes can be quickly recovered, then judgements concerning the significance of effects should be tempered in that light. Landscape and visual effects whether regarded as positive or adverse can be reversed, and following decommissioning there would be no residual effects. A wind farm proposal should therefore be regarded as a long term reversible addition to the landscape, preserving the choice for future generations as to whether or not to recover what might be regarded as the landscape fabric of today, or continue with clean renewable energy generation.

6.6 Visual Analysis

This section comprises the assessment of visual effects arising from the proposed wind farm during the operational period having taken account of the in-built mitigation measures.

The potential landscape and visual effects arising during the operational phase of the proposed wind farm have been assessed in two ways:

- Analysis of the Zone of Theoretical Visibility (ZTV) Maps to provide a general overview of the visibility of the wind farm from different distances within the study area;
- Assessment of the potential landscape and visual effects at 25 viewpoints which have been agreed with representatives of SNH and Dumfries and Galloway Council.

6.6.1 Visibility Map Analysis

Visibility Maps to turbine blade tip and hub height have been prepared to a radius of 30km from the outer edge of the proposed development and are illustrated in Figures LVIA 07, 08, 08A and LVIA 9 / 10 respectively. The blade tip ZTV Maps illustrate the maximum overall visibility of the proposed turbines to the proposed upper blade tip height of 70 metres. The hub height ZTV Map illustrates potential visibility of the turbines to the hub of the turbines at 44 metres. An indication of areas where only blades would be visible can be gained through direct comparison of the blade tip and hub height ZTV Maps.

The potential cumulative effects with other existing and proposed wind farms where planning applications or applications for Section 36 consent have been submitted are considered in further detail within Appendix D of this Addendum.

Blade Tip Visibility

The Zone of Theoretical Visibility to Blade Tip maps (Figures LVIA 07 / 08 and LVIA 08A) illustrate that the overall extent of visibility within the 30km study area is visually contained primarily within an area extending approximately 10km from the proposed site.

The ZTVs suggest that the main areas where visibility of the wind farm would potentially be experienced would be as follows (excluding the screening effects of tree cover and buildings):

- Within a 5km radius, visibility would be concentrated within the upland fringe landscape surrounding Carscreugh Fell, areas to the north and northeast towards plateau moorland and plantations in the vicinity of Loch Ronald and to the southeast towards and beyond the A75 within the low moorland and drumlin pastures. The undulating drumlin landscape partially fragments the nature of visibility in areas to the southeast. Areas in the vicinity of the settlement of Glenluce, southwest of the site would experience limited visibility as a result of the Water Luce Glen. The Water of Luce valley is orientated north south which limits visibility in areas to the south west, west and northwest of the site between 3km - 5km.
- Within a 5km-10km radius of the site, potential visibility would occur to the west of Water Luce Glen extending south from the vicinity of Cairnerzean Fell along the upland ridge towards Challoch Hill. To the southeast of the site variable visibility may be experienced in the moss and plantation lowlands to the southwest of Kirkcowan towards Castle Loch. To the northeast visibility would be variable beyond Loch Ronald and Heron concentrated within elevated areas including Eldrig Fell and Fell End.
- Within 10km-20km of the site, visibility would occur within limited parts of the study area. To the west the eastern edge of the Rhins Peninsula would potentially experience visibility along the east facing slopes between the settlements of Leswalt and south of Ardwell in the vicinity of New England Bay. To the southeast visibility would be limited to parts of Gargrie Moor, Glenling and the surroundings of the B7005 between the A747 and Wigtown. To the east potential visibility would be sporadic between the High Moor of Killiemore and Torhousemuir to the west of Wigtown and to the north and northeast within limited areas south of Loch Ochiltree and Craig Airle Fell. To the northwest visibility would occur within limited areas on high ground surrounding and the upper parts of the Water of Luce Glen in the vicinity of Lamb Hill, Laignmildown and Beneraird.
- Within 20km-30km of the site, visibility would be limited throughout the study area, concentrated to the east of the site within parts of the uplands of Glentool Forest northeast of the A714, Cairnsmore of Fleet, south of the A712 and discrete areas northwest of Whithorn. Between 20km-30km the remaining parts of the study area where theoretical visibility would occur would be west of Leswalt and within the South Rhins between Logan and south of Maryport.

Hub Height Visibility

The hub height ZTV Visibility Maps (Figures LVIA 09 / 10) indicate areas where the proposed turbines may potentially be seen to the proposed hub height of 44m. Comparison of the blade tip and hub height visibility maps indicates where blade tips only may be seen.

The pattern of visibility for the blade tip and hub height visibility maps is broadly similar with the same pattern of visibility seen for both, with slightly fewer turbines being visible at hub height.

The drop in the number of turbines visible is evident in limited areas but is particularly noticeable in areas to the immediate northeast and east of the site towards Loch Ronald within a 3km-5km radius of the site, reflecting the screening effect of local upland fringe and drumlin topography.

Receptors

Residential Receptors

Potential visibility may be experienced by residents of individual farmsteads, isolated dwellings and settlements at the following locations:

- Glenluce and isolated farmsteads and dwellings within 5km;
- Kirkcowan and isolated farmsteads and dwellings (5km-10km);
- Stoneykirk, Sandhead, Ardwell, edge of Stranraer, and isolated farmsteads and dwellings (10km-20km);
- Potential visibility beyond 20km would generally be limited to glimpsed views from Drumore, parts of Wigtown and isolated farmsteads and dwellings.

It should be noted that there would be no potential visibility of the proposed wind farm from much of the settlement within the study area including: Dunragit, New Luce, Balmurrie, Core of Stranraer, Shennanton, Benfield, Castle Kennedy, Innermessan, Cairnryan, Ballantrae, Colmonell, Pinwherry, Barrhill, Bargrennan, Glentool Village, Newton Stewart, Whithorn, Port William, Port Logan, Portpatrick, Kirkcolm, Leswalt, Porslogan.

The views from representative scattered dwellings and isolated farmsteads within 3km of the site with potential visibility has been documented in the residential receptor survey (Refer to Appendix C within this Addendum)

Motorist and other road users

Motorists on A, B and minor roads including: A75 east of Glenluce to Carsluith via Newton Stewart (2km – 30km from the proposed site); A77 Stranraer to Portpatrick (15km – 19km from the proposed site); A716 east of Lochans to Drumore (15km – 25km from the proposed site); A747 Glenluce to Glasserton (3km – 29km from the proposed site); A714 north of Bargrennan to Corwar Mains (20km – 20.5km from the proposed site); A746 Wigtown to Withorn (22km – 28km from the proposed site); B733 Kirkcowan to Wigtown (7.5km – 20km from the proposed site); B7005 Culshabbin to Wigtown (13km – 18km from the proposed site); B7084 north of Sandhead to B7077 (10km – 15km from the proposed site); B7027 Newton Stewart to Barrhill (15km – 15.5km from the proposed site); B7042 A77 to Sandhead (15km – 19km from the proposed site); B7065 A716 to Maryport (20km – 28km from the proposed site); B7021 Port William to Whithorn (23km – 28km from the proposed site); and, B7085 B7021 to A746 near Wigtown (20km – 21km from the proposed site).

Railways

The Glasgow South Western Line crosses the study area from the north towards Stranraer via Barrhill. The ZTV analysis indicates the potential for railway passengers to experience visibility of the proposed wind farm in views from limited sections of the route to the east of Dunragit (4km – 6km) and discrete short sections of the route on the approach to New Luce southeast of Stab Hill (7km – 12km).

Recreation Receptors

It is considered that all the main road routes through the study area are likely to have tourist, visitor and recreational usage and the above analysis of visibility for the road network would apply to these receptors.

The Land Reform (Scotland) Act 2003, sets out the legal right for people to walk, cycle or canoe almost anywhere within Scotland. As a result there is potential for effects upon recreational receptors to be experienced in views from open uplands within the study area.

The national long distance coast to coast trail The Southern Upland Way crosses the study area southwest to northeast between Cragenlee Fell (west coast) and Loch Dee, approximately 11km northwest of the settlement of Newton Stewart. The ZTV analysis indicates the potential for limited areas of visibility, primarily within upland areas. These areas include parts of the section of the route between Craigenlee Fell and the A77 (15km – 23km), elevated intermittent sections of the route south of Auchmantle (5.5km – 8km), intermittent sections of the route northeast of New Luce towards Craig Airle Fell (5km – 12km, northwest of Knowe and within the north facing upper slopes of Glen Trool (22km – 26km).

The Pilgrims Way, was established by the Whithorn Trust between Glenluce Abbey and St Ninians Church, Whithorn but support for this route has been withdrawn by Dumfries and Galloway Council as a recreational route and therefore the effects have not been assessed in detail.

National Cycle Route 7 crosses the north eastern and eastern parts of the study area between north of Glen Trool Village and Culcronchie via Newton Stewart and Creetown. ZTV analysis indicates potential for limited areas of visibility within discrete locations to the northwest of Newton Stewart (17.5km from the proposed wind farm), in the vicinity of Calgow (20.5km from the proposed wind farm) and limited areas to the north and northeast of Creetown (22.5km – 26km from the proposed wind farm).

Close to Carscreugh Fell four camping and caravan sites exist at New Luce, (7.50km), Balminnock (6.50km), in the Knowes O'the Rue forest, Glenluce (3.50km) and at Whitecairn (1.20km). Whitecairn and Balminnock may have potential visibility however Glenluce and New Luce are outwith predicted visibility.

6.6.2 Viewpoint analysis

A viewpoint assessment has been carried out on a selection of key viewpoint locations to assess the likely magnitude and significance of landscape and visual effects arising as a result of the 18 proposed turbines. Over 40 viewpoints were visited and considered as part of the design process and from these locations a total of 26 were selected in consultation with Dumfries and Galloway Council and SNH, as representative of the main landscape and visual receptors in the study area. The locations of these viewpoints are shown on Figures LVIA 07 to 10.

The existing and predicted views from these locations are shown in the Visualisations 1-25. On the basis of fieldwork observations and a number of measured parameters for each viewpoint, the sensitivity of the location for each of the landscape and visual receptors and magnitude of change has been assessed. These have been combined in accordance with the matrix in Table 6.4 in Section 6.3.2 to establish an overall effect and determine whether or not the effect is likely to be significant. The detailed viewpoint assessment is presented in Appendix B and is summarised in Table 6.7 below.

Table 6.7: Viewpoint Analysis: Summary of Landscape and Visual Effects

No	Viewpoint	Distance from nearest turbine	Horizontal angle(°) (excluding screening)	Landscape Effects				Visual Effects			
				Landscape sensitivity	Magnitude of change	Effect on landscape character	Significant yes/no	Receptor sensitivity	Magnitude of Change	Effects on visual amenity	Significant yes/no
1	Carscreugh Castle	587 m	78°	Medium	Substantial	Major / Moderate	yes	High	Substantial	Major	yes
2	Carscreugh Croft	816 m	32°	Medium	Substantial	Major / Moderate	yes	High	Substantial	Major	yes
3	Grennan	946 m	32°	Medium	Slight	Moderate / Minor	no	High to Medium	Slight	Moderate/minor	no
4	Garvilland Loch	919 m	78°	Medium	Substantial	Major / Moderate	yes	Medium	Substantial	Major/moderate	yes
4.1	Garvilland (property)	990 m	74°	Medium	Substantial	Major/ Moderate	yes	High	Substantial	Major	yes
5	Whitecairn Campsite	1.1km	20°	Medium	Substantial	Major / Moderate	yes	High	Substantial	Major	yes
6	A75 Dergoals	2.5km	34°	Medium	Substantial / moderate	Major / Moderate	yes	High / Medium	Substantial / moderate	Major to Major/Moderate	yes
7	Torwood Bungalow	2.7km	10°	Medium	Moderate	Moderate	no	High to Medium	Moderate	Major / moderate Moderate	yes (potential)
8	Barlockhart (A747)	3.2km	15°	Medium	Substantial / moderate	Major/moderate to moderate	yes	Medium	Substantial / moderate	Major/moderate to moderate	yes
9	Glenluce War Memorial	3.2km	2°	High	Negligible	Moderate/minor to minor	no	High	Negligible	Moderate/minor to Minor	no
10	Minor Road Artfield Fell	3.5km	22°	Medium	Substantial / moderate	Major/moderate to moderate	yes	Medium	Substantial / moderate	Major/moderate to moderate	yes
11	Tarf Bridge	4.2km	7°	Medium	Moderate/ slight	Moderate to Moderate / Minor	no	High / Medium	Moderate/ slight	Moderate	no
12	Castle of Park Glenluce	4.3km	6°	Medium	Moderate / slight	Moderate to Moderate / Minor	no	High	Moderate/slight	Major/ Moderate to Moderate	yes
13	Knock Fell	5.6km	16°	Medium	Moderate	Moderate	no	High	Moderate	Major/Moderate	yes
14	Craiglaw A75	6.6km	9°	Medium	Moderate/ Slight	Moderate to Moderate/ Minor	no	Medium	Moderate / Slight	Moderate to Moderate/minor	no
15	Southern Upland Way at Airyolland Moss	7.2km	10°	Medium	Slight	Moderate / Minor	no	High	Slight	Moderate	no

No	Viewpoint	Distance from nearest turbine	Horizontal angle(°) (excluding screening)	Landscape Effects				Visual Effects			
				Landscape sensitivity	Magnitude of change	Effect on landscape character	Significant yes/no	Receptor sensitivity	Magnitude of Change	Effects on visual amenity	Significant yes/no
16	Mochrum Loch	11.4km	9°	High	Slight	Moderate	no	High	Slight	Moderate/Minor	no
17	Sandhead	16.1km	3°	Medium	Slight/Negligible	Moderate / Minor to Minor	no	High	Slight/Negligible	Moderate/Minor	no
18	A77 in the vicinity of Cairn Pat	18.5km	3°	Medium	Slight/Negligible	Moderate / Minor to Minor	no	High	Slight/Negligible	Moderate/Minor	no
19	Southern Upland Way Knockquhassen	18.8km	3°	Medium	Slight/Negligible	Moderate / Minor to Minor	no	High	Slight/Negligible	Moderate/Minor	no
20	Beneraird	19.km	5°	High / Medium	Slight	Moderate to Moderate / Minor	no	High	Slight	Moderate/Minor	no
21	Wigtown	20.9km	78°	Medium	Slight to Negligible	Moderate / Minor to Minor	no	High	Slight/Negligible	Moderate/Minor	no
22	Creetown	25.4km	3°	Medium	Negligible	Minor	no	High	Negligible	Moderate/minor	no
23	Knee of Cairnsmoor	28.1km	2°	High	Negligible	Minor	no	High	Negligible	Minor	no
24	Mull of Galloway	30.6km	2°	High	Negligible	Minor	no	High	Negligible	Minor	no
25	The Merrick	31.1km	2°	High	Negligible	Minor	no	High	Negligible	Minor	no

6.7 Construction Stage Assessment of Effects

Whilst it is the operational stage of the wind farm which would give rise to prolonged visual effects, effects would also occur during the construction stage and these are considered below.

Construction of the wind farm would involve the following operations:

- Formation of highway access and vehicle movements on and off site;
- Minor widening to the existing carriageway;
- Establishment of a temporary construction compound;
- Construction of site access tracks and crane hard standings;
- Excavation and construction of turbine base foundations;
- Erection of turbines and meteorological tower;
- Installation of the electrical network;
- Construction of substation compound and control building;
- Formation of grid connection; and
- Reinstatement works.

The works detailed above would individually and cumulatively give rise to landscape and visual effects. These effects would however be temporary and would mainly arise through vehicle movements, minor road widening works, construction of access tracks and erection of the turbines. The effects arising from other operations, including the excavation of turbine foundations, cable runs and the construction compound would be localised, with attention being drawn to the area through vehicle movements and plant rather than the physical changes arising. Construction operations would take place over a period of approximately 9-10 months.

6.7.1 Landscape Effects (*Fabric and Character*)

During the construction of the wind farm, the main construction activities would take place primarily within an area of semi improved/rough grassland. The fabric of this landscape is considered to be of medium sensitivity to the construction activities. The loss in landscape fabric during the construction stage would be small, relative to the extensive areas of agricultural grassland in the vicinity, and accordingly this effect would be of moderate magnitude against medium sensitivity giving rise to an effect of moderate significance.

The effects on landscape fabric would be short term and good site management plus reinstatement at the end of the construction phase will minimise the extent and duration of these effects. It is not considered that there will be significant landscape effects during the construction phase of the wind farm development.

The effects on the character of the landscape during the construction phase would result primarily from the activity and movement of large construction vehicles on the site and on the network of minor roads in the surrounding areas. These activities would disturb the tranquillity and generally static qualities of the landscape character. The landscape character of the site and its surroundings is considered to be moderately sensitive to temporary construction traffic. The effects of this on this character is considered to be substantial in magnitude; however the effects would be temporary, of short duration and limited in extent. The undulating topography of the fell landscape which partially encloses the landscape would limit the visibility of this traffic to a significant extent. Accordingly the significance of the temporary construction effects on the character of the landscape is considered to be major / moderate.

6.7.2 Effects on Visual Amenity

The visual effects of the various aspects of the construction phase will be temporary and intermittent and will be minimised by good site management and a relatively short construction programme. Vehicle movements to and from the site would be visible and would give rise to an increased perception of activity; however the majority of vehicle movements would take place within the site, generally screened from view from the study area, but visible from the minor roads, and from isolated properties within the vicinity.

Having regard to the assessment set out above and the temporary nature of the construction effects, it is considered that the proposal would not give rise to unacceptably significant landscape and visual effects during the construction stage.

6.8 Residual Landscape and Visual Effects of the Proposal

This section examines the significance of the landscape and visual effects arising as a result of the proposed development with reference to:

- The potential operational effects on landscape fabric within the site;
- The potential operational effects on landscape character, including consideration of the significance of effects within designated areas;
- The effects on visual amenity.

6.8.1 Effects on Landscape Fabric

Changes to landscape fabric can occur where there would be direct or indirect physical changes to the landscape. In general, changes to landscape fabric only occur within the application boundary of a wind farm development.

Within the setting of the Carscreugh REP proposal, there would be long term, more permanent, but reversible effects on the landscape fabric of the site during the operational life of the development as a result of the loss of ground vegetation along the new site tracks, at the switchroom and at the 8 proposed wind turbine bases. However the losses would be small and fully reversible once the wind farm is decommissioned. During the operational phase, the current use and management of the land would continue and there would be no loss in distinctive landscape features such as hedgerows, walls or mature trees. Therefore the effect of the development on landscape fabric would not be significant. The potential effects associated with the introduction of the proposed turbines are more properly dealt with under effects on landscape character detailed below.

6.8.2 Effects on Landscape Character

Concerns were expressed by consultees on the original LVIA prepared as part of the ES (April 2006) regarding the levels of effects predicted on the landscape character of the receiving LCT of Upland Fringe, and the surrounding landscape character types. Accordingly this assessment has addressed the effects on the character of these areas in more detail, focussing on the elements and characteristics which determine landscape character and sensitivity to the presence of wind turbines in the areas from where the proposed turbines may be visible.

The effect of the wind farm site on landscape character largely depends on the key characteristics of the receiving environment; the degree to which the wind farm development may be considered to be consistent with or at odds with them; and how the proposal would be perceived within its setting, with perceptions being influenced by:

- Distance to the site;
- Weather conditions;
- The appearance and fit of the proposed project; and
- Presence of existing wind turbines as elements within the landscape.

It is acknowledged that there is an overlap between perception of change to landscape character and visual amenity, but it should be remembered that landscape character in its own right is generally derived from the combination and pattern of landscape elements within the view. The most important aspect of the wind farm would be the turbines. It is considered the access and site tracks switchroom and anemometer mast would be read as subsidiary and generally subsumed within the large scale context of the proposed turbines. The following assessment is undertaken with reference to the Landscape Character with ZTV to Blade Tip (Figure LVIA 12).

The potential effects on the receiving landscape character type within which the Carscreugh REP would be located are considered, followed by the effects on the other landscape character types within the study area.

Upland Fringe (LCT 16)

The proposed Carscreugh REP is located within the Upland Fringe Landscape Character Type (LCT). This landscape type extends in a relatively narrow swathe of sloping ground above the shores of Loch Ryan from north of Cairn Point, to the northeast of Stranraer and continues in a broader arc through Challoch Hill to Carscreugh Fell, which marks the eastern extremity of this landscape character type. Figure LVIA 12, Landscape Character with ZTV to Blade Tip indicates that visibility of the proposed turbines within this landscape character type may potentially be experienced from several areas; the east facing slopes of Challoch Hill to the west of Water of Luce; from the slopes of Camrie and Carscreugh Fells to the west and south of the site itself, and from two areas to the east of the River Cree to the north and east of Newton Stewart. It is acknowledged that the Upland Fringe LCT includes a variety of landscapes; all situated on the slopes of the upland plateau which occupies the northern parts of the study area, but with varying qualities and character. In view of these variations in character, the predicted effects on the discrete areas from where the proposed turbines may be visible are considered separately.

The presence of the proposed turbines would result in an area of 'Wind Farm' landscape character within the Upland Fringe extending some 0.7 km from the turbines. Within this area the turbines would become the defining element of the character of the landscape, as a result of their height and prominence in comparison to the existing vertical features within the surroundings. Within 3 to 3.5 km of the turbines, the presence of the turbines would result in an area of 'Upland Fringe with Wind Turbines' a subtype of the Upland Fringe landscape character type. In this sub type, the turbines would influence landscape character in conjunction with the other features defining the character of the Upland Fringe with the potential for significant effects on landscape character.

The areas of Upland Fringe landscape to the east of Water of Luce, in which the proposed turbines would be situated, are characterised by a mosaic of semi-improved pasture and rough grazing, merging into moorland vegetation on the higher parts of Carscreugh Fell. Several angular blocks of coniferous plantations are situated to the northwest and east of the site, and minor roads traverse the upper slopes of Carscreugh Fell to the northwest and southeast of the summit. Individual, isolated dwellings are situated to the southeast and north of the summit. To the north of the site, the transition between the Upland Fringe and the Plateau Moorland is gradual and features characteristic of both landscape types occur intermingled over considerable distances. In addition, isolated, rounded low glacial hills (drumlins) are interspersed within the valley slope and plateau topography, resulting in a mosaic of landscape types within these transitional areas.

Within the vicinity of the site, the layout of the proposed turbines would relate to the southwest / northeast emphasis of the fell summit, echoed by the orientation of the summit field boundaries. From within this area, the turbines would be perceived at distances up to 3.5 km. Photomontages from Viewpoints 1, 3, 4 and 5 illustrate the predicted views from the Upland Fringe LCT in the immediate vicinity of the site.

This part of the Upland Fringe forms a significant ridgeline in the transition from the flatter valley floor of the A75 corridor to the upland plateau to the north of the site. It is relevant to note that the visibility of the turbines would be reduced from the lower slopes of Carscreugh Fell by the landform of the rounded hill, as demonstrated in photomontages from Viewpoints 2 and 3. The sensitivity of this part of the Upland Fringe is considered to *medium*, with the turbines contrasting with the textures and colours of the moorland vegetation, and their large scale with the field boundaries and isolated dwellings, although the windswept and exposed quality of the moorland ridgeline would relate to the movement and energy of the turbines. The magnitude of the effect on landscape character in this part of the Upland Fringe would be *substantial*, and of *major / moderate* significance, constituting a significant effect.

To the west of Water of Luce, the relatively smooth, east facing slopes of Challoch Hill consist almost entirely of enclosed semi-improved pasture land with medium sized fields, extending to the summit of the hill, which is marked by a telecommunications mast. A network of minor roads provides access to several farmsteads and the sparse tree cover consists of small, managed copses of coniferous trees and shelterbelts. The landscape character in this locality is distinct from that of Carscreugh Fell, being managed, settled and ordered, and medium in scale. The presence of the proposed turbines at distances of 4.0 to 5.6 km ranged across the moorland summit to the east is considered to result in effects on the landscape character of *moderate* magnitude. The sensitivity of this part of the Upland Fringe to the presence of wind turbines is influenced by its settled, managed character; open, expansive views and medium scale, and in this instance is considered to be *medium*. As a result, the significance of the effect on landscape character in this vicinity is *moderate*, which does not constitute a significant effect.

Predicted visibility of the proposed turbines from the limited area of Upland Fringe to the north of Newton Stewart occurs within a moorland area with several large blocks of coniferous forestry to the west and southwest which would filter views extensively from this area. Views of the turbines would be experienced over distances of 18.0 to 20.2 km, and the effect on the character of this area of Upland Fringe is not considered to be significant.

Visibility of the proposed turbines is also predicted from Upland Fringe situated on the west facing slopes of Blairs Hill, Larg Hill and Cairnholy Hill overlooking the Cree estuary. These areas are situated between 23.4 and 30 km from the proposed turbines, and the predicted effects on their landscape character are not considered to be significant.

Within Dumfries and Galloway, areas of Upland Fringe landscapes are situated to the north of Newton Stewart; on the eastern slopes of Wigtown Bay; to the southeast of New Galloway and on the extensive valley slopes of the Rivers Nith and Dalwhat Water north and east of Dumfries. The part of LCT 16 which would be significantly affected by Carscreugh REP is minor in relation to the extent of these areas, and it is considered that the proposed development would not result in significant effects on LCT 16 as a whole.

Plateau Moorland (LCT 17) and Plateau Moorland with Forest (LCT 17a)

These related landscape character types extend for over 15 km north of LCT16 over the elevated upland plateau which forms the northern section of the study area. A discrete area of these landscapes is located in the Machar peninsula to the north of Mochrum. Plateau Moorland

and Plateau Moorland with Forest extend to the northern boundary of the 30km study area. The extent of LCT 17 and 17a is shown on Figures LVIA 06 and LVIA12.

The extent of the visibility of Carscreugh REP within LCT 17 is limited by the hills which screen views of the proposed turbines from the north. Visibility would be restricted to the south and southwest facing slopes of the higher ground, and is reduced significantly by large areas of commercial forestry plantations. Views of the proposed turbines would be experienced from distances varying from 1.0 km to 30.0 km. The dominant summit in LCT17 within 10 km of Carscreugh Fell is Artfield Fell (272m), located some 5.0 km north of Carscreugh Fell. The existing turbines of Artfield Fell wind farm influence the character of large parts of LCT 17 to the north of the site of Carscreugh REP. These landscapes are characterised by the undulating topography and moorland vegetation of the upland plateau, interrupted by rocky outcrops, numerous minor summits, and shallow, open valleys with occasional drumlins. The scale of these landscapes is generally large, and the character exposed. The landscape of the Plateau Moorland is considered to be of *medium* sensitivity to the presence of turbines, and Plateau Moorland with Forest is considered to be of *low* sensitivity.

The magnitude of the effect on the character of LCT 17 is considered to be *substantial* at a distance of 1.0 km, reducing to *negligible* at 30 km. A landscape sub-type Plateau Moorland with Wind Farm would be formed within 3.0 to 3.5 km of the site, extending some 2.5 km northwards into LCT 17, and would occur within the areas to the north and north east of the site between Bught Fell and Tarf Bridge and in the vicinity of Artfield Fell wind farm. The significance of these effects would be *major / moderate*, constituting a significant effect, although this would be limited to the area adjoining the northern boundary of LCT16. At greater distances, the effects would reduce to *moderate / minor* and *minor*, which would not be significant. Photomontages from Viewpoints 7, 10 and 11 illustrate the predicted effects of the presence of the proposed turbines on LCT 17. Visibility of the proposed turbines from within the Plateau Moorland with Forest would be restricted to a large degree by the extensive coniferous forest cover, and it is considered that the proposed development would not have a significant effect on the character of the landscape within this character type.

Predicted visibility of the proposed turbines from LCT 17 and 17a to the north of Mochrum on the Machar peninsula would be confined to the upper parts of the north facing slopes, and would be experienced over distances between 10.0 and 20.0 km. The magnitude of these effects is considered to be *moderate* to *slight*, and their significance between *moderate* and *minor*, which would not constitute significant effects.

Plateau Moorland occupies relatively large areas of the western parts of Dumfries and Galloway west of the River Cree. It is considered that the areas of this LCT which would be affected significantly by the proposed turbines is small in relation to the LCT, and that these effects would not be significant in terms of the landscape type as a whole.

Drumlin Pastures in Moss and Moor Lowland (LCT 12)

Predicted visibility of the proposed turbines from within this landscape character type extends from the fringes of Glenluce eastwards along the A75 corridor, following the valley of Lady Burn and Tarf Water and including areas to the west of Kirkcowan on the west facing slopes of Barskeoch Fell and Fell End. The turbines would be perceived over distances between 0.5 km and 9.0 km from these areas. Additional parts of LCT12 from where the proposed turbines may be visible are located to the east of Kirkcowan, at Merton Hall Moss and Barraer Fell (11.0 to 15.0 km distant) and south of Newton Stewart on the west facing slopes above Moor Park of Barr (18.0 to 19.0 km distant). The effects on the character of these landscapes are illustrated with reference to the Photomontage visualisations for viewpoints 6, 8 and 14.

Within the valley of Lady Burn to the south and southeast of the site, landcover consists of a mosaic of poorly drained rough pasture with mosses and small areas of scrub, where fields are mainly defined by wire fences, together with improved grassland enclosed with stone walls. This mosaic extends over a landform of dispersed low, rounded hills situated within areas of predominantly level valley floor, typically some 15 to 20 m high above the general levels of the valley floor. The majority of these low hills are of smooth outline and of glacial origin and are identified as drumlins. A small number of rocky outcrops of similar height occur within the groups of drumlins, for example at Braid Hill, where a low rocky summit contrasts with the smooth glacial hills.

In the areas to the south of the site, the drumlins are sufficiently dispersed to allow some clear views of the hill slopes of Carscreugh and Camrie Fells between them and the landscape remains essentially open in character and of medium scale. However in other parts of this landscape type to the south of the site, the drumlin hills would screen the proposed turbines from significant areas. The soft, rounded outlines of the drumlins relate closely in form and outline to the horizon of the uplands to the north, and are perceived in views from the south and the A75 as part of a continuous progression from the valley floor to the distant moorland plateau. The presence of the busy A75 road and the large transmission line which is located within the road corridor introduce movement, noise and vertical features of a developed nature to this location, compromising its tranquil and undeveloped qualities. In this locality and the context of these features, it is considered that the sensitivity of the landscape in this part of the Drumlin Pastures in Moss and Moor Lowland LCT to the presence of wind turbines is *medium*.

Within the narrow part of the Drumlin Pastures in Moss and Moor Lowland LCT between the fringes of Glenluce and Dergoals Moss, the proposed turbines would be perceived over distances of 0.5 to 3.0 km, and would result in effects on the landscape character of *substantial* magnitude and *major / moderate* significance, constituting significant effects.

East of Dergoals Moss visibility of the turbines from this landscape character type decreases; with screening provided by the topography of low rounded hills reinforced by large blocks of coniferous forest. The proposed turbines would be perceived over distances of 3.0 to 9.0 km, giving rise to effects on landscape character of *moderate* magnitude and *moderate* significance, which would not constitute significant effects.

Further to the east, areas where visibility of the turbines is predicted are located between 11.0 and 15.0 km from the site, where the presence of the turbines would result in *slight* effects of *moderate / minor* significance. The effect on landscape character within the limited area of visibility located some 18.0 km east of the site is considered to be *slight / negligible* and of *moderate / minor* to *minor* significance.

Moss and Forest Lowland (LCT 11)

Figure 12, Landscape Character with ZTV to Blade Tip indicates that potential visibility of the proposed turbines may be experienced from widespread areas of this LCT situated to the south of the A75 road corridor. The topography of these areas is predominantly level and low lying with extensive areas of coniferous forestry plantations, resulting in significantly reduced visibility, both within and adjacent to the plantations. The flat mosaic of moorland vegetation with large, angular blocks of forestry is illustrated in the existing photography from Viewpoint 13, Knock Fell. In addition to the transmission mast on the summit of Knock Fell, several large farmsteads and areas of enclosed pasture are clearly visible, resulting in a landscape which has little feeling of remoteness or wildness, notwithstanding the extensive areas of moorland vegetation. The scale of the landscape is large and simple and is considered to be of *medium / low* sensitivity to the presence of wind turbines.

The turbines would be visible from this LCT over distances between 2.0 and 8.0 km, and the magnitude of effects would vary from *substantial* at 2.0 km to *moderate* at 8.0 km. The *substantial* effects would be confined to an area within 4.0 km of the site on the northern fringe of this landscape character type. The significance of the substantial effects is considered to be *major / moderate*, albeit limited in area. Further to the south, the predicted effects would vary from *moderate* to *moderate / minor* which would not constitute significant effects. In relation to this LCT as a whole these effects are not considered to be significant,

Coastal Plain (LCT 2)

The predicted visibility of the proposed turbines within this LCT is confined to an area on the northern margin of Luce Bay between Sandhead and Glenluce. This area consists largely of a disturbed landscape of sand dunes, coastal flats and military firing range, where the landscape character is further influenced by the adjoining airfield. The sensitivity of this landscape to the presence of wind turbines is considered to be *low*. The turbines would be visible from these landscapes over distances between 6.0 and 18.0 km, giving rise to effects between *moderate* and *slight* in magnitude. The significance of these effects is considered to vary from *moderate / minor* to *minor*, which would not constitute significant effects.

Peninsula (LCT1) and Peninsula with Gorse Knolls (LCT1a)

Visibility of Carscreugh REP within this LCT is predicted within widespread parts of the east facing slopes of the Rhins peninsula between the Mull of Galloway and the hill slopes above Stranraer, as well as the north facing slopes on the east side of Luce Bay in the vicinity of Stairhaven and Mochrum Fell. Visibility within LCT 1A, Peninsula with Gorse Knolls occurs at a distance of 25.0 to 30.0 km.

The Peninsula LCT is considered to be of *medium* sensitivity to the presence of wind turbines. Visibility of the proposed turbines is predicted over distances of 15.0 km to 30.0 km on the Rhins peninsula, resulting in effects of *slight* magnitude and *moderate / minor* significance. To the east of Luce Bay, visibility of the proposed turbines within the Peninsula landscapes would occur at distances of 3.0 to 13.0 km, giving rise to effects on landscape character between *substantial* and *slight*. *Substantial* effects would be confined to the areas immediately south of Glenluce within 4.0 km of the site, and would be of *major / moderate* significance, which would be regarded as significant effects. At greater distances, the significance of the effects on landscape character would reduce to *moderate / minor* significance.

The potential effects on the character of LCT 1a, Peninsula with Gorse Knolls, are considered to be *slight* and would not constitute significant effects.

Drumlin Pastures (LCT 13)

Within the Drumlin Pastures landscape character type of the Central and Southern Machars, the visibility of the turbines as shown on Figure 12, Landscape Character with ZTV to Blade Tip is confined to scattered parts of the north east facing slopes of the undulating lowland topography. These areas are located to the west of Wigtown and south of Kirkinner, between 12 and 20 km from the site, and the widespread distribution of buildings, tree cover and other vegetation across this settled lowland landscape type would further filter views of the turbines from these areas. The sensitivity of Drumlin Pastures to the presence of wind turbines is *medium*. It is considered that in the limited areas from where views of the turbines would be perceived, the effects on landscape character in the vicinity would be *slight*, and of *moderate / minor* significance (not significant).

Upland Glen (LCT 10)

Visibility of the proposed turbines may be experienced from a limited area of this LCT on the upper slope of Glen App, at a distance of 20.0 km. This would result in a *slight* effect of *moderate / minor* significance, and is not considered to be significant.

Foothills (LCT 18) and Foothills with Forest (LCT 18a)

Carscreugh REP may potentially be visible from LCT 18, Foothills on the elevated west facing slopes above Wigtown Bay to the east of Creetown. The proposed turbines would be perceived over distances of 24.0 to 30.0 km, resulting in *slight* effects of *minor* significance. These effects are not considered to be significant.

Visibility of the proposed turbines from LCT 18a is predicted from the east facing forested slopes above Bargely Glen to the east of the Cree valley, at a distance of 24.0 to 26.0 km. These effects would be *slight* and of *minor / negligible* significance.

Southern Uplands (LCT 19) and Southern Uplands with Forest (LCT19a)

The predicted visibility of the proposed turbines from LCT 19, Southern Uplands, would occur from the southwest facing slopes of the Merrick at distances of 25.0 to 30.0 km, and from the upper slopes of Glen App at distances of 16.0 to 19.0 km. The magnitude of these effects would be *slight* and of *moderate / minor* significance. Within LCT 19a, Southern Uplands with Forest, the turbines may be visible from a limited forested area within Arecleoch Forest at a distance of 18.0 km. The effect on the character of this landscape would be *slight* and of *minor* significance.

Coastal Granite Uplands (LCT 20)

The predicted visibility of the proposed turbines within this LCT is confined to the west facing upper slopes of Cairnsmoor of Fleet. At distances of 25.0 to 28.0 km, the effect on the character of the landscape would be *slight*, and of *moderate / minor* significance. This effect is illustrated in the wireframe visualisation for Viewpoint 23.

Rugged Granite Uplands (LCT 21) and Rugged Granite Uplands with Forest (LCT 21a)

Carscreugh REP may be potentially visible from the southwest facing slopes above the Cree valley to the north of Newton Stewart at distances of 20.0 to 30.0 km. The resulting effects on landscape character would be *slight* in magnitude, of *moderate* significance, and confined to limited areas.

There is no predicted visibility of the proposed turbines from within LCT 21a, Rugged Granite Uplands with Forest.

Shallow Flat Bottomed Valley (LCT3)

No visibility of the proposed turbines is predicted within this LCT. Accordingly Carscreugh REP would have no effect on the character of this landscape type.

Narrow Bottomed Valley (LCT 4)

No visibility of the proposed turbines is predicted within this LCT. Accordingly Carscreugh REP would have no effect on the character of this landscape type.

Intimate Pastoral Valley (LCT 5)

No visibility of the proposed turbines is predicted within this LCT. Accordingly Carscreugh REP would have no effect on the character of this landscape type.

6.8.3 Effects on Landscape Designations

Regional Scenic Area

Mochrum Loch RSA is located approximately 8km south east of the Carscreugh proposal. Due to the extent of screening by landform, additional screening by vegetation cover and the separation distance, a significant effect on the quality or character of this designated landscape is not predicted.

The Galloway Hill RSA is located approximately 17km north east of the Carscreugh proposal. Due to the extent of screening by landform, extent of forestry and the separation distance, a significant effect on the quality or character of this designated landscape is not predicted.

The Rhins Coast RSA is located approximately 19km south west of the Carscreugh proposal. Due to the extent of screening by landform and the separation distance, a significant effect on this designated landscape is not predicted.

The Machars Coast RSA is located approximately 26km south east of the Carscreugh proposal. Due to the extent of screening by landform and the separation distance, a significant effect on this designated landscape is not predicted.

Gardens and Designed Landscapes

The closest GDL is Castle Kennedy and Lochinch Gardens located over 9km west of the Carscreugh proposal. Due to the extent of screening by landform, forestry and the separation distance, an effect on this designated landscape is not predicted.

Of the other seven GDL's Lochryan, Monreith, Glenapp and Galloway House are not within the potential visibility. Ardwell House, Logan House and Logan Botanic Gardens are between 17km and 21km away on the Rhins peninsula and due to the separation distance, no significant effects are predicted on these designated landscapes.

6.8.4 Effects on Visual Amenity

This section draws on the review of the development proposals, ZTV visibility analysis, viewpoint assessment and other fieldwork observations. It considers the potential effects of the proposed wind farm on the visual amenity of the following groups of potential receptors:

- Residents – in towns, villages, scattered farmsteads and individual residential properties;
- Motorists and other road users, A class, B class and minor roads;
- Railway passengers;
- Recreational walkers / cyclists and horse riders – on National Trails and local strategic footpaths / cycleways and bridleways.

The following assessment considered the extent of the predicted and actual visibility, magnitude of change, sensitivity of location for each receptor type and whether the changes would be significant.

Residents – Settlements

ZTV analysis indicates that potential visibility of the proposed wind farm may be experienced by the residents of:

- Glenluce and isolated farmsteads and dwellings within 5km;
- Kirkcowan and isolated farmsteads and dwellings (5km-10km);
- Stoneykirk, Sandhead, Ardwell, edge of Stranraer, and isolated farmsteads and dwellings (10km-20km);
- Potential visibility beyond 20km would generally be limited to glimpse views from Drumore, parts of Wigtown and isolated farmsteads and dwellings.

Individual dwellings within 3km

Views of the proposed development would be experienced from individual dwellings and farmsteads in the surrounding area, as detailed within Appendix C. The orientation of the dwellings, localised plantation / woodland vegetation, fringe fell topography, areas of drumlins and glens contribute to reducing the potential visibility of the wind farm. Furthermore field survey observations have confirmed that the total number of individual properties where a significant visual effect may be experienced is relatively small compared to the overall population in the surrounding area. While acknowledging that significant effects may arise in the private context, it is considered that the overall change in visual amenity would not be unacceptable, given the general separation distance of the dwellings from proposed turbines and the predominantly restricted / filtered nature of views from dwellings in the local area.

Settlements within 5km radius

Glenluce

The settlement of Glenluce is located adjacent to the A75, at a distance of approximately 3.0km to the southwest of the site. ZTV analysis indicates minimal visibility due to the low lying position of the settlement within Water Luce Glen. Potential visibility of parts the proposed turbines may be experienced from the elevated fringes of the settlement within the edge dwellings located on Mote Hill off Church Street and occasional dwellings located in the vicinity of the substation on North Street. Given the limited extent of potential visibility of the proposed turbines, orientation of the dwellings, potential filtering of views by localised vegetation and the nature of intervening landform the views experienced from these locations are not considered to be significant. Due to the extent of dense woodland vegetation to the immediate south of the settlement, dwellings also located on the elevated fringes of the settlement including those dwellings located along Bankfield Road close to the A75 would not experience views of the proposed turbines. Overall there would be no significant effects upon the visual amenity of the residents of Glenluce.

Isolated Farmsteads and dwellings within 5km

Within 3km - 5km of the site there are a limited number isolated dwellings and farmsteads with potential visibility of the proposed turbines. The residents of Scotts Corner, a new build development northeast of Gass Farm would experience views from the gable end of the dwelling towards the proposed turbines. Views would be filtered by intervening tree vegetation and partially restricted by localised landform. To the northeast of the site the present extent of plantation would restrict visibility of the proposed turbines from dwellings and farmsteads including residents of Mark of Lochronald, Lochronald Cottage and Lochronald Bungalow. Isolated dwellings and farmsteads to the south of the site in the vicinity of Barnsallie would experience partially restricted views as a result of intervening forestry plantation within the middle ground on Blockhart Moor and localised tree vegetation. To the west in the vicinity of High Boreland, located on the east facing rising slopes residents may experience visibility of the proposed turbines from dwellings with unrestricted and partially filtered views east where potential significant effects may be experienced. While acknowledging that significant effects may arise in the private context for a small number of dwellings and isolated farmsteads within 3km-5km, it is considered that the overall effect upon the residents would not be significant, due to the separation distance of the dwellings from proposed turbines and the predominantly restricted / filtered nature of views experienced.

Settlements within 5km - 10km radius

Kirkcowan

The settlement of Kirkcowan is located south of the A75, at a distance of approximately 9.5km to the east of the site. ZTV analysis indicates potential visibility of up to 18 turbines within the western and southern fringes of the settlement only. The core of the settlement would

experience no view. Due to the extent of intervening woodland and forestry plantation in the vicinity of Craighlaw Mains it is considered that there would be no view of the proposed turbines from the dwellings located on the northern fringes of the settlement close to the junction between Main Street and Station Road. Potential views from the southern fringes of the settlement in the vicinity of Balgreen and west of Johnstons Bridge are considered unlikely to experience views of the proposed turbines due to the extent of localised tree vegetation and the cumulative screening effect of the intervening woodland and plantation between the settlement and the proposed site. Overall the potential effects upon the visual amenity of the residents of Kirkcowan are considered not to be significant.

Settlements within 10km – 20km radius

Stoneykirk

The settlement of Stoneykirk is located to the immediate west of Luce Bay on the A716, at a distance of 14.5km to the southwest of the site. ZTV analysis indicates potential visibility of up to 18 turbines from the settlement. Due to the orientation of the dwellings within the settlement the residents with potential views would be primarily located on the western edge of the settlement on the A716 and within the east facing dwellings located in the vicinity of St Stephens Place. The views across towards the distant turbines experienced by resident located on the eastern edge of the settlement would be partially filtered by localised vegetation and plantation with oblique open views experienced by those residents on the A716 unrestricted by dwellings opposite. The views experienced are not considered to significantly affect the visual amenity of the residents of Stoneykirk.

Sandhead

The settlement of Sandhead is located south of Stoneykirk just off the A716, at a distance of 16km from the proposed site (See LVIA Viewpoint 17 Sandhead). ZTV analysis indicates the potential visibility of 16-18 turbines. The residents of the linear settlement orientated in part to the east would primarily experience long distance views of the proposed turbines from the east facing dwellings located on the main street immediately south of Luce Bay View, a small number of dwellings located on Weir Terrace and rear views from dwellings on the northern fringe of the settlement east of the Main street. Residents would primarily experience open distant views towards the fell skyline and the proposed turbines. Due to the open expansive nature of the view, the distance from the site and the extent of view the proposed turbines would occupy the effects are considered not to be significant. It is considered the views from the southeast orientated Shore Road dwellings would be too oblique excluding the northern most dwelling where oblique gable end open views would be present. Overall the effect of the proposed development on the residents of Sandhead is considered not to be significant.

Ardwell

The settlement of Ardwell is located on the A716 south of Sandhead, at a distance of 18km to the southwest of the site. The linear settlement generally orientated towards the A716 is considered as a result of ZTV analysis to experience visibility of 16-18 turbines. The residents located to the east of the A716 would experience rear very oblique views across Luce Bay towards the proposed turbines on the skyline. Views from dwellings to the west of the road would be primarily restricted by the dwellings opposite, although direct distant views may be experienced from the dwellings orientated northeast located on the northern fringes of the settlement. Due to the open expansive nature of the view, the distance of the residents from the site and the extent of view the proposed turbines would occupy the effects on residential amenity are considered not to be significant.

Edge of Stranraer

The settlement of Stranraer is located on the southern edge of Loch Ryan, at a distance of 16km to the west of the site. ZTV analysis indicated potential visibility of the proposed turbines from within the southern edge of the settlement. Verification through site assessment confirmed that

the dense nature of the townscape creates visual containment limiting the extent of visibility towards the proposed turbines. It is considered that there would likely be no views from within Stranraer.

Settlements within 20km – 30km radius

Wigtown

The settlement of Wigtown is located within the north western edge of Wigtown Bay, at a distance of 21km to the southeast of the site. ZTV analysis indicates discrete minor areas of visibility within the northern fringes of the settlement. Verification on site confirmed the potential for distant views towards the proposed turbines from a small number of dwellings within the vicinity of the Old Graveyard where views would be primarily open and to the immediate northwest of Martyrs Monument where localised field boundary tree and garden vegetation would filter views. Due to the distance of the residents from the site, the extent of view occupied by the proposed turbines and the barely discernable visibility the effects on residential amenity are considered not to be significant.

Drummore

The settlement of Drummore is located within the south eastern edge of The Rhins Peninsula at a distance of 25km to the south/southwest of the site. ZTV analysis confirms the potential for visibility of 16 – 18 turbines from the settlement. The residents within the settlement located to the northeast of the A716, along Shore Street and on the north side of Harbour Terrace would likely experience distant views northeast towards the upland skyline and the proposed turbines. The remaining residents within the settlement are considered unlikely to experience views due to the orientation of dwellings or the visual containment resulting from surrounding built form. Due to the distance of the residents from the site, the extent of view occupied by the proposed turbines and the barely discernable visibility the effects on residential amenity are considered not to be significant.

Motorists and other Road Users

A75: The A75 crosses the study area between Ravenstall Point, west of Carsluith and the town of Stranraer and is a primary transport route within the study area. ZTV analysis predicts variable limited intermittent visibility of the parts of the proposed wind farm within the vicinity of Glenluce towards Kirkcowan between 3km – 9km from the proposed site, west of Bewfield 12km – 15km from the proposed site and within the vicinity of Carleuith 23km – 30km from the site. Verification on site confirmed when travelling east glimpsed views of parts of the proposed turbines would be experienced in the vicinity of Whitecreek, west of Glenluce, although it is considered views would be primarily screened by forestry plantation to the northeast surrounding the dwellings associated with the Castle of Park. On the approach to Glenluce the extent of roadside tree and scrub vegetation partially filters views of the predicted 18 turbines visible. The route enters a series of short landform cuttings when by-passing Glenluce, where visibility is restricted by the cutting embankment. As the route descends towards the eastern junction into Glenluce open views towards the proposed turbines are present over approximately 200m-300m. Heading west from Glenluce towards Dergoals localised landform woodland and roadside shrub and tree vegetation allow short duration oblique and perpendicular glimpses towards the turbines from a limited number of discreet locations. As the route approaches Dergoals over an approximately 100m section of route open views are present northeast towards the proposed turbines (See Viewpoint 6: Dergoals). There would be no other visibility when travelling eastbound.

When travelling westbound between Ravenstall Point and the vicinity of Creetown visibility would be primarily restricted by roadside woodland vegetation as the route approaches Carsluith. Beyond Carsluith road users would experience primarily open oblique distant views towards the proposed wind farm. The number of the turbines visible would reduce to between 4 and 7 in the

vicinity of Creetown. It is considered the turbines would be barely discernable in views experienced along this section of the A75 23km – 30km from the site. Between Newton Stewart and the settlement of Kirkcowan visibility would be primarily restricted by dense roadside tree cover, plantation woodland and localised landform until beyond the B733 junction in the vicinity of Kirkcowan. As route emerges from the dense woodland after the B733 junction the proposed turbines would appear above localised landform (See Viewpoint 14: A75 Craighlaw) over a section of road approximately 400m in length before localised landform and roadside tree/woodland vegetation primarily restricts views further, excluding a short section of the route in the vicinity of Burlee. On the approach to Dergoals open views towards the proposed turbines would be experienced over a section of the route approximately 200m in length. Beyond Dergoals roadside vegetation and intermittent landform would partially restrict views limiting the open perpendicular views to discrete sections of short duration. There would be no other visibility when travelling westbound beyond Dervaird. The magnitude of change would vary from slight/negligible at 30km away to substantial moderate at 3km resulting in effects ranging from major/moderate (significant) in the vicinity of Glenluce to minor at more distant locations (not significant).

A77: Within the study area, the A77 extends from Portpatrick on the Rhins Peninsula along the coast to Lendalefoot, south of Girvan. The only part of this route with potential visibility is located between crest of the South Rhins east of Portpatrick and Stranraer. Travelling northwards from Portpatrick, there would be no visibility on the west facing slope of The Rhins. Distant views of Carscreugh would become available on crest of The Rhins in the vicinity of Cairn Pat Farm, as illustrated in Viewpoint 18. Views would continue and diminish on the descent of The Rhins until potentially only blade tips would be visible on the approach to the village of Lochans. Within Lochans, views would be restricted by landform and beyond Lochans views of a few blade tips would be present on the approach to junction with A716. When travelling in either direction between the A716 and Stranraer perpendicular distant views west would be present of up to 7 blade tips 14km away, occasionally filtered/restricted by localised tree cover and landform. These distant views experienced by road users of the A77 are not considered to be significant.

A716: The A716 road orientated north south extends between Lochans, south of Stranraer and Drummore on the Rhins Peninsula. ZTV analysis predicts visibility of 16-18 turbines in distant views from road users between Drummore and Stoneykirk, and intermittent variable visibility over the short section north of Stoneykirk to the A77. Site verification confirmed that the extent of visibility from this route is limited due to the extent of roadside vegetation, woodland cover, intervening landform and areas of settlements. When travelling north from the settlement of Drummore, distant visibility of the proposed turbines would comprise of open views between the fringe of Drummore and New England Bay Caravan Park near Ardwell. Between Ardwell and Sandhead, road users would experience occasional open views although visibility would be primarily intermittent and partially filtered by roadside vegetation and localised landform. When bypassing Sandhead no views would be experienced due to dense woodland with intermittent glimpse views between Sandhead and the B7084. When travelling between the B7084 and A77 it is considered perpendicular views over this section of the route would be experienced when travelling in both directions. Between junction with B7077 and B7084 visibility would be intermittent, primarily restricted by localised topography, roadside scrub / tree vegetation and embankment, areas of plantation and settlement of Stoneykirk. The magnitude of change would vary from slight in the vicinity of Stranraer to slight/negligible in the vicinity of Drummore resulting in effects ranging from moderate / minor to minor (not significant).

A747: The A747 orientated northwest/ southeast extends from A75 in the vicinity of Glenluce to Whithorn, within the study area with the potential for northbound views only. Travelling north from Glasserton, 27km away, there would be intermittent distant glimpses of the proposal. These views would be screened by landform until passing Auchnemaig, where intermittent views would be possible from Challochmun Farm approximately 7km from the proposal to the A75. Visibility of the proposed turbines along this section would be limited to the high points along this

undulating section of road, partially screened by intervening forestry and roadside vegetation, until the entrance to Barlockhart Quarry. From Barlockhart Quarry to the A75, views open views towards the 18 proposed turbines, 3-3.5km away, would be obtained on the 500m-600m length of descent on the A747 (See Viewpoint 8: A747 at Barlockhart). The magnitude of change would vary between substantial moderate @3km-3.5km away to slight /negligible @ 27km, resulting in effects ranging between major / moderate to moderate (significant) to minor (not significant).

A714: The A714 crosses the study area between Newton Stewart and Pinmore, north of Pinwherry. ZTV analysis indicates potential visibility over the section of the route to the northwest of Bargrennan. Site verification confirmed that there would be no visibility of the proposed turbines from this route due to the extent of large scale forestry plantation present containing views experienced by road users.

B7042: The B7042 crosses the study area between Portpatrick and the A716 in the vicinity of Sandhead. The ZTV analysis indicates limited scattered areas of potential visibility between 16km-18km from the proposed site. Verification on site confirms roadside embankments and localised landform would primarily restrict distant views towards the turbines. Occasional views would be present when travelling eastbound over an approximately 500m section of the route on the descent towards Dalvadie Farm and the junction with the minor road leading to Stoneykirk. Road users on the remaining parts of the route which joins the A716 north of Sandhead would experience limited intermittent distant views partially screened by roadside hedgerows and tree vegetation. Views would be oblique to the direction of travel and considered to be slight in magnitude and of moderate / minor significance (not significant).

B733: The B733 orientated northwest southeast crosses the study area between Wigtown and the A75 near Kirkcowan. ZTV analysis indicates limited areas of potential visibility for road users, primarily on sections of the route within the vicinity of Torhousemuir, 14km – 16k from the proposed site and to the immediate northwest of Wigtown 18km -19km from the site. As the route rises to the northwest the proposed turbines would become visible in glimpse views towards the fell skyline. The visibility would be intermittent and experienced over a short section of the route. In the vicinity of Torhousemuir road users would experience direct views towards the proposed turbines partially restricted by skyline forestry plantation. Views would be experienced over an approximately 400m section of the route with visibility intermittently filtered by roadside vegetation. Visibility on the undulating route becomes restricted in the vicinity of Torhouskie farm. There are no potential views from the remaining parts of the route. The magnitude of change is considered to be slight resulting in an effect of moderate / minor significance (not significant).

B7065: The B7065 within the Rhins Peninsula crosses the study area between the A716 and Maryport via Port Logan. ZTV analysis indicates potential visibility from limited elevated sections of the route 23km – 25km from the proposed site. Site verification confirmed the limited distant visibility of the proposed turbines from the route. Visibility would be limited to elevated sections of the route to the south of Port Logan where long distant partially restricted and occasional open views perpendicular to the direction of travel would be experienced. When travelling north along the route views of the proposed turbines would be experienced from limited elevated sections north of Drummore, similarly views are partially filtered / restricted by roadside hedgerows with occasional open distant views. The magnitude of change as a result of the limited visibility of the proposed turbines is considered to be slight / negligible and of minor significance (not significant).

B7084: The B7084 crosses the study area between the A716 and the A75 in the vicinity of Luce Sands. ZTV analysis indicates the visibility of 16 – 18 turbines along the section of the route between the A716 and the B7077. Site verification confirms that when travelling eastwards views would be primarily restricted by roadside embankments and scrub vegetation providing minimal opportunities for visibility throughout the route. The magnitude of change for road users

where visibility may be experienced is considered to be moderate / slight resulting in effects of moderate / minor significance (not significant).

B7005: The B7005 orientated east west crosses the study area between the A747 and Wigtown, 12km -20km from the site. ZTV analysis indicates potential visibility from limited sections of the route in the vicinity of Culshabbin and sections of the route to the east of the B7052. When travelling in either direction between the A747 and the B7052 distant views towards the proposed turbines are restricted by localised landform, areas of woodland, roadside tree and scrub vegetation and intervening plantation. It is considered that there would be no visibility as a result from this section of the route. When travelling westbound between Wigtown and the junction with the B7052 predominantly open distant views towards the proposed turbines on the skyline would be experienced, although intermittently screened by localised landform. The magnitude of change resulting from these views is considered to be slight resulting in a moderate / minor effect (not significant).

B7027: The B7027 crosses the study area between Newton Stewart and Barrhill. ZTV analysis indicates potential visibility in the vicinity of the minor settlement of Knowe and areas close to Loch Dornal. Site verification confirmed no views due to the extent of forestry plantation present.

B7085: The B7085 orientated northeast southwest crosses the study area between Port William and the A746. ZTV analysis indicates potential visibility along limited sections of the route northeast of Airyhassen and northeast of Wauphill. Site verification confirmed road users would experience distant glimpse views towards the proposed turbines from these locations. The proposed turbines would be barely discernable in the view resulting in a slight / negligible magnitude of change and effects of minor significance (not significant).

B7021: The B7021 crosses the study area between the B7085 west of Port William and Whithorn. ZTV analysis indicates variable visibility at discrete locations when travelling northbound between 22km -27km from the site. Site verification confirmed the potential for distant glimpse views over a short section of the route in the vicinity of the junction with the minor road leading to Castlewigg. From all remaining sections of the route where potential visibility has been highlighted localised woodland, plantation and roadside embankments would likely screen / filter views. The road users experiencing views would obtain a slight negligible magnitude of change resulting in effects of minor significance (not significant).

Railway Passengers

The Glasgow South Western Line, orientated north south crosses the study area from north of Barrhill to the town of Stranraer. ZTV analysis indicates minimal potential visibility for railway passengers with the potential for views limited to areas east of Dunragit (4km – 6km from the site) and discrete short sections of the route on the approach to New Luce southeast of Stab Hill (7km – 12km from the site). It is considered that the potential visibility of the proposed turbines when travelling northwards would be limited to a short section of the route to the west of Glenluce, 4.5km from the site where oblique views towards the turbines may be experienced intermittently over approximately 200m when the route is not located within cutting or views filtered by rail side tree and scrub vegetation. It is considered with regard to the intermittent nature of the view and the duration of views the effects upon rail users within this section of the route would be moderate and not considered significant. When travelling southbound visibility would be minimal, as a result of the orientation of the train during transit the potential visibility north of New Luce would be restricted and it is considered the potential visibility in the vicinity of Craig Fell would be primarily restricted by the Camrie Fell forestry plantation. Overall the visual amenity of users of the Glasgow South Western Line within the 30km study area would not be significantly affected.

Recreational Routes

The Southern Upland Way national coast to coast trail crosses the study area southwest to northeast between Cragenlee Fell, in The Rhins and Loch Dee, approximately 11km northwest of the settlement of Newton Stewart. The bare earth ZTV analysis indicates the potential for limited areas of visibility, primarily within upland areas travelling in both directions. These areas include parts of the section of the route between Craigenlee Fell and the A77 (15km – 23km away), elevated intermittent sections of the route south of Auchmantle (5.5km – 8km away), intermittent sections of the route north of New Luce and on Craig Airle Fell (6km – 12km away), northwest of Knowe (13km away) and within parts of Glen Trool (22km – 26km away).

Travelling north from the Rhins Peninsula, views would be experienced on Cragenlee Fell, as illustrated in Viewpoint 19: Southern Upland way near Knockquhassen, where the turbines at a distance of 18.7km on the skyline for a distance of about 1km on the descent of The Rhins. There may also be a few blade tips visible from the route near Ochtrellure on the approach to the A77 at Stranraer. Visibility would be screened by landform until an elevated position south of Auchmantle approaching Glenwhan Moor, similar in nature to Viewpoint 15: Airyolland Moss, where the turbines would appear on the fell skyline, partially restricted by the fell landform over a short section of the route (approximately 200m) prior to entering Glenwhan Moor forestry plantation where landform screens views. There may a potential similar glimpsed view from the northern edge of Craig Fell, when exiting the forestry plantation before the route descends into Water Luce, ending views northbound.

When travelling south along the route, theoretical visibility would begin in Glen Trool, however the extent of forestry within Glen Trool, would restrict any views. There is likely to be views from Glenvernoch Fell, northwest of Knowe for 1-2km until landform and forest would screen views over 13km away. Further south, forestry would screen any views from Craig Airle Fell but after exiting the forestry, there would be a view from high ground for about 1km to Carscreugh 6km to the south. Landform would screen remaining views southbound. Due to the very limited views of Carsreugh and the separation distance of these views, it is considered that the effect of the proposed turbines on the visual amenity of recreational users of the Southern Upland Way would not be significant.

National Cycle Route 7 crosses the north eastern and eastern parts of the study area between Glen Trool Forest and Culcronchie via Newton Stewart and Creetown. Bare earth ZTV analysis indicates potential for limited areas of visibility north of Glentool Village; in the vicinity of Calgow (20.5km from the proposed wind farm; and from limited areas to the north and northeast of Creetown (22.5km – 26km from the proposed wind farm). Potential visibility from route users would be fully restricted by forestry north of Glentool Village.. In the vicinity of Calgow, over 20km away, there may be potential for limited long distant views to the west when travelling in both directions. Travelling northwards towards the settlement of Creetown, distant views towards the proposed turbines would be primarily restricted by localised route side woodland vegetation and within Creetown, the built form of the settlement would also primarily restrict distant views west towards the proposed turbines. The section of the route north of Creetown, there would be potential for views west towards the turbines, over 22km away, experienced between intervening woodland areas and scattered trees. Overall it is considered that the effect of the proposed turbines on the visual amenity of recreational users of the National Cycle Route 7 would not be significant.

6.9 Cumulative Landscape and Visual Effects

This part of the assessment has considered the potential overall cumulative effects of the development of Carscreugh wind farm against a baseline of the existing and consented wind

farm projects within the 60 km study area. In addition, the assessment considers the potential cumulative effects in the context of all the proposed wind farm developments within the study area.

In terms of landscape effects, if only the baseline existing and consented wind farms are considered, the Carscreugh REP proposal would lead to a localised wind farm landscape, limited to the individual sphere of influence of the Carscreugh site and would not lead to a blurring or loss of distinction within the Upland Fringe landscape type. However the introduction of Carscreugh, would lead to some coalescence of the landscape subtype 'Plateau Moorland with Wind Farm' created by Artfield Fell to the north but would not lead to a blurring or loss of distinction to the Plateau Moorland landscape type as a whole.

In the situation that all of the baseline and proposed schemes were consented and constructed, these proposals would potentially give rise to localised wind farm landscapes in their respective vicinities and with the exception of Barlockhart Moor, no cumulative landscape effects were identified. Due to the proximity of Barlockhart Moor, there would be some coalescence of the local wind farm subtypes created in between these proposals which would constitute a significant cumulative effect on local landscape character, but would not affect any of the affected landscape types as a whole.

The assessment has confirmed that the addition of Carscreugh to either the baseline or in addition to the other proposals would not lead to significant cumulative effects within the Mochrum Lochs RSA.

In terms of visual amenity, there were no significant cumulative effects were identified in relation to local settlement, with the potential for limited cumulative effects to be experienced in views from dispersed dwellings in the vicinity of Carscreugh where effects would relate primarily to Carscreugh as a stand alone project. From the main road routes, there were no significant cumulative effects identified in relation to the baseline (existing and consented) wind farm within the study area, except in views from limited sections of the A75. There was the potential for significant cumulative effects from sections of the A75 and A747 in combination with the other proposal of Barlockhart Moor. There were no significant cumulative effects identified in relation to the main recreation routes of the Southern Upland Way or National Cycle Route 7.

Overall it is concluded that significant cumulative landscape and visual effects would be very limited and localised in extent.

6.10 Summary and Conclusions

The design of the Carscreugh REP proposal has been optimised, taking account of the technical, economic and environmental constraints, and has achieved a turbine layout which relates to the scale and landform of the site and its surroundings. The effects on landscape and visual amenity within the surrounding area have been minimised as a result.

The assessment has concluded that direct effects on the landscape fabric of the site during construction and operation will be limited in extent, and would be fully reversible when the wind farm was decommissioned.

The site of the proposed wind farm is located within the 'Upland Fringe' landscape character type (LCT), which is defined by high, rolling pastures, numerous minor ridges and valleys, rough and improved pasture. It is variable in character, but in the vicinity of the site is generally medium to large in scale, exposed and open in nature and of medium sensitivity to the presence of wind turbines. The direct effects on the character of this LCT are identified, taking into account the variable nature of this landscape. The assessment identifies substantial effects of major / moderate significance on this landscape character type within 3.5 km of the site, within

the area north of Glenluce and the A75 corridor to the east of the village. The effects on the remainder of this landscape type are not considered to be significant.

The indirect effects on the character of other landscape types within the local area are assessed in relation to their characteristics, with significant effects identified within the 'Drumlin Pastures in Moss and Moor Lowland' up to 3.0 km of the site, and within the 'Plateau Moorland' landscape type to the north at distances up to 3.5 km. The assessment establishes that the character of the remaining landscape types within the 30 km study area would be affected to varying degrees, resulting in effects which are not considered to be significant.

No significant effects would be experienced within the designated landscapes of Regional Scenic Areas including Mochrum Lochs, the Rhins Coast, Galloway Hills and Machars Coast, as acknowledged by Scottish Natural Heritage (SNH). No significant effects would be experienced within properties included in the Register of Historic Gardens and Designed Landscapes.

In terms of visual amenity, significant visual effects impacts would be confined to dispersed dwellings and settlement at distances up to a 5km radius of the site. The main settlements of Glenluce, Kirkowan, Dunragit, Stranraer and villages within the valley of Water of Luce and on the Machar peninsula would not be affected by the proposals.

With regard to the route ways across the region the potential for significant effects to be experienced by users of the A75 would be limited to a short section to the south of the site, within a 4km radius where potential visibility would be partially screened by local topography, small scale woodland with views towards the turbines experienced obliquely to the direction of travel. No significant effects would be experienced by users of other A class routes within the study area including the A77 and A747 located at distances in excess of 15km from the site. The Southern Upland Way crosses the study area passing north of the Carscreugh site at a minimum distance of 4.0 km from the nearest turbine and no significant effects are predicted for users of this route. Walkers following the alignment of the Old Military Road, within the wide valley to the south of Carscreugh Fell may experience significant effects for 6-7km of its length between Glenluce and Derskelpin Moss. The assessment concludes that within the Machars peninsula, limited sections of the Pilgrim Way in the vicinity of the Mochrum Lochs, some 12.0 km from the site, may potentially be affected by the proposals although intervening tree cover would filter views towards the proposed turbines.

In consideration of the effects of Carscreugh REP in combination with the existing, consented and proposed wind farms within 60 km of the site, the assessment concludes that significant effects would be perceived in relation to the existing Artfield Fell wind farm located 5.1km to the north east of the Carscreugh site. In terms of other proposals significant effects would only arise in the context of the Barlockhart Moor proposal located 3.8km to the south west of the Carscreugh site. Overall it is concluded that significant cumulative landscape and visual effects would be limited and localised in extent

It should be noted that all on-shore wind farm developments lead to significant landscape and visual effects, and that significant effects are not necessarily unacceptable. The changes arising from a proposed development may engender positive or negative responses depending on individual perceptions regarding the merits of wind energy development. The same project may be seen by some as attractive, acceptable and contributing to the well being of the natural environment, while others may take a negative stance regarding the wind farm as unattractive and unacceptable. Independent attitude surveys have consistently concluded that more people view wind farms positively than negatively and the level of support seems to increase when surveys are carried out pre and post construction.

The significant effects are reversible; if the decision is taken to decommission the wind farm at the end of the anticipated operational life, the turbines would be dismantled and removed from site and the site fully restored.

The eighteen wind turbines of the Carscreugh proposal will relate well to local landscape character and respect the scale and composition of the landscape. Significant landscape and visual effects will be localised as a result of local topography and the limited size and scale of the wind farm. The conclusion is therefore that in landscape and visual terms the proposal should be considered acceptable in this location.

Appendix A: Landscape Character Descriptions

1.1 Introduction

The landscape character types within this assessment are identified in the Dumfries and Galloway Landscape Assessment carried out by Land Use Consultants in 1998 on behalf of Scottish Natural Heritage.

The character of the landscape type in which the proposed Carscreugh REP is situated (Upland Fringe) is described in Section 1.4.1 of the ES Addendum. The remaining Landscape Character Types (LCT) within the 30 km study area are;

- LCT 1 Peninsula (The Rhins and Machars)
- LCT 1A Peninsula with Gorse Knolls
- LCT 2 Coastal Flats (Rhins and Wigtown)
- LCT 3 Shallow Flat Bottom Valley (Water of Luce/Glen Luce)
- LCT 4 Narrow Wooded Valley
- LCT 5 Intimate Pastoral Valley (Girvan Water and River Doon)
- LCT 10 Upland Glens
- LCT 11 Moss & Forest Lowland (Knock Moss)
- LCT 12 Drumlin Pastures Moss / Moor Lowland (Tarf Water/Bladnoch River Plains)
- LCT 13 Drumlin Pastures (Central and Southern Machars)
- LCT 17 Plateau Moorland
- LCT 17a Plateau Moorland with Forest
- LCT18 Foothills
- LCT18A Foothills with Forest (Nr Cairnsmoor of Fleet)
- LCT19 Southern Uplands
- LCT19A Southern Uplands with Forest (The Merrick)
- LCT20 Coastal Granite Uplands (Cairnsmoor of Fleet)
- LCT21 Rugged Granite Uplands (Lanarchan Hill / Garlic Hill)
- LCT21A Rugged Granite Uplands with Forest (Clatteringshaw Forest)

1.2 Landscape Character Types

1.2.1 • LCT 1 Peninsula (The Rhins and Machars)

Topography

The topography of these landscapes is gently undulating, with a pattern of smooth hills and valleys, generally between 50 to 150 m AOD, and extending to sea level at the coast. There are few rivers or streams, but wet hollows and poorly drained areas influence the character locally. The coast is formed of steep cliffs, raised beaches with small rocky and sandy bays connected by a narrow coastal strip of low-lying land.

Landcover, Landuse and Landscape Elements

Landcover is dominated by improved pasture, with medium sized fields defined by stone walls and hedges. At higher levels and on areas of poorer soils, the pasture becomes dominated by gorse and heather in limited areas. Tree cover is sparse, consisting of small plantations in field corners, small conifer plantations and policy woodlands.

Landscape Designations

Regional Scenic Areas within this LCT include The Rhins NSA which occupies much of the Rhins peninsula south of Sandhead and the west coast of the Rhins between Logan, Portpatrick

and Kirkcolm. Mochrum Lochs RSA is located on the west coast of the Machars peninsula to the north of Mochrum.

Historic Gardens and Designed Landscapes within the study area in the Peninsula LCT comprise Logan Botanic Garden, Logan House and Ardwell Gardens on the Rhins Peninsula.

Scale of Landscape

The landscape is generally medium in scale, with some more elevated areas of larger scale.

Nature of Views

Views are generally medium in scale, with some more extensive views from the higher areas extending over the sea and inland. The policy woodlands provide smaller scale, contrasting with the more open character of the LCT generally.

Landscape Quality

Landscape quality is generally good, with few detracting elements, and generally intact landscape features of hedges, fields and small woodlands. In some areas adjacent to the coast unsympathetic tourist developments detract from the quality of the landscape.

Visual Receptors

Receptors of views out of this LCT include residents of the settlements, road users and tourists.

1.2.2 LCT 1A Peninsula with Gorse Knolls

Topography

The topography of this LCT is generally of similar overall height to LCT 1; Peninsula, between approximately 50 to 150 m AOD, reaching to sea level on the west coast of the Machars, however the LCT is characterised by local variations in height of between 10 and 80 m, comprising prominent knolls, often with exposed rock, producing hummocky and variable landform.

Landcover, Landuse and Landscape Elements

The majority of these areas are pasture, with gorse on the rocky outcrops, giving a 'wilder' character in some parts than the Peninsula LCT. Tree cover is sparse, with isolated trees and infrequent tree belts. Fields are medium to small, enclosed by stone dykes and infrequent hedges.

Landscape Designations

Within this LCT, Mochrum Coast Regional Scenic Area extends from south of Port William to the southeast edge of the study area. Monreith Historic Garden and Designed Landscape is also located within this LCT.

Scale of Landscape

The scale of this landscape character type is medium, with areas of smaller scale defined by some of the gorse knolls.

Nature of Views

Views are generally medium in scale, becoming more extensive at the coast where they extend over the sea.

Landscape Quality

Visual quality is generally good to high, with few detracting elements compromising the integrity of the landscape. A small number of prominent caravan sites detract from the quality of the coastal strip.

Visual Receptors

Receptors of views out of this LCT include residents, road users and tourists.

1.2.3 LCT 2 Coastal Flats (Rhins and Wigtown)

LCT Coastal Flats occurs in two locations within the study area; between Stranraer and Glenluce to the west of the site (Rhins), and along the eastern coast of the Machar peninsula between Garlieston and Newton Stewart (Wigtown).

Topography

Generally low lying, between sea level and 50 m AOD, the topography of these landscapes is predominantly flat or gently undulating.

Landcover, Landuse and Landscape Elements

The Coastal Flats are characterised by their landcover and vegetation into Estuarine Flats, Coastal Plain and Coastal Parkland in the Rhins area. In the Wigtown area of Coastal Flats, Estuarine Flats, Coastal Plain and Coastal Mosses and Merse occupy the coastal fringe of the Machar peninsula.

In the Rhins area the Coastal Plain and Parkland landscape is predominantly well grazed pastureland made up of medium sized fields defined by wind swept hedges, shelterbelts and estate plantations associated with Castle Kennedy. Estuarine Flats are distinguished by mud flats, salt marshes and mosses. Within the Machars peninsula, LCT 2 consists of predominantly low lying sparsely settled estuarine flats as well as coastal moss and areas of sand dune / merse. Farm land in the form of pasture is also located in some parts.

In these landscapes the vertical features of small settlements, dispersed dwellings, agricultural buildings, masts and telephone lines are prominent and obtrusive. Within the Rhins Coastal Flats, a number of radio masts and domes and buildings associated with West Freugh Airfield stand out prominently particularly when seen from the eastern approaches to the peninsula. Several coniferous plantations have been established close to the estuarine flats and north of West Freugh Airfield.

Landscape Designations

Castle Kennedy and Lochinch Historic Gardens and Designed Landscapes are located to the east of Stranraer within the Rhins Coastal Flats. Mochrum Coast Regional Scenic Area and Galloway House Historic Garden and Designed Landscape are located in the vicinity of Garlieston within the Wigtown Coastal Flats, and the Galloway Hills RSA extends to Wigtown, and includes the coastal plain of the River Cree south of Newton Stewart.

Scale of Landscape

These landscapes are generally large in scale and open in character, with long views extending to the Solway and the distant open sea. Some more intimate areas are associated with the policy woodlands of Castle Kennedy.

Nature of Views

The majority of views are long range, and extend across coastal flats as they merge into the waters of the Solway. Inland, the flat topography allows extensive views across the coastal vegetation types with sparse tree cover.

Landscape Quality

Landscape quality is generally medium, with some poor in areas where prominent communications infrastructure and poorly managed hedges and pasture land influence landscape quality.

Visual Receptors

Visual receptors experiencing views within these areas include residents of settlements, road users and tourists.

1.2.4 LCT 3 Shallow Flat Bottom Valley (Water of Luce/Glen Luce)

This landscape type occurs within the mid to lower reaches of the valley of Water of Luce to the north of Glenluce.

Topography

The topography consists of a shallow, open valley where alluvial deposits have resulted in flat land fringing the river channel of Water of Luce, with generally gentle valley slopes.

Landcover, Landuse and Landscape Elements

The valley is lined with mature woodland on the valley slopes, either side of rich pastures used for cattle rearing. Vegetation comprises native riparian vegetation either side of the river channel with forest plantations higher up the slopes, with the flat valley floor occupied by improved pasture with medium sized fields enclosed by fences. Higher on the valley slopes, this gives way to semi-improved pasture and woodland with hedges and fences.

Landscape Designations

There are no statutory designations within this Landscape Character Type in the study area.

Scale of Landscape

The scale of this landscape is generally medium, with areas of large scale in the more open parts of the flat valley floor.

Nature of Views

Views vary from short, constrained glimpses from enclosed wooded valley slopes to medium views across the open valley floor.

Landscape Quality

The quality and intactness of the landscape is generally high, with few detracting elements.

Visual Receptors

Visual receptors of views within this landscape character type include residents, road users and tourists, including walkers using the long distance routes which follow this valley.

1.2.5 LCT 4 Narrow Wooded Valley

This LCT is represented in the study area by the upper valleys of the River Cree and Penkiln Burn to the north and northwest of Newton Stewart.

Topography

These valleys vary in topography between distinctive V and U shaped profiles. Both types of valleys are deeply incised and sheltered, with steep slopes. The level of the valley floor is generally some 50 m AOD, with the steep slopes extending to approximately 100 m AOD.

Landcover, Landuse and Landscape Elements

Landcover consists of small scale fields of arable, improved and semi improved pastures; flood meadows lined by woodlands; policies and parkland. The rivers follow meandering courses through riparian vegetation, and woodland, with smaller scale forest plantations higher up the slopes. Small and medium sized fields are enclosed by hedges and fences at lower levels, with stone walls higher up the valley slopes.

Landscape Designations

There are no statutory designations within this Landscape Character Type in the study area.

Scale of Landscape

The scale of these landscapes is generally small to medium, with the steep valley slopes and woodlands providing enclosure and containment.

Nature of Views

The valley form and tree cover create intimate enclosures which restrict views both within and out of this LCT.

Landscape Quality

Landscape quality is generally high, with few detracting elements and unspoilt landscapes focussed on river views and adjacent policy woodlands.

Visual Receptors

Visual receptors experiencing views within these areas include residents, road users and tourists following the routes north from Newton Stewart.

1.2.6 LCT 5 Intimate Pastoral Valley (Girvan Water and River Doon)

This LCT occurs in the north west sector of the study area, relatively distant from the site.

Topography

Medium scale, open valley with relatively little level valley floor, which opens out onto the coastal plain to the south of Ballantrae.

Landcover, Landuse and Landscape Elements

Medium to small scale pastures, divided by dry stone dykes and an intricate network of deciduous woodland, extend up the valley sides. Landuse is predominantly agricultural, with settlement mainly consisting of isolated dwellings and small settlements at bridging points of rivers. Minor roads wind along the sides of the valley floor.

Landscape Designations

This LCT falls within the locally designated Sensitive Landscape Area within South Ayrshire.

Scale of Landscape

The scale of these areas is enclosed, small to medium scale, with extensive woodland on valley slopes.

Nature of Views

Predominantly enclosed by tree cover and topography, and contained within the LCT. As a result, this character type is relatively little affected by developments beyond its boundaries.

Landscape Quality

Landscape is generally intact resulting in a medium to high quality, with few detracting features. Extensive commercial forestry plantations in the upper parts of the valley compromise this quality in limited areas.

Visual Receptors

Residents of small settlements and isolated dwellings; road users

1.2.7 LCT 10 Upland Glens

The Upland Glen landscape character type occurs in two limited locations in the northwest sector of the study area, comprising the valleys of Water of App and Water of Tig.

Topography

Deep, narrow 'V' shaped valleys with steep sides and narrow valley floors.

Landcover, Landuse and Landscape Elements

Improved pasture occupies the narrow valley floors, with pasture and extensive areas of coniferous forest extending up the steep valley sides to merge into moor and rough grazing at higher levels. Settlement is predominantly isolated dwellings and farmsteads, served by single track roads.

Landscape Designations

These valleys are included in the locally designated Sensitive Landscape Area of South Ayrshire.

Scale of Landscape

The scale of these landscapes is small to medium, due to the narrowness of the valley landform, and the extensive tree cover of the valley slopes.

Nature of Views

Views are predominantly contained by the tree cover and topography of the narrow valleys, with more extensive views available from the higher parts of the valley sides. As such, this landscape character type is influenced to a relatively limited extent by developments in adjoining character areas.

Landscape Quality

Landscape quality is generally good, although the extensive uniform coniferous forestry plantations detract in some parts.

Visual Receptors

Residents of a limited number of isolated dwellings distributed along the narrow glens, together with users of the minor roads within the valleys.

1.2.8 LCT 11 Moss & Forest Lowland (Knock Moss)

This landscape character type is represented in the study area to the southeast of the site, where it occupies an area of moorland to the north and east of Knock Fell.

Topography

Flat or gently undulating lowland landform, punctuated by Knock Fell and several lochs scattered across the flat moorland.

Landcover, Landuse and Landscape Elements

The predominant moorland vegetation consisting of a mosaic of moss, heather and moorland grass, with extensive areas of angular coniferous forestry plantations. Small enclosed areas of improved grazing are located within the moorland landcover. The landuse is upland grazing, and the moorland is otherwise relatively featureless and devoid of habitation and roads. Although the landscape has a deserted character, the coniferous forest reduces any sense of wildness which would otherwise be evident.

Landscape Designations

There are no landscape designations covering this landscape character type within the study area.

Scale of Landscape

The scale of the landscape is large, with extensive, simple features and vegetation patterns. Limited areas adjoining the coniferous plantations gain a sense of enclosure from the tree cover; the remainder of this character type is open and unenclosed.

Nature of Views

Views are generally large in scale, especially the panoramic view from Knock Fell. In limited areas the coniferous plantations screen views across and out of the lowland moss and moorland. Within the extensive areas of coniferous plantations, the landscape character is affected to a limited extent by developments outside of the character area; in more open areas, the wide extensive views result in more widespread influence by developments in adjoining character types and areas.

Landscape Quality

The quality of the landscape in the area of this landscape type is medium, with the extensive angular forestry plantations detracting from the simple, open moorland landscape.

Visual Receptors

Visual receptors within this landscape character area comprise residents of a small number of scattered dwellings and walkers visiting the elevated viewpoint of Knock Fell.

1.2.9 LCT 12 Drumlin Pastures in Moss and Moor Lowland (Tarf Water/Bladnoch River Plains)

This landscape character type is represented in the study area to the south and east of the site, occupying the narrow valley of the Lady Burn and the lower parts of the Bladnoch and Tarf valleys.

Topography

These shallow valleys are overlain by a complex pattern of glacial deposits in the form of drumlins, scattered across flatter areas which form the level floors of the valleys. The rounded forms of the drumlins contrast with the flatter land between them, although their scattered, relatively widely dispersed distribution results in only limited areas being enclosed by the low rounded landforms. Occasional rocky outcrops occur within the drumlins, and are generally of similar elevation above the flatter land.

Landcover, Landuse and Landscape Elements

The fertile nature of the glacial soils of the drumlins provides comparatively lush green pasture which contrasts with the rough grazing of the poorly drained moor and moss surrounding the drumlins. The medium sized fields are enclosed by stone walls and wire fences, with few hedgerows. The rolling topography is masked in several areas by coniferous forestry plantations. Settlement consists of limited numbers of isolated dwellings, small settlements and the larger village of Kirkcowan and the town of Newton Stewart. The busy A75 road passes through this area, threading between the drumlins.

Landscape Designations

There are no landscape designations in this landscape character type within the study area.

Scale of Landscape

The scale of this landscape varies to a considerable degree; the areas where tree cover is extensive, and where drumlins are located closer together, the scale is medium. Where the drumlins are wider apart, and the vegetation of the flat moorland is uninterrupted, the scale is large.

Nature of Views

Views are generally contained by the drumlin landforms, particularly in the valley of the Lady Burn to the south of the site. This is reinforced in the areas where extensive tree cover is present.

Landscape Quality

Landscape quality is generally medium to good, with detracting elements in the form of angular coniferous plantations and prominent transmission lines present in some locations. In addition the character of residential developments on the fringes of some settlements detracts from the character of the landscape in the vicinity.

Visual Receptors

Receptors of views in this landscape character area include residents of isolated dwellings and settlements, users of the A75 road and other minor roads within the area.

1.2.10 LCT 13 Drumlin Pastures (Central and Southern Machars)

This landscape character type occupies the central part of the Machars peninsula.

Topography

The smooth forms of drumlins within this landscape character type are spread across a more undulating topography of river and stream valleys, interspersed with rocky outcrops.

Landcover, Landuse and Landscape Elements

Improved pasture, interspersed by areas of gorse occupies the majority of these areas. The prominent field boundaries accentuate the rounded topography and consist of stone walls and hedgerows. Settlement is dispersed and consists of isolated dwellings, small settlements and the upper parts of Wigtown. A network of minor roads serves the dispersed settlements.

Landscape Designations

There are no landscape designations in this landscape character type within the study area.

Scale of Landscape

The scale of these landscapes is medium, with limited areas of enclosure from tree cover.

Nature of Views

Views are generally of medium extent, constrained in places by the drumlin topography. In higher locations more extensive views over the rolling topography are available which extend out of the landscape character area. Accordingly, the Drumlin Pastures are influenced to a varying degree by developments in adjoining character types.

Landscape Quality

The quality of these landscapes is generally good to medium, with few detracting elements in some locations.

Visual Receptors

Residents of isolated dwellings and small settlements are the main residential receptors within these areas, together with users of minor roads.

1.2.11 LCT 17 Plateau Moorland

Plateau Moorland is represented within the study area mainly to the north of the site, with a discrete area located in the central Machar peninsula to the southeast.

Topography

The landform of these moorlands is elevated and gently undulating, dissected by numerous shallow valleys and scattered lochs.

Landcover, Landuse and Landscape Elements

The vegetation of these moorlands is a mosaic of moss, moorland grassland and heather, responding to the slope and drainage pattern. The landuse is mainly extensive rough grazing, with pockets of mixed woodland and occasional enclosed rough pasture defined by stone walls or wire fences. Settlement is sparse, consisting of isolated dwellings, and the few roads are minor and narrow.

Landscape Designations

Mochrum Loch Regional Scenic Area occurs in the Plateau Moorland to the south east of the site, south of Knock Moss.

Scale of Landscape

The landscape is large to vast in scale and simple in character, with smooth sweeping moorland horizons.

Nature of Views

Views are open and panoramic, extending generally to distant horizons. Consequently the character of the Plateau Moorlands is potentially influenced by developments in adjoining landscape character types.

Landscape Quality

Landscape quality is generally high, with few elements detracting from the undeveloped, remote character. The existing turbines of Artfield Fell are visible over wide areas to the north and northwest of the site, and influence the character of these areas.

Visual Receptors

Visual receptors include residents of the few scattered dwellings and users of the minor roads. Recreational walkers using the Southern Upland Way and other more local routes across these moorlands are also potential visual receptors of views of the proposals.

1.2.12 LCT 17a Plateau Moorland with Forest

This landscape type is closely associated with the more open Plateau Moorlands, and occupies extensive parts of the northern sector of the study area.

Topography

In terms of topography the Plateau Moorland with Forest is equivalent to the Plateau Moorlands.

Landcover, Landuse and Landscape Elements

This landscape character type differs from the Plateau Moorlands in relation to its landcover, which consists predominantly of large uniform blocks of commercial coniferous plantations, interspersed with moorland vegetation.

Landscape Designations

Limited areas of this landscape character type extend into the locally designated Sensitive Landscape Area of South Ayrshire.

Scale of Landscape

The scale of these landscapes is large to medium, reduced by the enclosing influence of the coniferous forest. Within the confines of the forested areas, the scale is reduced further in limited areas.

Nature of Views

The views experienced in these landscapes are mainly contained by the extensive blocks of forestry, with only occasional wider views from elevated points. In this respect, developments in adjoining character areas influence the landscape character of these areas to a limited extent only.

Landscape Quality

The quality of the landscape in these areas is medium, with the extensive angular blocks of forestry detracting from the character of a large proportion of this landscape type.

Visual Receptors

Visual receptors of views within these landscapes are few, and include residents of a small number of isolated dwellings, and users of the sparse network of minor roads.

1.2.13 LCT18 Foothills

This landscape character type occupies two separate areas on the northwest and southeast fringes of the study area, situated between the Ayrshire coast and the valley of the River Stinchar, and overlooking the Cree Estuary respectively.

Topography

The rounded, undulating topography of these landscapes varies between 170 and 250 m AOD, higher and with more pronounced rock outcrops in the western area. The slopes are dissected by small incised stream valleys.

Landcover, Landuse and Landscape Elements

Enclosed semi-improved pasture defined by stone walls occupies the lower slopes, merging into rough grazing and heath at higher levels. Small areas of tree cover are situated in sheltered pockets.

Landscape Designations

This landscape character type to the north of the River Stinchar extends into the locally designated Sensitive Landscape Area of South Ayrshire. The Foothills to the east of the Cree estuary are situated within the Galloway Hills Regional Scenic Area.

Scale of Landscape

The scale of these landscapes is generally medium, with some areas of larger scale at higher levels.

Nature of Views

Views are generally medium in extent, with some longer and more panoramic from the higher parts. The character of these landscapes is potentially influenced to varying degrees by developments in adjoining character types.

Landscape Quality

The quality of these landscapes is predominantly good, with few detracting features.

Visual Receptors

Residents of a small number of isolated dwellings and small settlements, together with users of minor roads may potentially experience views out of these landscape character types.

1.2.14 LCT18A Foothills with Forest (Nr Cairnsmoor of Fleet)

A single area of this landscape character type occurs in the study area to the east of Newton Stewart on the valley slopes of the Palnure Burn.

Topography

The topography of valley slopes and foothills is similar to that of the Foothills character type.

Landcover, Landuse and Landscape Elements

The valley slopes of this character area are covered by an almost continuous cover of coniferous forest, with limited open areas of pasture and grassland.

Landscape Designations

The areas of this landscape type within the study area are situated within the Galloway Hills Regional Scenic Area.

Scale of Landscape

The scale of this landscape type varies from small to large, depending on the degree of enclosure provided by the forestry cover, and elevation on the valley slopes.

Nature of Views

Views are generally contained by the dense forest cover, although open panoramic views are available from limited higher parts where forest cover is more sparse.

Landscape Quality

Landscape quality is medium, with the blanketing forest cover masking the natural variation in vegetation and topography.

Visual Receptors

Receptors include a limited number of residents of isolated dwellings at lower levels and walkers within the forest areas, with views significantly constrained by extensive coniferous tree cover.

1.2.15 LCT19 Southern Uplands

This landscape character type occurs in two discrete areas in the north west and north east of the study area, surrounding Glen App and on the western slopes of Merrick respectively.

Topography

The landform of these areas consists of smooth, rounded dome shaped hills, with slopes dissected in places by incised stream valleys.

Landcover, Landuse and Landscape Elements

Slopes and summits of the rounded hills are predominantly covered by grassy moorland and heather vegetation. Small pockets of woodland are confined to the narrow incised valleys. Limited areas of coniferous forest are situated on the upper slopes of Glen App, and a prominent transmission line runs across the valley slopes in this vicinity. Settlement is sparse, and roads are limited to minor roads serving the scattered dwellings.

Landscape Designations

The area of Southern Uplands to the north of Glen App is situated within the locally designated Sensitive Landscape Area of South Ayrshire, and the area on the western slopes of Merrick is within the Galloway Hills Regional Scenic Area.

Scale of Landscape

The scale of these landscapes is large, with simple rounded topography and smooth vegetation.

Nature of Views

Views both within and out of these landscapes are open and expansive, and as a result, their character may potentially be influenced by developments in adjoining landscape character types.

Landscape Quality

The quality of these landscapes is generally high, although the presence of the transmission line and angular blocks of coniferous forestry compromise this quality to the north of Glen App.

Visual Receptors

Visual receptors within these landscapes include residents of a small number of isolated dwellings and walkers using the network of minor routes.

1.2.16 LCT19A Southern Uplands with Forest

This landscape character type occurs in two limited areas within the study area, to the east of Glen App and on the eastern extremity of the study area in the vicinity of the upper reaches of Palnure Burn.

Topography

The topography of these landscapes is similar in all respects to that of the Southern Uplands landscape character type.

Landcover, Landuse and Landscape Elements

Extensive cover of coniferous forestry characterises these areas, which in other respects are similar to the Southern Uplands landscapes.

Landscape Designations

The area of this landscape type on the eastern extremity of the study area is situated within the Galloway Hills Regional Scenic Area.

Scale of Landscape

The scale of these landscapes is affected by the dense forest cover, and in most areas is small. The scale of the higher parts where forest cover is more limited is medium to large.

Nature of Views

Views are predominantly contained by the forest cover, both within and out of this landscape character type.

Landscape Quality

The quality of these landscapes is medium, as a result of the uniform, dense forest cover.

Visual Receptors

Receptors within these areas include a small number of residents of isolated dwellings and walkers using minor routes.

1.2.17 LCT20 Coastal Granite Uplands (Cairnsmoor of Fleet)

This landscape character type is present in eastern part of the study area, and includes the summit and upper slopes of Cairnsmoor of Fleet.

Topography

The rugged slopes of Cairnsmoor of Fleet rise steeply from the flat valley floor of the River Cree, and include hummocky areas of till deposits as well as rocky outcrops and areas of boulders.

Landcover, Landuse and Landscape Elements

Landcover consists of rough grazing with improved pasture at lower levels and gorse among the rocky outcrops. Some smoother slopes support improved grazing. Settlement consists of scattered farmsteads at lower levels, with the higher slopes and summit devoid of settlement. The rocky summit ridge of Cairnsmoor of Fleet dominates the surrounding hill slopes.

Landscape Designations

This area is situated within the Galloway Hills Regional Scenic Area.

Scale of Landscape

The scale of this area of landscape is large and the character undeveloped, with a sense of wildness and solitude.

Nature of Views

Views from the upper parts of this landscape type are panoramic, extending over long distances. As a result, these landscapes are potentially influenced by developments in adjoining landscape character areas.

Landscape Quality

The quality of these landscapes is high, with strong, intact character and few detracting features.

Visual Receptors

Visual receptors comprise walkers visiting the summit of Cairnsmoor of Fleet.

1.2.18 LCT21 Rugged Granite Uplands (Lanarchan Hill / Garlic Hill)

This landscape character type occupies part of the eastern sector of the study area to the east of the Cree valley between the hill summits of Cairnsmoor of Fleet and Merrick.

Topography

The landform of the upland summits is rugged, with massive peaks rising steeply out of moorland slopes marked with white granite outcrops and darker cliffs. The slopes are incised with streams separated by rocky ridges and small lochs at lower levels.

Landcover, Landuse and Landscape Elements

Heather and moorland grassland cover the upper slopes, with forestry plantations occurring on lower slopes. Habitation and roads are absent, with forestry tracks and footpath routes the only features of communication. The Southern Upland Way crosses this landscape character area, passing through the upper parts of Glen Trool.

Landscape Designations

This landscape character type occurs within the Galloway Hills Regional Scenic Area.

Scale of Landscape

The scale of this landscape is vast, with extensive areas of undeveloped uplands and open slopes.

Nature of Views

The views available from these hills are panoramic and long distance, extending over adjoining landscape character types. These landscapes may potentially be influenced by developments situated within adjoining landscape character types.

Landscape Quality

The quality of this landscape character area is high, with few detracting elements compromising the strong, consistent character.

Visual Receptors

Receptors of views within and out of this character area comprise walkers using the Southern Upland Way and other footpath routes, and visiting the summits in the vicinity.

1.2.19 LCT21A Rugged Granite Uplands with Forest (Claterringshaw Forest)

This landscape type occurs on the eastern fringe of the study area, within LCT 21, Rugged Granite Uplands, which it resembles closely in all respects with the exception of the landcover. In this subtype of LCT 21, the extensive forest cover consists mainly of coniferous plantations, interspersed with limited open areas and deciduous species on the margins of the forest areas.

Landscape Designations

This landscape character area is located within the Galloway Hills Regional Scenic Area.

Scale of Landscape

The scale of this landscape varies, with the more forested areas of medium to small scale, and the open, more elevated areas of large scale.

Nature of Views

Where clear views out of the forested areas are available, they are long distance and extensive. Within the forested areas, views are constrained and limited.

Landscape Quality

The quality of this landscape character area is medium, with the extensive uniform coniferous tree cover masking the variations of landform and natural vegetation.

Visual Receptors

The Southern Upland Way crosses this area, and users of this route form the principal receptors within this landscape type.

APPENDIX B: VIEWPOINT ANALYSIS

VIEWPOINT 1: VIEW NORTH WEST FROM MINOR ROAD IN VICINITY OF CARSCREUGH CASTLE

<i>Viewpoint location</i>	Track south of Carscreugh Fell		
<i>Grid reference</i>	222475E	<i>LVIA Visualisations</i>	1a, 1b
	559886N		
<i>Direction of view</i>	North	<i>Distance to nearest turbine</i>	587 m
<i>Landscape character type</i>	Upland Fringe	<i>Landscape designation</i>	None
<i>Number of hubs theoretically visible</i>	18	<i>Number of tips theoretically visible</i>	18

Existing view and Landscape context.

This viewpoint is located directly south of the proposed site on an unclassified narrow track between Glenluce and the private house of Grennan in the vicinity of Carscreugh Castle and Carscreugh House. Pasture is the dominant vegetation type prevailing in the area with stone wall and fenced field enclosure although moorland vegetation occurs extensively on the higher land and in drifts in lower hollows. The crest of Carscreugh Fell forms the skyline in views to the north at a height of 165m. A belt of broadleaf woodland occurs in the vicinity of Carscreugh Castle providing a degree of visual enclosure. Areas of moorland moss and juvenile coniferous plantation are present on the hill tops which add colour and interest to the landscape which has a remote and isolated feel. The surrounding landscape is relatively open and exposed to a degree and of medium scale.

There are no other wind farm turbines currently visible in this view.

Predicted View and Magnitude of Change

From this viewpoint all of the 18 turbine nacelles and rotors would potentially be visible at close range (between 587-c.1500m) and would occupy a horizontal angle of 78°. The three evenly spaced arrays of turbines would articulate and reflect the grain of local topography. The turbine towers and blades would generally be front or side lit for most of the day. Blade movement would be clearly seen when viewed from this direction. The turbines are, however, evenly spaced and create a well balanced and well considered composition.

Effect of ancillary equipment: The meteorological mast is set at the rear of the arrays, at this position screened by local tree cover from this viewpoint and would not detract from the simple layout of the turbines. The control building may be visible from locations in the vicinity of this viewpoint in part screened by local topography and tree cover, but the tower bases and intervening tacks will not.

Magnitude of Change: **Substantial**

Construction effects:

Cranes and most of the ground level movement and construction works, including temporary lay-down areas and construction activity would be evident from this viewpoint during the period of construction. This would be experienced from close proximity. The borrow pits A and D would be screened from this position by local tree cover, with borrow pits B and C largely screened by intervening topography.

Mitigation:

The layout has been designed to create an evenly spaced well grouped array of turbines. The ancillary equipment has also been carefully sited to reduce visual impact.

Effects on Landscape Character:

The viewpoint is located within the Upland Fringe landscape character type, where the enclosed pasture and woodland blocks give a medium scale landscape with the buildings and tree groups comprising elements of domestic character. The moorland vegetation and rough grazing on the horizon indicates the presence of the larger scale moorland summit of Carscreugh Fell on which the turbines are located. The turbines would contrast with the colours and textures of the vegetation and stone walls, and would affect the scale of the tree groups and buildings in the vicinity of the viewpoint. Their blade movement would contrast with the relatively static landscape, although the relatively open and windswept character of the ridge on which they are located is evident from this location. The landscape in the vicinity of this viewpoint is considered to be of **medium** sensitivity to the presence of wind turbines.

The character of the landscape at this location would be changed from Upland Fringe to a Wind Turbine landscape type, where the turbines would constitute the defining feature of landscape character. This change is considered to be **substantial** in magnitude. The significance of this change would be **major / moderate**, which would constitute a significant effect. The area in the vicinity of this viewpoint is not situated within any landscape designation.

Effects on Visual Amenity:

The main receptors in this vicinity would be recreational hikers, farm workers, the inhabitants of Carscreugh House and those travelling to Grennan House. The track gives access to the Three Lochs area where camping, caravanning and fishing are encouraged. Sensitivity of walkers and the few local residents would be **High**. The magnitude of change experienced by these receptors at this location is considered to be substantial and the visual effects for footpath and road users is considered to be **Major**, which represents a significant effect.

Nature of Effects - Long term temporary, direct, and adverse, neutral or beneficial according to personal perspective.

VIEWPOINT 2: VIEW SOUTH WEST FROM CARSCREUGH CROFT

<i>Viewpoint location</i>	Adjoining the property of Carscreugh Croft		
<i>Grid reference</i>	<i>Height</i>	<i>LVIA Visualisations</i>	2a / 2b
223215E 562275N	115m AOD		
<i>Direction of view</i>	South	<i>Distance to nearest turbine</i>	816 m
<i>Landscape character type</i>	Plateau Moorland	<i>Landscape designation</i>	None
<i>Number of hubs theoretically visible</i>	4	<i>Number of tips theoretically visible</i>	7

Existing view and Landscape Context:

This viewpoint is located adjoining the property of Carscreugh Croft looking in a south westerly

direction towards the northern slope of Carscreugh Fell. This viewpoint illustrates the vegetation types of the local area which include coarse moorland grasses on the higher land east of Garvilland Loch and the damp, rushy rough pasture and moss of the Drumphail Burn flood plain.

Predicted View and Magnitude of Change:

From Carscreugh Croft, most of the proposed wind turbines would be screened by the topographical rise on the north face of Carscreugh Fell. However, the hubs of turbine numbers 7, 8, 9, and 11 and the tips of the rotating blades of turbine numbers 6, 10, and 12 would be visible above the ridgeline of Carscreugh Fell. The open skyline would not provide any screening of these turbines. At a distance of 816m from the nearest turbine they would become a major new element in the view.

It should be noted that Artfield Fell wind farm is visible from this property in a northerly direction. This is the opposite direction to Carscreugh and the receptor would be required to turn 180 degrees and go to the front of the property in order to see Artfield Fell. Therefore the two sites would not be visible simultaneously.

Effect of Ancillary Equipment: The access tracks and the control building would not be visible and the anemometer mast located in a revised position further to the south would not be visible at this viewpoint. No other elements of the proposal would be evident from this viewpoint.

Magnitude of Change: Substantial

Effects on Landscape Character

The viewpoint is located within the Plateau Moorland Landscape Character Type, and the presence of the proposed turbines would result in a change in character to one of 'Plateau Moorland with Wind Turbines', where the turbines would be a defining element in the landscape. It is a large scale landscape considered to be generally of medium sensitivity to wind energy development. The wind turbines would be perceived as new vertical elements. The movement of the rotor blades would contrast with the more static moorland landscape. However the scale of the landscape is large and the configuration of the turbines respond to the grain of the local landscape. The turbines would be visible at close range and the effect on landscape character in the vicinity of this viewpoint is considered to be **Major/Moderate** and represents a significant effect.

Effects on Visual Amenity:

The viewpoint is representative of views experienced by the residents of Carscreugh Croft considered to be of high sensitivity. The proposed development would lead to a **Major** effect on the visual amenity of this single dwelling.

VIEWPOINT 3: VIEW WEST FROM MINOR ROAD NEAR GRENNAN

<i>Viewpoint location</i>	Access track between Glenluce and Tarf Water		
<i>Grid reference</i>	224078E	<i>L VIA Visualisation</i>	3a
	561421N		
<i>Direction of view</i>	North-west	<i>Distance to nearest turbine</i>	946 m
<i>Landscape character type</i>	Upland Fringe	<i>Landscape Designation</i>	None
<i>Number of hubs theoretically visible</i>	0	<i>Number of tips theoretically visible</i>	5

Existing View and Landscape Context:

This viewpoint is located on the access track leading to Grennan House. The property is relatively enclosed visually. The topography north of the property rises steeply onto Carscreugh Fell screening most of the site and coniferous plantations enclose the viewpoint to the east and south. In the foreground, the view is of moorland and grazing pasture with a horizon formed by plantations.

The viewpoint is located close to the base of Carscreugh Fell which rises relatively steeply over 60m to its crest. Views of the surrounding landscape from this area are constrained by the drumlins south of the viewpoint, the fell itself to the north, and local forestry. The landscape surrounding this viewpoint comprises undulating pasture of varying quality, fragments of moorland vegetation and more extensive areas of moss. Close to Grennan medium scale field patterns are defined by stone walls and post and wire fences. Blocks of coniferous forestry plantation are located to the south and west of the house which partially mask the drumlin features. A stand of deciduous woodland is situated at the gated entrance to the property. There are no other wind farms currently in the view.

Predicted View and Magnitude of Change

From this viewpoint the blade tips of turbines 9, 10, 13, 15 and 18 may be seen rotating beyond the crest of the fell, in part screened given the presence of deciduous trees located on the skyline. The magnitude of change associated with the proposed turbines would be limited, particularly in the summer months. None of the other associated features of the development would be visible. Due to the screening from the landform and vegetation there would be a low magnitude of change to the view.

Effect of ancillary equipment: No other ancillary equipment tracks or borrow pits would be visible from this viewpoint. However, in order to reach this viewpoint the control building, at least two borrow pit locations and approximately 1000m of access track would potentially have been visible.

Magnitude of Change: Slight

Construction effects:

From this viewpoint none of the construction activities would be visible due to screening from topography. Therefore there would be no additional visual impact during the construction period.

Mitigation:

The turbine layout has been arranged to achieve a simple form that accords with the grain of the ridge line landscape. To mitigate the impact of the wind farm the longest of the three arrays has been placed on the lee side of the hill.

Effects on Landscape Character:

The viewpoint is located within the Upland Fringe Landscape Character Type, within an area where potential visibility of the proposed turbines could be considered to change the character to one of Upland Fringe with Wind Turbines. However at this location the magnitude of the predicted effects of the proposed turbines is **slight**, and would not influence the character of the Upland Fringe landscape to this extent. It is considered that the intermittent glimpses of turbine tips above the crest of the near horizon would not disturb the scale and composition of this view. The area is not within or near to any locally designated AGLV/ RSA and is considered to be of **medium** sensitivity to wind energy development.

Given a magnitude of change of **Slight**, the potential effect on landscape character at this viewpoint is considered to be **Moderate/Minor** and not significant.

Effects on Visual Amenity:

The main receptors would be walkers on this local footpath and residents of Grennan. The walkers would be travelling at relatively slow speeds and would have a good appreciation of the landscape and

views around them. The sensitivity of the receptors would be **High to Medium**. The magnitude of change is considered to be Slight and accordingly the potential effect on visual amenity is assessed as **Moderate Minor** and not considered significant.

Nature of Effects - Long term temporary, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 4: VIEW SOUTH EAST FROM GARVILLAND LOCH

<i>Viewpoint location</i>	Beneath Drumpail Burn		
<i>Grid reference</i>	221585E, 561793N	<i>LVIA Visualisation</i>	4a / 4b
<i>Direction of view</i>	south east	<i>Distance to nearest turbine</i>	919m
<i>Landscape character type</i>	Upland Fringe	<i>Landscape designation</i>	None
<i>Number of hubs theoretically visible</i>	17	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

This viewpoint is located off the minor road from Glenluce to Tarf Bridge. It is indicative of the more restricted views obtained from the single farmstead at Garvilland where local tree cover filters views in a southerly direction towards the proposed site. A supplementary viewpoint 4.1a has been prepared to illustrate the partially enclosed and filtered views obtained within the grounds of the farmstead.

Viewpoint 4 lies in a shallow depression within an agricultural field at a locally elevated position which overlooks Garvilland Loch towards the slopes of Carscreugh Fell which forms the horizon. Vegetation in the foreground of the view consists of rough grassland with a scattering of trees. A stone wall marks the boundary between the mown grass immediately surrounding the farmhouse and the rough grazing. Garvilland Loch lies in the foreground of the view.

There are no existing wind farms currently in view from this location. South of Garvilland Loch the field patterns are medium in scale; to the east of the loch the fields become larger as moorland replaces pasture as the dominant vegetation type.

Predicted View and Magnitude of Change

From this viewpoint 17 of the turbines would be wholly visible on the skyline and just the blade tips of turbine number 1 would be visible. The turbines would appear well spaced across the horizon and would be highly prominent from the area surrounding the property, although trees directly in front of the farmhouse would provide some screening of the structures from the residential dwelling as illustrated in visualisation 4.1. At approximately 1km from the property, the turbines would become a major new element in the view but would not prevent appreciation of the underlying landscape.

Effect of ancillary equipment: The control building and access tracks would not be visible from this viewpoint as they would lie on the south facing slope of Carscreugh Fell which is orientated away from the property. The met mast would be visible amongst the turbines.

Seasonal changes: Changes in the season would make little impact on the vegetation types unless increased precipitation and flooding increased the proportion of moss in the moorland. Low winter sun would, however, intensify the silhouetting effect for visual receptors.

Overall Magnitude of Change: **Substantial**

Construction Effects: From this viewpoint, the construction compound and works at ground level would not be visible during the construction phase except in relation to the formation of turbine foundations and access tracks to turbines located on the north western edge of the development. The two cranes erecting the turbines would be visible for a relatively short time. There would be a low magnitude of visual effect during the construction period.

Mitigation: Design of the proposed wind farm layout aims to achieve a balanced configuration reflecting the grain of local topography.

Effects on Landscape Character:

The viewpoint is located within the Upland Fringe landscape type, considered to be of moderate sensitivity to wind energy development. At this distance from the turbines, the landscape character would be changed to 'Upland Fringe with Wind Turbines', where the turbines would become a key element influencing landscape character. The landscape in the vicinity of the viewpoint is large in scale, simple and open in character, consisting of a broad sweep of gently undulating moorland, loch and areas of upland scrub. The stone walls, farmstead, minor road and access track, as well as the line of wooden transmission poles reduce any sense of isolation or wildness at this location. The turbines would relate to the scale and simplicity of this landscape, although contrasting with the muted colours and textures of the moorland vegetation. Blade movement would contrast with the tranquil and static nature of the landscape, but would relate well to its windswept character.

The impact on the immediate landscape character at this viewpoint is considered to be **Major/Moderate**, which constitutes a significant effect.

Effects on Visual Amenity:

Visual effects have been assessed as **Major-Moderate**. The significance of this visual impact applies to a very limited number of receptors who use this remote narrow track and a limited number of residents who access their homes via this route.

Nature of Effects - Long term temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 5: VIEW NORTH EAST FROM MINOR ROAD NEAR WHITECAIRN CAMPSITE

<i>Viewpoint location</i>	On Glenluce / Tarf Bridge road to B7027		
<i>Grid reference</i>	220864E 559723N	<i>LVIA Visualisations</i>	5a / 5b
<i>Direction of view</i>	North	<i>Distance to nearest turbine</i>	1.10km
<i>Landscape character type</i>	Upland Fringe	<i>Landscape designation</i>	None
<i>Number of hubs theoretically visible</i>	18	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

This viewpoint is adjacent to Whitecairn Caravan Park, on the minor road running between Glenluce and Tarf Bridge. The view is representative of the residents of Whitecairn Farm, users of the caravan site, and recreational walkers/cyclists who use the minor road near the camp site.

The main focus of views within Whitecairn Caravan Park is southwards towards Luce Bay and the

Machars. The peaks of Knock Fell and Fell Wood (south of Glenluce village) are particularly prominent on the horizon to the right of the 90 degree view.

The view towards the site consists of undulating green pasture farmland, used for sheep and cattle grazing, divided by grey stone walls and post and wire fencing. There are several lines of telegraph poles running through the landscape, and the line of electricity pylons running to the south of Carscreugh Fell is evident in the distance to the right of the view. The minor road from Glenluce runs northwest into the distance. An L-shaped tree belt east of the caravan site and south of the minor road partially screens the southern half of the site including Carscreugh Castle and Farm, but the northern part of Carscreugh Fell is visible at an oblique angle eastwards.

Predicted View and Magnitude of Change

From the minor road south of Whitecairn Caravan site all of the turbines would be visible when looking east along the road. At this distance, the turbines would be prominent in the view however they would not obscure any long distance view in this direction or prevent an appreciation of the underlying landscape.

From within the camp site itself, the turbines would be largely screened by the large farm buildings of Whitecairn Farm to the east of the field. It is anticipated that restricted views of some of the turbines would be experienced from within the Whitecairn campsite however the main focus of the view southwards towards Luce Bay and the Machars would be unaffected by the development. In the context of the wider panoramic view, the turbines would not become a defining element of the landscape.

The access tracks and control building would not be visible from the camp site, due to their position on a slope orientated away from the viewpoint. The control building and main access track onto the fell would also be screened by the tree belt south of the camp site. The permanent met mast would be visible amongst the turbines.

As the development would not be prominent from within the camp site, it is considered that there would be a **medium** magnitude of change from within the camp site. However, due to the proximity to the development, there would be a **substantial** magnitude of change to the view eastwards along the minor road south of the site, which is used for recreational purposes particularly by users of the camp site.

As visual receptors move close to and past the turbines along this route from either of the approaches of the moorland plateau of the Drumpail Burn / Tarf Water or the pastoral landscape of the Glenluce hinterland, the rotating blades will appear to overlap to varying degrees producing a constantly changing kinetic structure which some receptors will find disquieting and others exciting. For most of the year the turbines will be front lit.

Seasonal changes: As pasture is the predominant vegetation it is unlikely that seasonal changes would make an appreciable difference to this view. Cloudy skies would tend to mitigate the visual impact of the proposals.

Ancillary Equipment: From this viewpoint no other element of the wind farm proposal would be seen. As this route approaches and passes by the arrays however the control building and two borrow pit locations would be evident.

Magnitude of Change: **Substantial**

Construction effects:

From this viewpoint neither the construction compound nor the works at ground level would be visible during the construction phase. The only additional impact would be views of the two cranes erecting the turbines but this would be for a relatively short time period. The cranes would have less of an impact than the turbines being erected. The magnitude of change during construction would be slight and no significant effects are predicted.

Mitigation: The design process has sought to ensure a structured balanced composition of turbines.

Effects on Landscape Character:

This viewpoint is located within the Upland Fringe landscape character type, considered to be of **medium** sensitivity to the presence of wind turbines. The proposed turbines would be perceived on the horizon above the medium sized fields of improved pasture defined by stone walls and wire fences. The scale of this view is medium and constrained by the large scale agricultural buildings and mixed woodland. At this distance, the turbines would influence the landscape character to the extent that it would become one of 'Upland Fringe with Wind Turbines'.

The turbines would be viewed in the context of the numerous wooden poles carrying transmission lines in this vicinity, and their vertical emphasis would relate to these features. However blade movement would disrupt the static qualities of the view and the form and colour of the turbines would contrast with the vegetation and other built elements within the view.

The significance of the effect on landscape character is considered to be **major / moderate**, which would be a significant effect.

Effects on Visual Amenity:

The main receptors would be local residents and tourists accessing the recreational facilities of Whitecairn and the Three Lochs. The visual sensitivity of tourists and local residents are considered to be **High**. The effect on Visual amenity at this viewpoint is considered to be **Major** and significant, however this should be qualified as within Whitecairn Campsite itself, the potential for views towards the proposed wind farm would be screened by intervening buildings and tree cover limiting the potential for significant effects.

Nature of Effects - Long term temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 6: A75 DERGOALS

<i>Viewpoint location</i>	In a lay-by alongside the A75		
<i>Grid reference</i>	224527E 559050N	LVIA Visualisations	6a / 6b
<i>Direction of view</i>	North-west	<i>Distance to nearest turbine</i>	2.57 km
<i>Landscape character type</i>	LCT12	<i>Landscape designation</i>	None
Lowland Pastures in Moss and Moor Lowland			
<i>Number of hubs theoretically visible</i>	18	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

This viewpoint is taken from the side of the A75 looking in a north westerly direction towards the Carscreugh Fell REP site. Views towards the site from the A75 are restricted to intermittent sections of the road between Dergoals and Glenluce. Drumlins and plantations to the north of the road screen sections of the road from the site. Views from the road are generally focused on the immediate setting of the road although Carscreugh Fell is prominent to the north in views obtained between the drumlins and plantations. Carscreugh Fell is seen as a long shallow inclined hill tilted to the west rising imperceptibly from the road side. On the slopes of the hill are areas of pastures and moor which

appear as part of a mosaic of different vegetation types. In the foreground, Dergoals Moss consists of areas of coarse grass, moss and carr interspersed with green drumlin pastures on Grace Hill, Knockishee and Birre Hill in the middle distance rising above stands of young coniferous forest. A line of electricity pylons follows the course of the Old Military Road approximately 500m to the north of the A75.

West of Carscreugh Fell lies the forested horizon of Challoch Hill which stands at the gateway to the coastal plain; Loch Ryan, Luce Bay and the sheltered wooded valley of the Water of Luce. North west of Carscreugh Fell lies the moorland of Gleniron and Bught Fells within the Plateau Moorland landscape. Above Tulmerrich Hill east of Carscreugh, the 15 turbines on Artfield Fell 8.0km north of the road are visible, rising above Eldrig Fell (224 m AOD).

Predicted View and Magnitude of Change

The Carscreugh turbines would be set in 3 linear arrays between the 125m-150m contours across 1.65 km of the Tulmerrich, Carscreugh Fell and Challoch Hill ridge between Tarf Water and the landscape to the west of the Water of Luce.

Given the relatively uniform height and extent of the ridge crossing the horizon, the serried ranks of the Carscreugh turbines would be perceived as a new focus, prominent in views to the north. Where visible between drumlins and forestry plantations, the turbines would be set against the skyline and would be prominent features in the landscape; however, they would not obscure, or prevent appreciation of the underlying landscape. They would not detract from the physical integrity of the drumlins beside the A75 but would relate visually to the rising slopes of Carscreugh Fell and be identifiable as part of a single renewable energy development. The turbines would be set back from the A75 road by a minimum of 2 km, and in the context of their intermittent visibility between drumlins and tree cover it is considered that they would not have an overbearing influence on the road.

Effect of ancillary equipment: The permanent met mast and control building would potentially be visible from the A75. The access track rising onto the fell from the minor road to Grennan would be partly visible but the majority of tracks on the site would be screened from the A75 by topography and stone walls on site.

Seasonal changes: Apart from changes to the grassland and mosses and the constantly changing pattern of the weather there would be little seasonal variation in the view of the turbines.

Magnitude of Change : Substantial to Moderate

Construction effects:

In this location construction activity would be apparent throughout the construction and decommissioning periods. Cranes, earth movers and other vehicles would be seen moving along the ridge location within the tranquil setting of the moorland landscape.

Mitigation: The three arrays of the current design minimises the lateral extent of the development on the wider landscape as far as wind resources permit. The open horizon and the higher fells beyond remain the dominant element in 65% of this view.

Effects on Landscape Character:

The viewpoint is located within the 'Drumlin Pastures in Moss and Moor Lowland' landscape character type. The view from this location shows the proposed turbines ranged along the crest of Carscreugh Fell in an array set partly against a backcloth of the higher ground to the north. The perceived size of the turbines relates broadly to the height of the landforms of Carscreugh Fell and the drumlins which make up the foreground of the view, and it is considered that their presence would not disrupt the scale of these features. The choice of turbines of 70 m tip height results in an array which corresponds with the vertical height of local topography and its horizontal emphasis when viewed from the A75 road. The simple outline of the turbines relates well to the flowing lines of the moorland and drumlin crests, although they interrupt the skyline of these crests over the width of the array. Their

colour and smooth texture contrasts with the vegetation cover of grassland and moorland, and their movement adds to the movement of traffic associated with the A75 road.

At this distance from the proposed turbines, the effects on landscape character are considered to change the landscape type to one of 'Drumlin Pastures in Moss and Moor Lowland with Wind Turbines', considered to be of medium sensitivity to the presence of wind turbines. This effect of **substantial / moderate** magnitude would be of **major / moderate** significance, which would constitute a significant effect.

Effects on Visual Amenity :

The main receptors would be motorists and tourists on the A75 in addition to a few residential receptors in dispersed dwellings and farmsteads in the local area. Motorists would be moving at speed to and from the ferries and the recreational resources around Luce Bay and Loch Ryan. Tourists would be regarded as **High** sensitivity with other road users of **Medium** sensitivity. Accordingly it is considered the effect on local road users would be **Major to Major/ Moderate** and is considered significant. This should be qualified given the intermittent nature of views towards the proposed wind farm over this section of the A75 and oblique nature of views.

Local residents, few in number in the vicinity of this viewpoint, would be of High sensitivity with potential for **Major** effect. This is considered further as part of the Residential Receptor survey in Appendix C.

Nature of Effects: Long term, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 7: TORWOOD BUNGALOW

<i>Viewpoint location</i>	Due north of Carscreugh Fell on minor road to Tarf Bridge		
<i>Grid reference</i>	224389E	LVIA Visualisations	7a
	563743N		
<i>Direction of view</i>	South	<i>Distance to nearest turbine</i>	2.70km
<i>Landscape character type</i>	Plateau Moorland	<i>Landscape designation</i>	None
<i>Number of hubs theoretically visible</i>	7	<i>Number of tips theoretically visible</i>	12

Existing View and Landscape Context:

This viewpoint is located on the minor road from Glenluce to Tarf Bridge. The view is representative of a cluster of residential properties close to this location and also of views from the minor road itself.

The view from this location overlooks improved pasture and grazing moorland characterised by undulating drumlin topography. In the direction of the site Drumawa Hill rises to 133m AOD and is flanked by coniferous forest. The minor road from Glenluce is bounded by a dry stone wall, and a mown roadside verge. Surrounding the majority of the properties there are mature deciduous trees, which filter views in the direction of the site.

Predicted View and Magnitude of Change

From Torwood Bungalow, Drumawa Hill and the coniferous plantation surrounding it would screen much of the proposed development. From distances of around 2.7 km residential receptors would

perceive the arrays as three distinct, visually permeable features viewed end on rather than as a single block set across the intermediate horizon. Where the linear alignment of the turbines would be viewed from this distance, the spaces between the rows would remain distinct, and overlapping of blades and 'stacking' of the turbines would be evident. Five of the turbines would be partially visible up to the hub, and the blades of a further five would be visible beyond the hill. The remaining 8 turbines would be screened by the landform. Although visible, in the context of the wider landscape and other features within this view, the turbines would form a small element.

Overall the three arrays would occupy a horizontal angle of 10 degrees.

Effect of ancillary equipment: The access tracks and control building would not be visible from the viewpoint, due to the nature of the landform and the distance from the site. The permanent mast would be partially visible, seen in the context of the turbine array.

Seasonal changes: There would be minimal seasonal changes due to vegetation cover. The off-white of the turbines would be viewed against the sky. And silhouetting of the turbines would be evident.

Magnitude of Change : **Moderate**

Construction effects:

From this viewpoint neither the construction compound nor the works at ground level would be visible during the construction phase. The only additional impact would be partial views of the two cranes erecting five of the turbines but this would be for a relatively short time period. The cranes would have less of an impact than the turbines being erected. Therefore there would be no additional visual impact during the construction period.

Mitigation: The design process has sought to achieve a layout, which will be perceived as simple compact and comprehensible.

Effects on Landscape Character:

The viewpoint is situated within the 'Plateau Moorland' landscape character type. The proposed turbines would comprise a small element within this view, and at this location would not result in the formation of a landscape subtype defined by the presence of wind turbines. The turbines would be seen as subsidiary to the more prominent elements of trees, road and walls, and would not affect the relative scale of these features. The sector of the view in which the turbines would be situated consists of a simple sweep of moss and rough grazing, interrupted by the coniferous plantation on the slopes of Drumawa Hill, within which the turbines would relate to the simple and open quality of the landscape character.

The turbines would interrupt the skyline in the vicinity of the coniferous plantation which also breaks the horizon. Blade movement would contrast with the predominantly static scene, and in certain lighting conditions the colour of the blades would contrast with the muted colour of the vegetation of pasture and moorland. It is considered that the sensitivity of the Plateau Moorland in this vicinity is of medium sensitivity to the presence of wind turbines. The anticipated effect on landscape character would be moderate, and would not constitute a significant effect.

Effects on Visual Amenity:

Local inhabitants and a small number of tourists use this narrow single road and sensitivity is assessed as Medium for road users and High for the few local residents. The effect on visual amenity is assessed as Moderate for road users and Major/Moderate and significant for local residents, but this should be qualified given the screening effect of tree cover in the view from local dwellings. This is considered in more detail as part of the Residential Receptor survey presented in Appendix C.

Nature of Effects- Long term temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 8: BARLOCHART (A747)

<i>Viewpoint location</i>	On the A747		
<i>Grid reference</i>	221095E	LVIA Visualisations	8a / 8b
	557272N		
<i>Direction of view</i>	North-East	<i>Distance to nearest turbine</i>	3.2km
<i>Landscape character type</i>	Drumlin Pastures in Moss and Moor Lowland	<i>Designations</i>	None
<i>Number of hubs theoretically visible</i>	18	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

The viewpoint is close to an important intersection on the road system linking the west coast of the Machars Peninsula with the main route of the A75 between Newton Stewart and Stranraer. From Port William the A747 road closely follows the coast until it turns inland at Auchenmalg to cross the lowland of Barlockhart Moor, situated between the 60 – 70 m AOD. To the immediate west of Glenluce users of this road arrive at the A75 junction with the fells and ridges of the higher land to the north prominent in forward views. The landscape in the vicinity of this viewpoint is influenced by the large operational quarry at Barlockhart Fell immediately to the west of the road. The photograph illustrates the shallowly incised west elevation of Carscreugh Fell and the relationship of the fell to the drumlins closer to the viewpoint. The view includes part of the built form of Glenluce, isolated dwellings on the valley slopes, the landcover of improved and rough pasture, scrub and small areas of deciduous woodland.

Predicted View and Magnitude of Change

The 18 Carscreugh REP turbines appear in a clustered array from this viewpoint as groups of 3, 2, 3, 3, 3 and 4 turbines. Ancillary buildings and equipment would not be visible. The composition and number of the turbines visible would change as a receptor moves along the A747 in the vicinity of this viewpoint. The turbines would occupy approximately 16% of the skyline when viewed from the road side. The turbines would be seen in the context of undulating topography, varied vegetation types, built form and rocky outcrops. For much of the year turbines will be lit from the east, south and west.

Effect of ancillary equipment: The meteorological mast would be visible from this viewpoint but no other element.

Seasonal changes: This area is subject to sea mists in spring and autumn which would obscure views of the turbines from time to time.

There would be little if any seasonal variation in the view of the turbines from this viewpoint apart from poor weather conditions which would diminish the visual impact.

Magnitude of Change: **Substantial to Moderate**

Construction effects: There would be glimpses of the cranes during the erection and dismantling of the closest turbines on the ridge.

Mitigation :

Detailed consideration was given to the potential visual effects in the vicinity of this viewpoint as part

of the design process. The turbines were moved further east and the most westerly turbines were removed to reduce and minimise both the number of turbines visible, and the scale and relative size of each turbine that would be visible by maximising the distance from the receptor.

Effects on Landscape Character:

The viewpoint is located within the 'Drumlin Pastures in Moss and Moor Lowland' landscape character type. At this location the drumlins are perceived as an extension of the smooth upland plateau ridge of which Carscreugh Fell is a part, although the improved pasture of the drumlins contrasts with the more distant, rougher moorland vegetation. Viewed from this vicinity, the vertical height of the turbines would be considerably less than the height of the drumlin landforms. The blade movement would attract attention, and although their presence on the skyline would disturb the smoothly undulating ridge, the scale of local topography would not be disrupted as a result.

The 'Drumlin Pastures in Moss and Moor Lowland' landscape character type at this location is considered to be of **medium** sensitivity to the presence of wind turbines. As a result the significance of the **substantial** to **moderate** effect would be between **major / moderate** and **moderate**, and is considered to be significant.

Effects on Visual Amenity:

The receptors would be mainly motorists travelling along the A747 and sensitivity is assessed as Medium. The effects on visual amenity are assessed as **Major Moderate - Moderate** and potentially significant.

Nature of Effects - Long term temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 9: WAR MEMORIAL, GLENLUCE

<i>Viewpoint location</i>	In the centre of Glenluce		
<i>Grid reference</i>	220136E	LVIA Visualisations	9a / 9b
	557608N		
<i>Direction of view</i>	North East	<i>Distance to nearest turbine</i>	3.2 km
<i>Landscape character type</i>	Upland Glens	<i>Landscape designation</i>	None
<i>Number of hubs theoretically visible</i>	0	<i>Number of tips theoretically visible</i>	2

Existing View and Landscape Context:

This viewpoint is situated close to the centre of Glenluce at the War Memorial on the southern side of the road running through Glenluce Village. The viewpoint is representative of the majority of Glenluce village, which is arranged along a linear route.

Glenluce lies between 15m and 45m AOD, below Black Hill and Barmain Hill to the north and Barlockhart Fell to the south. It comprises the only sizeable settlement between Newton Stewart and Stranraer which traces its history back to the early middle ages when it was part of an important religious centre. The remains of a Cistercian Abbey are located 1.5km north of Glenluce on the Water of Luce which is a focus for the Pilgrims Way Walk. Glenluce is linked to the national road network by the A75 at Lintmill Bridge, to the Machars peninsula via the A747 and by a number of minor unclassified roads to New Luce in the Water of Luce valley and the B7027. The latter is largely a

narrow single track road climbs out of the Lady Burn valley to traverse the higher land of the moorland plateau and thence to Tarf Water and the River Bladnoch.

From the higher land to the north of the village, beneath Carscreugh Fell, Glenluce and much of the route of the A75 is screened by a string of low drumlin hills between Barnshangon Hill, Drumwhillian Hill and Fell End.

Predicted View and Magnitude of Change

The convex profiles of the hills encompassing Glenluce permit little inter-visibility with the surrounding higher land or the peripheral lowland landscape. Tree cover in the sheltered valley will also mitigate views. Despite the proximity and elevation of Carscreugh Fell it is anticipated that the majority of residences within the town would experience no views of the proposed wind farm or glimpsed views towards a small number of blade tips. Houses on the northern edge of the town with east facing windows may experience some limited views of the turbines.

Effect of ancillary equipment: There would be no ancillary equipment visible from the central areas of Glenluce.

Magnitude of Change: **Negligible**

Construction effects:

None of the construction activities would be visible from this location. There would therefore be no effect on views during construction. Residents using the local footpaths around the town will be aware of construction activity. Motorists using the access roads leading to the town will be aware of construction traffic visiting the site via Lintmill Bridge.

Mitigation:

The simple compact linear structure of the three arrays proposed for the Carscreugh site which has resulted from, and been informed by the LVIA process is the mitigation measure to relate the proposals to the wider landscape.

Effects on Landscape Character:

The small scale, domestic and enclosed character of the village is considered to be of **high** sensitivity to the presence of wind turbines. It is considered that the potential visibility of a limited number of blade tips would result in effects of **negligible** magnitude, which would be of **moderate / minor** to **minor** significance (not significant).

Effects on Visual Amenity:

The principal visual receptors would be local inhabitants and tourists residing in or visiting the area. Sensitivity would be **High**. The magnitude of change in the centre of Glenluce would be negligible leading to a **Moderate Minor** to **Minor** effect, not considered significant.

Nature of Effects: Long term temporary, indirect, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 10: MINOR ROAD ARTFIELD FELL

<i>Viewpoint location</i>	Minor road on Artfield Fell		
<i>Grid reference</i>	221637E	LVIA Visualisations	10a / 10b
	564967N		

<i>Direction of view</i>	North	<i>Distance to nearest turbine</i>	3.5km
<i>Landscape character type</i>	Plateau Moorland	<i>Landscape designation</i>	None
<i>Number of hubs theoretically visible</i>	18	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

This viewpoint is located on the minor road running from Tarf Bridge to New Luce, in the vicinity of Artfield Fell. It is representative of the views experienced by walkers/cyclists who use the route for recreational purposes, although it is not particularly well-used for this purpose.

The panoramic view from this road extends across plateau moorland, and is open and expansive, interrupted by occasional blocks of plantation woodland. To the north, the turbines of Artfield Fell Wind farm are prominent on the higher ground of Artfield Fell.

Carscreugh Fell is seen to the west of Drumphail Fell (174m) which forms part of the foreground to the view, with Bught Fell (204m) dominating the local skyline to the west. The general levels of the moorland vary between 130 and 160 m AOD. Land cover consists of a mosaic of moorland grass, mosses and heather, set in a predominantly flat, open landscape punctuated by rock outcrops. Large areas of forest occur in the east of the plateau forming dark green horizons beneath the fells. In this vicinity the landscape character is wind swept and semi-wild, with an isolated quality which is compromised by the presence of the Artfield Fell turbines. The Southern Upland Way passes some distance to the north and west of this locality, where visibility of the proposed turbines would be substantially screened by landform.

Predicted View and Magnitude of Change

From this minor road near Artfield Fell all of the turbines would be visible in a balanced group with only a small degree of 'stacking'. The open moorland would provide no screening of the development and the turbines would be visible on the skyline. However, they would not obscure long distance views or prevent appreciation of the surrounding extensive moorland. At this distance, the Carscreugh turbines would not have an overbearing influence on the view and would be less prominent than the Artfield Fell development.

Ancillary Elements: The access tracks and control building would not be visible from the viewpoint, due to the nature of landform and the distance from the site. The permanent met mast would be visible beside the turbines towards the eastern edge of the proposed wind farm.

Seasonal changes: The low bright sun of winter would increase the silhouetting effect of the turbines as well as the dark masses of the foreground and neighbouring fells.

Magnitude of Change: **Substantial to Moderate**

Construction effects: Cranes will be visible during construction and decommissioning as would other construction vehicles.

Mitigation: The simple compact linear structure of the three arrays proposed for the Carscreugh site which has resulted from, and been informed by the LVIA process is the mitigation measure to relate the proposals to the wider landscape, albeit that this layout presents a less cohesive appearance from this particular sequential viewpoint.

Effects on Landscape Character:

The viewpoint is located within the 'Plateau Moorland' landscape character type. The proposed turbines would relate to the vast scale and simple nature of the moorland landscape, and would appear subsidiary to the summits of Bught and Drumphail Fells. Blade movement would be perceived in the context of the windswept moorland, relating to the windblown moorland vegetation. The

turbines would interrupt the horizon of the upland ridge, and in combination with the turbines of Artfield Fell, would compromise to an extent the sense of wildness experienced in this vicinity.

The sensitivity of the moorland landscape in this vicinity to the presence of wind turbines is considered to be **medium**, and the magnitude of the effect on the character of the landscape is predicted to be **substantial to moderate**. The significance of these effects would be between **major / moderate** and **moderate**, and would potentially be significant effects.

Effects on Visual Amenity:

The main receptors in this vicinity would be road users travelling between the valleys of Water of Luce and Tarf Water and the sensitivity of these receptors is assessed as **Medium**. The effect on visual amenity is assessed as **Major Moderate to Moderate** and potentially significant.

Nature of Effects: Long term temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 11: TARF BRIDGE

<i>Viewpoint location</i>	Bridge across Tarf Water near the Three Lochs		
<i>Grid reference</i>	225485E 564760N	LVIA Visualisations	11a / 11b
<i>Direction of view</i>	South west	<i>Distance to nearest turbine</i>	4.2 km
<i>Landscape character type</i>	Plateau Moorland	<i>Landscape designation</i>	None
<i>Number of hubs theoretically visible</i>	12	<i>Number of tips theoretically visible</i>	17

Existing View and Landscape Context:

This viewpoint is located at the junction of two minor roads that run to Glenluce and New Luce respectively. The viewpoint is representative of drivers and walkers/cyclists who use the roads for recreation. At this location, there are open views to the south and west across undulating moorland, pasture fields and coniferous plantations. Views to the north and east are constrained by forestry plantations. The minor road to Glenluce passes through this landscape bounded by stone walls and grass verges, with the vertical elements of telegraph poles and overhead electricity lines clearly visible at close quarters.

To the north, the turbines of Artfield Fell wind farm are prominent elements in the view with all of the 15 existing turbines visible on the skyline.

Predicted View and Magnitude of Change

From this viewpoint, the development would in part be screened by Derwindle Hill and mature trees near Gass Farm. The hubs of 5 turbines would be partly visible, although clustered behind one another and heavily filtered by mature trees in the mid distance, and the blade tips of a further 3 turbines would also be partly visible. The turbines would be barely perceptible beyond the trees and would not have a significant impact on the extensive view.

The turbines would appear on the skyline of the intermediate horizon of the hills, viewed in the context of existing forest and shelter belts, with the majority of the turbines below the level of the tree cover. The movement of the blades would be discernible and would be seen overlapping against the sky.

Effects of ancillary equipment: From this viewpoint the meteorological mast would be evident but all

other ancillary features would not be visible.

Seasonal changes: The existing photography was undertaken when there were no leaves on the trees. When these trees are in leaf it is anticipated that further screening of the turbines would occur.

Magnitude of Change: In view of the narrow occupied angle of the turbines within the wide view and the prominence of the Artfield Fell turbines, the magnitude of visual effect on the base line conditions is assessed as **Moderate to Slight**

Construction effects: The upper parts of a crane may potentially be visible for a short duration during construction at a distance of 4 km. None of the other construction activities would be visible.

Mitigation:

The turbines have been closely grouped together during the design process in order that they appear as a simple, coherent group to mitigate their impact upon the surrounding landscape. The turbines have been coloured grey/ off white to reduce contrast against the sky.

Effects on Landscape Character:

The character of the Plateau Moorland landscape in this locality is open, with successive horizons interrupted by blocks of both deciduous and coniferous woodland. The turbines viewed over some 4 km would not appear to be out of scale with this landscape, and would relate to the open, windswept qualities of the elevated ridges. The turbines would not constitute a new element in the landscape, and would be perceived in the context of the nearby Artfield Fell turbines.

The character of the Plateau Moorland is considered to be of **medium** sensitivity to the presence of wind turbines, and as a result the significance of the **moderate to slight** effect would be between **moderate** and **moderate / minor**, and would not constitute a significant effect.

Effects on Visual Amenity:

This viewpoint is representative of road users of **medium** sensitivity, and a small number of recreational walkers/cyclists considered to be of **high** sensitivity to change in the view. The effect on the visual amenity of road users is assessed as **Moderate/ Minor** and recreational users/ tourists as **Moderate** both of which are not considered to be significant.

Nature of Effects - Long term temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 12: CASTLE OF PARK GLENLUCE

<i>Viewpoint location</i>	Access track to the Castle of Park		
<i>Grid reference</i>	218974E 557053N	LVIA Visualisations	12a / 12b
<i>Direction of view</i>	North East	<i>Distance to nearest turbine</i>	4.30km
<i>Landscape character type</i>	Upland Fringe	<i>Landscape designation</i>	None.
<i>Number of hubs theoretically visible</i>	18	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

The Castle of Park is a historic monument now used as a private residence. It is set within a sheltered

woodland setting at level 36m AOD within the shadow Challoch Hill. The view is orientated toward Black Hill and Barmain Hill (105m AOD) which form the intermediate horizon of the view. The settlement of Glenluce is screened from this position by landform and tree cover, and dwellings on the Glenluce to Tarf Bridge road are visible in the middle distance. Fields on the valley slopes are medium in scale, their boundaries enclosing productive improved pasture. Beyond this viewpoint the road enters a mature woodland and forest setting which filters short, medium and distant views from inside the property.

The view towards the site from this position consists of undulating pastoral fields divided by hedgerows, with several farmsteads located in the near and middle distance. A transmission line on wooden poles is visible across the middle ground of the view. A poorly surfaced road, lined with bracken, shrubs and a line of telegraph poles leads to the castle. Closer to the dwelling, mature deciduous trees located on either side of the road partially screen the view in the direction of the site.

Predicted View and Magnitude of Change

From this viewpoint all 18 of the turbines would be visible in a relatively tight cluster and at a distance of over 4km, with visibility partially filtered by tree cover. The turbines would be orientated obliquely to the direction of the view and their linear arrangement would be clearly perceived.

The view of the turbines would be partially filtered by deciduous trees along the access track to the castle. They would form a noticeable feature, but would not exert an overbearing influence on the view. In the context of the wider panoramic views available from this location, the turbines would form a small element of the view and not significantly detract from the immediate surroundings of the castle or the appreciation of its significance.

The turbines will take up 9.5 degrees of the 90 degree view, appearing in the middle distance with the movement of the blades visible but not prominent, and some overlapping of adjacent turbines evident. The turbines would be lit from the side or the front for the majority of the time when viewed from this direction.

Effects of ancillary equipment: The meteorological mast will be visible at the rear of the arrays but no other elements of the development would be visible from this viewpoint.

Seasonal changes: There would be minimal change to this view as a result of seasonal effects. In more cloudy and misty conditions the turbines will become less prominent.

Magnitude of Change: **Moderate to Slight**

Construction effects: Cranes would be visible for a short period during the construction and decommissioning of the site. Although trucks and construction vehicles climbing the hill would be visible, views would be distant and minimal in the overall wide views achieved from this viewpoint.

Mitigation:

The linear arrangement of the turbines in two receding rows forms two coherent groups, relating to the spurs of the western flank of Carscreugh Fell.

Effect on Landscape Character:

This viewpoint is located within the Coastal Flats landscape character type, on the flood plain of the Water of Luce. The turbines would be located some 4.3 km from this viewpoint, and would be perceived as a feature of the landscape beyond the middle horizon of the view. The turbines would be situated on the higher ground above the valley slopes and relate to the elevated ridge in the far distance. They would contrast with the smaller scale of the valley slopes, pasture and residential property, but the screening of their bases makes their distance from the viewpoint less obvious, and they form a minor element within the view.

The sensitivity of this landscape type to the presence of wind turbines is generally considered to be **medium / low**. However in this instance the proximity of domestic scaled development, and smaller

scale pastures results in a **medium** sensitivity. The significance of the **moderate** to **slight** effect is considered to be between **moderate** and **moderate / minor**, and would not constitute a significant effect.

Effect on Visual Amenity:

The Castle of Park, once a creative writing school, is now a refurbished private residence which remains of architectural and historic interest. Receptors at this viewpoint would be visitors to the castle grounds and local residents, experiencing views towards the hills which extend approximately 75m above the level of the viewpoint. The sensitivity of these receptors is considered to be **High**, and the effect on visual amenity is considered to be between **Major / Moderate** and **moderate**, and would be potentially significant.

Nature of Effects - Long term temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 13: KNOCK FELL

<i>Viewpoint location</i>	Summit of Knock Fell Machars Peninsula		
<i>Grid reference</i>	225511E 555769N	<i>LVA Visualisations</i>	13a / 13b
<i>Direction of view</i>	North West	<i>Distance to nearest turbine</i>	5.60km
<i>Landscape character type</i>	Moss Forest Lowland	<i>Landscape designation</i>	None
<i>Number of hubs theoretically visible</i>	18	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

Knock Fell is one of several conical hills in the lowland landscape south of Carscreugh Fell. The summit of the fell provides extensive panoramic views across the Machars Peninsula, the Rhins Peninsula and Luce Bay. Access to the viewpoint is by footpath from Stairhaven via a track from Whitefield Loch. The view includes Dernaglar Loch through to Gleniron Fell (192m AOD) and from Dirnean Moss across Carscreugh Fell, Bught Fell (204m AOD) past Cairn Hill of the Moll towards Fair Cairn(296m AOD) and to Beneraird (439m AOD). From this viewpoint the landscape to the north appears as a number of level, elevated plateaux broken by intervening ridges of undulating hills. Carscreugh Fell and Artfield Fell appear in the middle distance.

The foreground of the view consists of an extensive, flat mosaic of moorland vegetation on Dirnean Moss and Knock Moss, interrupted by extensive plantations of mature coniferous forest and some areas of enclosed, improved pasture. In the middle distance, drumlins occur in the shallow valley of the Lady Burn, identified by the brighter green of improved pasture, but otherwise merging with the more distant slopes of Carscreugh Fell. The presence of the extensive forestry plantations and the areas of enclosed pasture reduce the sense of isolation and 'wildness' within this stretch of moorland landscape. Fifteen turbines are visible on Artfield fell. All of these turbine blades rotate above the horizon and form a noticeable feature in the existing landscape.

From the Knock Fell viewpoint the nature of the Moss and Forest Lowland is clearly visible, characterised by vast expanses of moorland, moss and commercial forestry which extend northwards towards the undulating hills of Carscreugh and Bught Fells, southwards across a shallow descending

plain of the Machars peninsula and westwards towards the sea and the Rhins Peninsula.

Predicted View and Magnitude of Change

Eighteen 70 m high turbines would be ranged across 1.65 km of the summit of Carscreugh Fell, against a background of Bught Fell, Craighburnoch Fell and Balmurrie Fell. They would form a relatively even, linear array at a distance of approximately 5.6 km, with the majority of the blade tips below the skyline of these fells. The turbine array would occupy a horizontal angle of 16 degrees. The profile of the arrays follows the profile of the fell and leads the eye to the more distant summits of Bught and Artfield Fells. These distant summits remain dominant within this view, rising above the general level of the turbine blade tips.

Effect of ancillary equipment: The control building and one of the borrow pits may be visible from this location approximately 6.0 km distant.

Seasonal Changes: There would be no seasonal changes from this viewpoint except the colours of the ground and visibility depending on the weather. The proximity to the coast and the sea lochs results in mist obscuring extensive areas of the adjacent landscape at various times throughout the year particularly in spring and autumn.

Magnitude of Change: **Moderate**

Construction effects: Construction and decommissioning activities would potentially be visible, including much of the movement at ground level of cranes trucks and other equipment. This is a tranquil landscape where any movement would be apparent.

Mitigation:

The design process has produced an evenly spaced layout with minimal overlap where the turbines are set within the landscape below the dominant profile of the hills. The control building has been carefully sited and tracks routed using the contours of the site, to minimise visibility within the majority of the views from the south.

Effect on Landscape Character:

The array of proposed turbines would form a coherent, large scale element within this view, relating strongly to the large scale of the moorland of the foreground of the view and in the vicinity of the site. The turbines would also correspond with the windswept nature of the landscape, and its simple undulating landform. The introduction of the proposed turbines at a distance of 5.6 km from this location is not considered to compromise the overall scale of this landscape.

The character of the landscape in this vicinity is defined by the flat, open topography, moorland and forestry vegetation interspersed by areas of enclosed fields and the visible presence of farmsteads and improved pasture. As a result of these influences, the Moss and Forest Lowland in this vicinity is considered to be of **medium** sensitivity to the presence of wind turbines. Accordingly, at this viewpoint the **moderate** effects are considered to be of **moderate** significance (not significant).

Effect on Visual Amenity:

In order to reach the viewpoint, walkers would have undertaken a steep walk to reach the summit of the Fell. Given a magnitude of change considered to be **Moderate**, the effect on the visual amenity of recreational walkers is considered to be **Major/ Moderate** and significant.

Nature of Effects - Long term, temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 14: CRAIGHLAW A75

<i>Viewpoint location</i>	On A75 near Kiltersan		
<i>Grid reference</i>	229507E 561172N	<i>LVA Visualisations</i>	14a / 14b
<i>Direction of view</i>	West	<i>Distance to nearest turbine</i>	6.6km
<i>Landscape character type</i>	Drumlin Pastures in Moss and Moor Lowland	<i>Landscape designation</i>	None
<i>Number of hubs theoretically visible</i>	17	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

This viewpoint is located on the south side of the A75 road looking west towards Carscreugh Fell. The middle distance horizon is formed by the drumlins of Blairderry Hill (122m) and Kiltersan Hill (133m) which screen Carscreugh Fell itself from view. The view includes parts of one of the most extensive group of drumlins in the Machars between Tarf Water and the Bladnoch River. From ground level the drumlins appear as a gently undulating landscape of fertile grassland. The field are medium to large, subdivided by stone walls generally in a poor state of repair. Whilst large areas of forest are present in the region north and south of the viewpoint at Blairderry Moss and Mark of Luce Moss, these are screened by the drumlins. Carscreugh Fell and the higher plateau ridge to the north west are not visible from this location. A line of electricity pylons runs parallel to the course of the A75 across the middle ground of the view, and the busy A75 road occupies much of the foreground.

Predicted View and Magnitude of Change

The Carscreugh development would be partly visible only from a short length of the A75 (less than 1km). The viewpoint is located within this section where there would be a glimpse of short duration of the upper parts of the turbines while travelling west. Due to the nature of the drumlin landscape through this area, landform would otherwise screen the development from the remainder of the A75 to the east of Dergoals.

At this point on the A75, as drivers emerge from behind Craighlaw Wood, the towers/rotors of all 18 turbines would be visible. At this distance, the tips and hubs of the turbines would comprise a minor feature of the view and not be prominent. Blade movement would be visible but not prominent, and would be perceived in the context of the rapidly moving traffic of the busy A75 road.

Effect of ancillary equipment: None of the other associated features of the development would be visible from this section of the.

Seasonal changes: There would be minimal seasonal changes from this viewpoint as pasture is the dominant vegetation type.

Magnitude of Change: **Moderate / Slight**

Effects on Landscape Character:

The viewpoint is located within the 'Drumlin Pastures in Moss and Moor Lowland' landscape character type. In this vicinity the drumlin landforms are shallow and wide, forming gently undulating and interlocking low hills, some 10 to 15 m above the level of the viewpoint. The sparse tree cover of isolated trees on field boundaries provides little enclosure, and as a result the landscape is open in character and medium in scale. The agricultural land is settled and civilised in character, with little

sense of remoteness or wildness. As a result of these influences, the landscape in the vicinity of this viewpoint is considered to be of **medium** sensitivity to the presence of wind turbines.

The turbines, viewed over a distance of some 6.4 km, would appear as a minor feature, and are not considered to disrupt the scale of the low drumlin landforms, or the other elements within the view. Blade rotation would be perceived in the context of rapidly moving traffic of the A75, and is not considered to significantly increase the amount of movement within the landscape in this vicinity.

The turbines would appear on the skyline of the low hills, disturbing the smooth horizon, but would not compromise any qualities of remoteness, appearing as an addition to the predominantly man-made landscape. The effects on the landscape would be **Moderate / Slight** in magnitude, and in the context of the **Medium** sensitivity would be of **Moderate to Moderate / Minor** significance (not significant).

Effects on Visual Amenity:

The visual receptors would be tourists, local inhabitants and commuters travelling between Ireland, Scotland, England and Europe. As the A75 is a strategic route these receptors would mostly be travelling at speed between 60-70mph where appreciation of the landscape is secondary to travelling either to the ports, to the recreation resources of the peninsulas or towards mainland Europe. Travelling at speed requires motorist to concentrate on forward views rather than peripheral landscape elements. The receptors are assessed as having **Medium** sensitivity. The effect on the visual amenity of road users at this location is assessed as **Moderate to Moderate / Minor** and not significant.

Nature of Effects- Long term temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 15: SOUTHERN UPLAND WAY AT AIRYOLLAND MOSS

<i>Viewpoint location</i>	On the track to Low Airyolland Road		
<i>Grid reference</i>	214787E 562405N	<i>LVA Visualisations</i>	15a / 15b
<i>Direction of view</i>	East	<i>Distance to nearest turbine</i>	7.2 km
<i>Landscape character type</i>	Plateau Moorland	<i>Landscape designation</i>	None
		<i>Level</i>	121m AOD
<i>Number of hubs theoretically visible</i>	16	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

This viewpoint is located on a minor road near the Southern Upland Way. It is representative of a short section (approximately 400m) of this long distance national trail, where walkers experience views towards the site as it descends gently eastwards onto Glenwhan Moor. At this point on the Southern Upland Way there is a signposted detour into New Luce village along this minor road and the viewpoint was selected to represent this detour also. The viewpoint is representative of recreational users of the Southern Upland Way.

In this viewpoint Carscreugh Fell is visible between Camrie Fell and Bught Fell. The predominant vegetation in this area is coarse grassland interspersed with areas of moss and rough pasture. There are few residences or farm buildings within this extensive landscape, giving an undeveloped, isolated character. Views experienced from the SUW extend over 16km eastwards to Fell End and Culvannan Fell (215m AOD) and northwards to White Fell (286m AOD). The existing turbines of Artfield Fell are

visible on the horizon, partly against a background of higher summits to the east.

Predicted View and Magnitude of Change

From this short section of the Southern Upland Way, all 18 of the turbines would be visible on the horizon at Carscreugh Fell. At this distance, they would be visible but not affect the appreciation of the underlying moorland landscape. The proposed turbines would not constitute a new element within this view, being visible in the context of Artfield Fell wind farm, and would comprise a minor element of the view.

Beyond this short stretch of the Southern Upland Way from where the two wind farm sites would be visible, Carscreugh REP would then not be visible for approximately 13km westwards and 14km eastwards along the long distance trail. Due to the short duration of the visibility with Carscreugh and the distance from the site, it is considered that there would be a **slight** magnitude of change in the views from the Southern Upland Way.

Effect of ancillary equipment: The access tracks and substation would not be visible from the viewpoint, due to the distance from the site. The permanent mast would be just visible amongst the turbines

Seasonal changes: The changing colours of the vegetation across the seasons would provide some distraction to the turbines on the horizon. Mists / haze are also a feature of the area.

Magnitude of Change: Slight

Effect on Landscape Character:

This viewpoint is located within the 'Plateau Moorland' landscape character type. The character of the landscape in the vicinity of the viewpoint is open and large in scale; the expansive views to distant horizons, and the simple landform and scarcity of vertical elements give a horizontal emphasis and undeveloped, tranquil quality.

The proposed turbines would constitute a distant feature in this view, echoing the form and movement of the Artfield Fell turbines. Viewed over these distances, the existing and proposed turbines together are not considered to affect the scale of the other elements within the view. However the addition of the proposed turbines would compromise the sense of remoteness and tranquillity experienced in this vicinity to a degree. They would result in further disturbance to the smooth undulating plateau ridges which form the horizon, and the blade movement would extend the disturbance arising from the Artfield Fell turbines.

The Plateau Moorland landscape character type is considered to be of **medium** sensitivity to the presence of wind turbines, and the magnitude of the effects on the landscape character would be **slight**. The significance of these effects would be **moderate / minor**, and not significant.

Effect on Visual Amenity

The main receptors would be hill walkers on the Southern Upland Way which is a national long distance footpath. The receptors would be travelling at slow speeds and have an appreciation of the landscape. The sensitivity of the receptors is **High**. Given a **Slight** magnitude of change it is considered the effect on the visual amenity would be **Moderate** and is not considered significant.

Nature of Effects: Long term temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 16: MOCHRUM LOCH

<i>Viewpoint location</i>	Low level viewpoint adjacent to Lochside Cottage		
<i>Grid reference</i>	230354E 552691N	<i>LVIA Visualisation</i>	16a
<i>Direction of view</i>	North- west	<i>Distance to nearest turbine</i>	11.40km
<i>Landscape character type</i>	Plateau Moorland	<i>Landscape designation</i>	Mochrum Lochs RSA
<i>Number of hubs theoretically visible</i>	12	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

This viewpoint is located on the southern side of Mochrum Loch in the Machars peninsula on the route of the Pilgrim's Way. It is representative of recreational users of the Pilgrim's Way.

There are several water bodies in this region and Mochrum Loch dominates the view at this particular location. The Loch is fringed by mature trees and shrubs, particularly along the northern side of the minor road, which screen views significantly from the road in a northerly direction. Clear views northwards are limited to a small number of locations on the loch shores; this viewpoint was selected as representing the most open view from the shoreline. Artfield Fell wind farm is visible in the distance from this position but it is not a prominent feature of the view. The loch forms the dominant element of this view, and together with the fringing scrub and marginal vegetation forms the focus of the attractive scene.

Predicted View and Magnitude of Change

From this viewpoint, the turbines would be largely screened by vegetation on the opposite side of the Loch. Although shown as theoretically visible on the wireline, in real terms only the tips of five turbines would be visible. At over 11km from the site, these turbine blades would not be prominent in the context of the wider view across the Loch. Where visible, the rotating blades would not detract from the appreciation of scale and landform in the immediate landscape.

Due to the limited extent of the predicted visibility of the proposed turbines from this location, it is considered that there would be a low magnitude of change in the view resulting from their presence.

Effect of ancillary equipment : At this distance from the site the access tracks and substation would not be visible. The permanent mast may be partially visible adjacent to the turbines.

Seasonal changes: Carr vegetation and mature deciduous trees supply some measure of screening for part of the year.

Magnitude Change: Slight

Construction effects: The crane would be visible for a short period during construction and decommissioning although ground based activity would not be visible.

Mitigation:

The turbines have been coloured white/ grey to reduce their prominence against the sky colour. The turbines would be set low behind the ridgeline and appear in a cluster which is contained within a short section of the ridgeline.

Effect on Landscape Character:

The viewpoint is located within the 'Plateau Moorland' landscape character type, generally considered to be of **medium** sensitivity to the presence of wind turbines. In the context of the scenic designation

as a Regional Scenic Area, the sensitivity at this location is considered to be **high**. The proposed turbines would appear as minor features on the distant horizon and would not affect the scale or appreciation of the nearer landscape. They would result in a slight degree of disturbance to the skyline on the far side of the loch, although blade rotation would not be prominent at this distance, and the seasonally varying filtering of deciduous tree cover would limit visibility at certain times of the year.

The magnitude of the effect on landscape character at this viewpoint would be **slight**, and in the context of the **high** sensitivity, would be of **moderate** significance (not significant).

Effect on Visual Amenity:

Due to the use of the road as a heritage trail, receptors at this viewpoint are considered to be of **high** sensitivity to change in the view. Given the limited extent of potential visibility the effect on visual amenity is considered to be **Moderate** and not significant.

Nature of Effects - Long term temporary, indirect, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 17: SANDHEAD CARAVAN PARK

<i>Viewpoint location</i>	On the beach alongside Luce Bay in front of the caravan park		
<i>Grid reference</i>	209791E, 549688N	<i>LVIA Visualisations</i>	17a
	North	<i>Distance to nearest turbine</i>	16.10km
<i>Landscape character type</i>	Peninsula / Coastal Flats	<i>Landscape designation</i>	RSA
<i>Number of hubs theoretically visible</i>	18	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

This viewpoint is located in the coastal area of Luce Sands at a car park and picnic area in Sandhead. The viewpoint is located on the beach itself and is representative of views experienced by members of the public, particularly tourists using the area for recreational purposes, as well as residents of the village of Sandhead.

From Sandhead, there are panoramic views across Luce Bay eastwards towards the Machars peninsula to the east. A narrow shingle beach makes up the foreground of the view, with the adjacent grassland mown for use as a car park and picnic site. To the left of the view, dwellings within the village of Sandhead face the sea, and the view is dominated by the water of Luce Bay with the distant hills of the Machar peninsula on the eastern side of the bay. Carscreugh Fell is visible on the far side of the bay and the distinctive outline of Knock Fell forms a prominent point on the undulating horizon, seen against a background of the higher Galloway Hills to the east. Artfield Fell wind farm is visible across the bay but is not prominent in the context of the wide panoramic view.

Predicted View and Magnitude of Change

Viewed from this location, the proposed Carscreugh REP would appear as a minor feature on the distant Machar peninsula, partly against a background of the higher ground to the east of the site. Blade movement would be barely perceived, depending on the atmospheric conditions. The turbines would be perceived in the same sector of the view as Luce Bay, which forms the focus of

this view. The associated magnitude of change arising from the presence of the proposed turbines would be **slight**.

Ancillary Elements: None of the ground level features of the Carscreugh REP proposals, or the permanent met mast would be discernible from this viewpoint.

Seasonal Effects: The visibility of the proposals would not be affected by seasonal changes in vegetation cover, although the incidence of sea mist and atmospheric haze would reduce the visibility at certain times of year.

Magnitude of Change:

The visibility of Carscreugh REP from this viewpoint is considered to result in **slight to negligible** effects.

Effects on Landscape Character:

The viewpoint is located within the Coastal Flats landscape type, immediately adjacent to the Peninsula landscape type of the Rhins peninsula. The Coastal Flats LCT is generally considered to be of **medium / low** sensitivity to the presence of wind turbines. However in the context of this viewpoint, the proximity of the built form of the village, and the nearby east coast of the Rhins peninsula, the sensitivity of the landscape character is considered to be **medium**.

From this position, the proposed turbines would be perceived as belonging to the distant moorland plateau, clearly distinct from the coastal location of the viewpoint. The turbines would relate to the windswept character of the open coast as well as to the higher moorland plateau in which they would be located. The magnitude of change arising from the presence of the turbines would be **slight to negligible**, and of **moderate / minor to minor** significance (not significant).

Effects on Visual Amenity:

The majority of the dwellings and caravans at Sandhead are orientated eastwards, to take advantage of the sea view over Luce Bay. The beach at Sandhead is a popular recreation area with residents and visitors alike which extends partly along the north coast of Luce Bay. Further to the east, the coastal margin is occupied by military installations and is not open to public access. The sensitivity of residential and recreational receptors is considered to be **High**. The effects on visual amenity are considered to be of **Moderate / Minor** significance.

Nature of Effects- Long term temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 18: A77 IN THE VICINITY OF CAIRN PAT

<i>Viewpoint location</i>	Rhins Peninsula. Main east-west access to Rhins west coast		
<i>Grid reference</i>	203995E 555145N	<i>LVIA Visualisations</i>	18a
<i>Direction of view</i>	East	<i>Distance to nearest turbine</i>	18.48 km
<i>Landscape character type</i>	Peninsula	<i>Landscape designation</i>	None
<i>Number of hubs theoretically visible</i>	18	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

This viewpoint is representative of views experienced by road users travelling west to east from Port Patrick towards Stranraer on the A77. Immediately west of the road are the lower slopes of Cairn Pat (184m AOD) the highest peak on the Rhins peninsula. In the far distance the hills of Cairnsmoor of Fleet (710m AOD) and Lamachan Hill (714m AOD) are visible, forming the horizon of the view. In the intermediate distance the plateau moorlands north of Bught Fell, Carscreugh Fell and Knock Fell are visible, framed by the nearer landform of the Rhins peninsula. Visibility of Carscreugh Fell is experienced intermittently by users of this section of the A77, as the road undulates and descends towards Stranraer.

The view from this road extends over a shallow valley consisting of rolling pastures and arable fields divided by hedgerows. In the distance, the gradual slopes of the distant fells of the mainland are visible and in the far distance the horizon is defined by the Cairnsmore of Fleet range of hills. Artfield Fell wind farm is visible in the distance but does not form a prominent element in the view.

Predicted View and Magnitude of Change

In this view the Carscreugh turbines would occupy a small proportion of the view on the intermediate horizon. The majority of the turbines would be viewed against the background of the distant Galloway hills, and a small number would break the skyline. They would be partially screened by a distant moorland ridge in front of the turbines. They would appear as a relatively evenly spaced single group in the mid to far distance. The magnitude of change associated with their presence is considered to be **slight to negligible**.

Effect of ancillary equipment: None of the ancillary equipment would be evident from this viewpoint.

Seasonal changes:

There would be minimal seasonal change in the visibility of the turbines from this viewpoint except as a result of mist and atmospheric haze prevalent a certain times of year, which would reduce the visibility from this location.

Magnitude of Change : Slight to Negligible

Effect on Landscape Character:

The viewpoint is located within the Peninsula landscape character type, considered generally to be of **medium** sensitivity to the presence of wind turbines. The open, relatively simple and expansive quality of the landscape in the vicinity of the viewpoint would relate to the turbines, and at this distance from the site, the turbines would not disturb the scale of the dwellings and other domestic features within this view. The magnitude of the effect on the character of the landscape in this vicinity would be **slight to negligible**, and of **moderate / minor** to **minor** significance (not significant).

Effect on Visual Amenity:

Road users of this section of the A77 would be local residents and tourists. Road users are considered to be of **medium** sensitivity to change; tourists are considered to be of **high** sensitivity.

The effect on the visual amenity of road users is considered to be **moderate / minor** to **minor** and for tourists experiencing the view, the effect would be of **moderate** to **moderate/ minor** significance. These effects are not considered to be significant.

Nature of Effects - Long term temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 19: SOUTHERN UPLAND WAY AT KNOCKQUHASSEN

<i>Viewpoint location</i>	Knockquhasen		
<i>Grid reference</i>	202948E 559464N	<i>LVIA Visualisation</i>	19a
<i>Direction of view</i>	East	<i>Distance to nearest turbine</i>	18.79 km
<i>Landscape character type</i>	Peninsula	<i>Landscape designation</i>	Rhins RSA
<i>Number of hubs theoretically visible</i>	18	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

This view is representative of those experienced by walkers from Broad Moor on the Southern Upland Way (155m AOD), one of the highest parts of the central Rhins looking east across the coastal plain to Glenwhan Moor and the horizon of Lanarchan Hill (716m AOD) and the Cairnsmoor of Fleet (710m AOD) over 45 km in the distance. Under clear atmospheric conditions, Artfield Fell turbines are just visible approximately 21 km from the viewpoint. From this position, the SUW descends towards Stanraer which is screened in this view by the valley slope in the middle distance.

The recreational route follows a shallow valley where the vegetation consists of rough grazing with bracken and improved pasture enclosed by hedges and scrub on the steeper slopes. Improved pasture land extends into the mid to far distance, with the moorland ridges and hills to the east forming the horizon. The landscape is medium in scale, settled and agricultural in nature.

Predicted View and Magnitude of Change

From this section of the Southern Upland Way, all 18 of the turbines would be wholly visible in the far distance beyond Craig Fell. They would be visible on the horizon but at this distance (approximately 19km) they would form a minor part of the wider panoramic view. It is considered that they would not detract from the landscape character within the immediate vicinity of the trail, which forms the main focus of walkers using this route. This view is experienced over a short section of the SUW, and represents the most prominent view of Carscreugh REP from this vicinity.

Due to the distance from the site and the relatively short duration of the intermittent views along this route, the proposed development would have a **slight** magnitude of effect within this view.

Ancillary Elements: The access tracks and control building and met mast would not be visible from the viewpoint, due to the distance from the site.

Seasonal Effects: Some reflection from rotating turbines could be visible in early and late afternoon from the SUW, and the incidence of sea mist and atmospheric haze would reduce the visibility of the proposed turbines at certain times of year.

Magnitude of Change: Slight to Negligible

Effect on Landscape Character:

The character of the landscape in this area of Peninsula landscape character type is medium scale, with open extensive views to the east. At a distance of some 19 km from the site, it is not considered that the presence of the turbines would have the potential to affect the character of the landscape in the vicinity of the viewpoint to a significant degree.

The landscape character of the Peninsula LCT in this part of the Rhins is considered to be of **medium**

sensitivity to the presence of wind turbines. As a consequence, the significance of the **slight** to **negligible** effect would be between **moderate / minor** and **minor** and would not be significant.

Effect on Visual Amenity

This section of the Southern Upland Way extends from its origin in the conservation area of Portpatrick Harbour, and Broad Moor is the first high level vantage point to view the wider developed landscape around Stranraer and the more distant undeveloped landscape of the surrounding hills. Spectacular views of the sea lochs, the wider Dumfries and Galloway area, and Ailsa Craig are available from the SUW in this area. In the context of these views, Carscreugh REP would form a minor element.

The sensitivity of recreational walkers to the presence of wind turbines is considered to be **High** and given a magnitude of change of **Slight** to **Negligible**, the overall effect on visual amenity is considered to be **Moderate/Minor** and not significant.

Nature of Effects - Long term temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 20: BENERAIRD

Viewpoint location

<i>Grid reference</i>	213487E 578415N	<i>LVIA Visualisation</i>	20a
<i>Direction of view</i>	South	<i>Distance to nearest turbine</i>	19.17km
<i>Landscape character type</i>	Southern Uplands	<i>Landscape designation</i>	Sensitive Landscape Character Area
<i>Number of hubs theoretically visible</i>	17	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

This viewpoint is situated close to the summit of the well known and popular viewpoint of Beneraird (439m AOD), over 19km north-west of Carscreugh Fell in an extensive plateau moorland landscape. The viewpoint affords spectacular panoramic views of the surrounding moorland landscape which, apart from large areas of forest plantation, currently exhibits little signs of human activity other than tracks across the moorland and the wind farm at Artfield Fell. Landmarks on the distant horizon include Cairnsmoor of Fleet to the east of Carscreugh, a number of intervening fells such as Brough Fell (277m AOD), Bught Fell, Knock Fell and the distant horizon of the Solway Firth. The fifteen turbines of Artfield Fell are visible approximately 5 km north of Carscreugh Fell.

The landcover of the rolling moorland plateau consists of a mosaic of moorland grassland, moss and heather vegetation, varying with the slope and aspect of the topography. The scale is vast, and the sparse signs of habitation and human activity give a sense of isolation.

Predicted View and Magnitude of Change

The proposed turbines would be located below the distant lowland horizon, appearing against a background of moorland slopes. The lower parts of the western turbines would be screened by intervening landform, and they would form a relatively even array following the slope of the summit of Carscreugh Fell, with the three western turbines spread slightly wider than the remainder of the group. They would form a minor element within this view. The Arecleoch turbines which are currently under

construction in the immediate foreground of this view are considered in the CLVIA SEI study.

The Carscreugh Fell REP proposals would occupy a horizontal angle of approximately 5 degrees of the 360 degree panorama attainable from this viewpoint. During the majority of daylight hours, the turbines would be back lit, and combined with the dark background of moorland; this would reduce their contrast with the surrounding muted colours of the vegetation.

Ancillary Elements: At this distance, in excess of 19km from the site, no other elements would be visible from this position.

Seasonal Changes: The height of Beneraird (439m AOD) indicates that for a number of months in the year winter snow would affect the areas above 200-250m contours. The glare from the snow in this area could serve to lessen overall visibility of the surrounding landscape

Magnitude of Change : Slight

Effects on Landscape Character:

The viewpoint is located within the Southern Uplands Landscape Character Type; considered to be generally of **high/moderate** sensitivity to wind energy development. The proposals would represent a minor increase in wind turbines present in the view. With regard to the distance of the proposals, the effects of the existing wind turbines, and the panoramic nature of the view, the effects on landscape character at this viewpoint are considered to be **moderate** to **moderate / minor** and would not represent a significant effect.

Effects on Visual Amenity:

The viewpoint is representative of views experienced by recreational fell walkers, considered to be of **high** sensitivity to changes in the views they experience. The magnitude of change experienced by the receptors at this location is considered to be **slight**. The effect on the visual amenity for fell walkers in the vicinity is considered **Moderate**, but would not represent a significant effect.

Nature of Effects - Long term temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 21: WIGTOWN

<i>Viewpoint location</i>	Love Lane		
<i>Grid reference</i>	243249E 555921N	<i>LVIA Visualisation</i>	21a
<i>Direction of view</i>	North West	<i>Distance to nearest turbine</i>	20.86km
<i>Landscape character type</i>	Drumlin Pasture	<i>Landscape designation</i>	None
<i>Number of hubs theoretically visible</i>	18	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

This viewpoint is located on Kirkland Hill at a point on Lovers Walk, a track running north from Wigtown. Reference to the ZTV predicts there to be no visibility from the town itself, however the

viewpoint is representative of the visual receptors in Wigtown who use the path for recreation.

The viewpoint is situated at an elevated position on the edge of the town, and affords panoramic views across the Machars. The view towards the site extends across rolling green pastoral fields of a medium scale, divided by stone walls, fences and deciduous tree and shrub belts. Low rolling drumlins are separated by flat areas of farmland. There are scattered residential properties throughout the area as well as large blocks of coniferous plantation. In the far distance, the rising moorland of Carscreugh Fell and Artfield Fell are visible. Artfield Fell wind farm is just visible in the distance although the turbines are not prominent in the overall panoramic view. In the opposite direction, the higher land of the Cairnsmore of Fleet and other mountain ranges to the north east of Creetown are prominent.

Predicted View and Magnitude of Change

From this high point north of Wigtown, Carscreugh Fell and Artfield Fell are partially screened by relatively low intervening hills. The Carscreugh proposal would appear over the intermediate horizon on the skyline and would occupy a horizontal angle of less than 4 degrees. Under conditions of good visibility, all 18 of the Carscreugh turbine hubs and rotors would theoretically be visible from this viewpoint with the lower parts of the towers obscured by the intervening hills. From this viewpoint the three arrays appear as a relatively evenly spaced group. Rotation of the blades would be visible in clear conditions, but not noticeable. The development would not be visible from the residential areas of Wigtown.

Ancillary Elements: At this distance it is not considered that any of the ancillary elements would be visible.

Seasonal Effects

There is little intervening vegetation across this landscape to affect the view. Cloudy skies of any kind are likely to reduce the prominence of the turbines within the surrounding landscape. The proximity of the sea and estuary surrounding the Machars peninsula results in frequent occurrences of haze in Spring and Autumn which can reduce visibility to a considerable degree.

Magnitude of Change

The magnitude of the effects arising from the proposed turbines at this viewpoint is assessed as **Slight to Negligible**.

Effects on Landscape Character:

The viewpoint is located within the 'Drumlin Pastures' landscape character type. Wigtown lies within a rich agricultural area of medium to large scale pastures subdivided by stone walls and forest plantations. Landcover consists of improved pasture, limited areas of scrub and rough pasture at higher levels. Drumlins are important local features which give this lowland landscape a distinct verdant and undulating character. Land to the north of Wigtown is open and sparsely settled. The proposed turbines would be located in the distant Upland Fringe, distinct in character from the Drumlin Pastures in the vicinity of the viewpoint. It is not considered that the effects arising from the presence of the turbines would result in significant effects over this distance.

The Drumlin Pasture landscape character type is considered to be of **medium** sensitivity to the presence of wind turbines. The significance of the **slight to negligible** effects would be between **moderate / minor** to **minor** (not significant).

Effects on Visual Amenity

Wigtown is the largest settlement in the Machars and a centre for tourism and a well established agricultural community. The sensitivity of these receptors is considered to be **High** and given a

magnitude of change of slight to negligible the effect on visual amenity is considered to be between **moderate** and **moderate / minor** (not significant).

Nature of Effects - Long term temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 22: CREETOWN

<i>Viewpoint location</i>	Holm Park		
<i>Grid reference</i>	248406E 559151N	<i>LVIA Visualisation</i>	22a
<i>Direction of view</i>	North West	<i>Distance to nearest turbine</i>	25.4km
<i>Landscape character type</i>	Upland Fringe	<i>Landscape designation</i>	RSA
<i>Number of hubs theoretically visible</i>	18	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

Creetown is located on the eastern side of Wigtown Bay between 20m - 35m AOD at the base of several fells such as Knockeans Hill (297m AOD) and Larg Hill (276m AOD) which form part of an extensive range of hills 45 km long between Carrick Forest and Cairnsmoor of Fleet. The viewpoint is situated at 76m AOD near Holm Park above the A75 road between Newton Stewart and Castle Douglas.

Views across this lowland agricultural landscape extend to a horizon formed by the dark moorland masses of Culvennen Fell (215m AOD), Eldrig Fell (227m AOD) and Bught Fell (205m AOD) approximately 26km distant which rise above the lighter green pastures, arable fields and forest of the lowlands. The immediate landscape consists of small to medium scale fields defined by stone walls and fences interspersed by scattered farmsteads and areas of rough grazing. Creetown itself is located at a lower level than the viewpoint, on the side of the Cree estuary. There would be no visibility of the proposed turbines from the majority of the settlement.

Predicted View and Magnitude of Change

The Carscreugh REP turbines will occupy a horizontal angle of approximately 3°, at a distance of 25 km. They would occur in the same sector of the view as Artfield Fell wind farm, and would be perceived at this distance as a relatively even array. Parts of the towers would be screened by intervening landform, and the turbines would be seen against a background of sky.

Ancillary Elements: At this distance it is unlikely that any ancillary elements would be visible.

Seasonal Changes: Climatic conditions would significantly affect the visibility of the proposal at distances in excess of 15 km. The potential for haze and mists increases as a result of Creetown's proximity to Wigtown Bay.

Magnitude of Change: Negligible

Effect on Landscape Character:

The viewpoint is located within the Upland Fringe Landscape Character Type, considered to be of **moderate** sensitivity to wind energy development. The proposals would appear as a minor element in distant views towards the low fells. Given the presence of the existing Artfield Fell Wind Farm in the

view the proposal would represent a minor new element within this panoramic view and the impact on the immediate landscape character at this viewpoint is considered to be **Minor**, which would not represent a significant effect.

Effect on Visual Amenity:

This viewpoint is representative of views experienced by local inhabitants and tourists. The magnitude of change experienced by the receptors at this location is considered to be negligible, with the visual effect considered to be **Moderate/Minor** and not significant.

Nature of Effects - Long term temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 23: KNEE OF CAIRNSMOOR

<i>Viewpoint location</i>	Holm Park		
<i>Grid reference</i>	250950E 565393N	<i>L VIA Visualisation</i>	23a
<i>Direction of view</i>	West	<i>Distance to nearest turbine</i>	28.09km
<i>Landscape character type</i>	Coastal Granite Uplands	<i>Landscape designation</i>	RSA Galloway Hills
<i>Number of hubs theoretically visible</i>	18	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

This view is representative of the views attainable from the igneous hills in the Cairnsmoor of Fleet to the east of the site which extend over 40 km from the Gatehouse of Fleet northwards beyond the border of Dumfries and Galloway. The area is popular with hill walkers as the elevated peaks afford spectacular panoramic views of the plateau landscapes, peninsulas, sea lochs to the west and the Southern Upland hills to the north and east. The view includes part of the meandering course of the River Cree running southwards into Wigtown Bay. Carscreugh Fell is approximately 28km west of the viewpoint. The existing Artfield Fell wind farm is visible to the north of the site.

Predicted View and Magnitude of Change

On a clear day all of the Carscreugh turbines would be visible, situated on the distant low moorland. The turbines will be lit from the front and side for much of the day which would increase their visibility, to a varying degree, in the landscape. However at this distance visibility would depend on the prevailing atmospheric conditions.

Potential visibility from this viewpoint comprises the upper tower/hub and blades of the 18 turbines at a distance in excess of 28 km from the nearest turbine. The Carscreugh REP proposals would occupy a horizontal angle of less than 3 degrees of the view. Blade movement would be difficult to distinguish.

Seasonal Changes: In winter snow falling on the fells may serve to mask the Carscreugh proposals from the Knee of the Cairnsmoor of Fleet. The effects of haze related to the maritime setting would also serve to diminish visual effects.

Magnitude of Change.

The magnitude of change is considered to be **Negligible**.

Effect on Landscape Character

The viewpoint is located within the Coastal Granite Uplands Landscape Character Type, considered to be generally of **high** sensitivity to wind energy development. The proposals would represent a minor increase in wind turbines present in the view. With regard to the distance of the proposals, effect of the existing wind turbines in the view and the panoramic nature of the view the effect on landscape character at this viewpoint is considered to be **minor**, and would not represent a significant effect.

Effect on Visual Amenity

The viewpoint is representative of views experienced by recreational fell walkers considered to be of high sensitivity to changes in the views they experience. The magnitude of change experienced by the receptors at this location is considered to be **negligible**. The effect on the visual amenity for fell walkers in the vicinity is considered **minor**, and would not represent a significant effect.

Nature of Effects - Long term temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 24: THE MULL OF GALLOWAY

<i>Viewpoint location</i>	Mull of Galloway Recreation Area		
<i>Grid reference</i>	215517E 530485N	<i>L VIA Visualisations</i>	CLVIA 24
<i>Direction of view</i>	North	<i>Distance to nearest turbine</i>	30.57 km
<i>Landscape character type</i>	Peninsula	<i>Landscape designation</i>	Rhins RSA
<i>Number of hubs theoretically visible</i>	18	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

The Mull of Galloway viewpoint is situated at the southern tip of the Rhins Peninsula, and is representative of views experienced from the eastern shore of the Rhins peninsula in this vicinity. The Mull of Galloway, together with the lighthouse on the extremity of the peninsula, is a popular tourist destination. As the most southerly point in Scotland, the Mull affords panoramic views of Luce Bay, the Machars Peninsula, the Solway Firth, the Isle of Man and Ireland across open sea. The hills at the head of Luce Bay are closer and more prominent than the southern Machars landscape and would be the focus of the view from this location.

Predicted View and Magnitude of Change

From this viewpoint the nearest turbine of the Carscreugh REP proposals is 30.60 km distant across approximately 23km of the open water of Luce Bay. Carscreugh Fell would be seen between Bought Fell (204m AOD), Barlockhart Fell (126m AOD) and Knock Fell (175m AOD). The 18 turbines would be seen as a distant feature only in clear weather conditions.

The 18 Carscreugh turbines would occupy a horizontal angle of 2 degrees within a wide panoramic

view. The turbines would be barely discernable in the view with the movement of the rotor blades difficult to distinguish on the distant skyline.

Seasonal Effects: As views across open water are almost invariably clouded by haze in this area throughout the year visibility of the turbines will often be restricted by these conditions.

Magnitude of Change.

The magnitude of change is assessed as: **Negligible**

Effects on Landscape Character:

The viewpoint is located within the Peninsula Landscape Type, generally considered to be of medium sensitivity to wind energy development. However the designation of the Rhins Regional Scenic Area and its popularity with visitors results in a **high** level of sensitivity in this vicinity. The proposals would represent a minor new feature on the distant skyline within an expansive panoramic view. With regard to the open nature of the view, the distance of the proposals and the scale and extent of the view the proposed turbines would occupy, the effect on landscape character at this viewpoint is considered to be **minor** and would not represent a significant effect.

Effects on Visual Amenity:

The viewpoint is representative of views experienced by tourists visiting the Mull of Galloway for the purposes of informal recreation. The magnitude of change experienced by receptors at this location is considered to be negligible. The effect on the visual amenity for tourists in the vicinity is considered to be **minor** and would not represent a significant effect.

Nature of Effects: Long term temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

VIEWPOINT 25: THE MERRICK SUMMIT

<i>Viewpoint location</i>	The Cairn on the Merrick		
<i>Grid reference</i>	242754E 585539N	<i>LVA Visualisations</i>	25a
<i>Direction of view</i>	South west	<i>Distance to nearest turbine</i>	31.06 km
<i>Landscape character type</i>	Rugged Granite Upland	<i>Landscape designation</i>	Galloway Hills RSA
<i>Numbers of hubs theoretically visible</i>	18	<i>Number of tips theoretically visible</i>	18

Existing View and Landscape Context:

Merrick (843mAOD) is the highest point in the Galloway Hills and is located over 31 km from Carscreugh Fell. From this elevated position an uninterrupted 360 degree panorama over the whole of south-west Scotland and its maritime setting can be obtained. The viewpoint is representative of the views that could be attained from higher sections of the hills which extend for over 40kms across the Ayrshire and Dumfries and Galloway landscape. The area is a popular destination for hill walkers. The landscape of these hills is predominantly Rugged Granite Upland, with adjoining areas of Rugged Granite Upland with Forest. The summit of The Merrick is remote, isolated and exposed, consisting of rugged granite outcrops and sparse montane vegetation. The Southern Upland Way follows the valley

of Glentroll 5 km to the south of the peak.

Predicted View and Magnitude of Change

Potential visibility from this viewpoint comprises the upper tower/hub and blades of all 18 turbines at a distance of 31 km from the nearest turbine. The Carscreugh REP turbines would occupy a horizontal angle of approximately 1 degrees within the 360 degree panorama. Blade movement would be difficult to distinguish, and visibility of the turbines themselves would require exceptionally clear weather conditions. The Carscreugh proposal would be perceived against the undulating ridges and plateaux of the landscape to the south west, characterised by vast stretches of moorland, moss and forest plantation interspersed by lochs and numerous burns.

Seasonal Changes: The winter viewpoint demonstrates the conditions that would be experienced for part of the year across the Galloway Hills. In winter it is anticipated that glare from snow covered moors would blunt acute vision. In summer receptors would be facing towards the sun which would affect the clarity of southerly views to some degree.

Magnitude of Change.

The magnitude of visual impacts has therefore been assessed as: **Negligible**

Effects on Landscape Character:

The viewpoint is located within the Rugged Granite Upland Landscape Character Type and considered to be generally of **high** sensitivity to wind energy development. The proposals would represent a minor increase in wind turbines present in the view. With regard to the distance of the proposals and the panoramic nature of the view the effect on landscape character at this viewpoint is considered to be **minor** and would not represent a significant effect.

Effects on Visual Amenity:

The viewpoint is representative of views experienced by recreational fell walkers considered to be of high sensitivity to changes in the views they experience. The magnitude of change experienced by the receptors at this location is considered to be negligible. The effect on the visual amenity for fell walkers in the vicinity is considered **Minor**, and would not represent a significant effect.

Nature of Effects - Long term temporary, direct, certain if consented and adverse, neutral or beneficial dependant on personal perspective.

Appendix C: Residential Receptor Schedules

This appendix addresses the effects from representative residential receptors within 3km of the proposed turbines.

Dwelling	Easting	Northing	Distance to nearest turbine (km)	Tips (T) & Hubs (H) theoretical visibility	Comments
Carscreugh Farmhouse (1No Farmhouse)	222488	559902	0.57km	18 blades 18 hubs	The residents of Carscreugh would experience oblique upper and ground floor views of the southern edge of the wind farm from the SW facing side of the dwelling, filtered by the line of garden boundary tree vegetation. Residents would experience upper and ground floor rear views towards the proposed 18 turbines also partially filtered by boundary tree vegetation. In addition views towards the north eastern part of the wind farm would be experience from the NE side of the dwelling. Views would be partially filtered / filtered by localised tree vegetation and adjacent agricultural buildings.
Carscreugh Croft (1No Farmhouse)	223217	562279	0.82km	7 blades 4 hubs	The residents of Carscreugh Croft would experience front partially oblique ground floor views towards fell skyline. Views of the 7 turbines would be partially filtered by garden tree vegetation. The property has upper floor roof skylights. The property is in mid construction work which includes the extension of a conservatory on the front.
Grennan Farmhouse (1No Farmhouse)	224076	561413	0.94km	5 blades 0 hubs	The residents of Grennan Farmhouse are considered not to experience views SW towards the proposed 5 blades due to adjacent farm buildings, local landform, and localised tree and scrub vegetation which restricts views towards the 5 blade tips potentially visible.
Garvilland (1No Farmhouse)	221585	561767	0.99km	18 blades 17 hubs	Oblique principal upper and ground floor views across towards the 18 blades and 17 hubs positioned on fell skyline. Views primarily filtered by mature tree vegetation on dwelling garden boundary as well as garden shrub vegetation. Limited open views present. Telegraph poles within close proximity to the dwelling form vertical foreground elements in views.
Drumphail	222443	562569	1.03km	18 blades 18 hubs	This property is currently unoccupied and has not been included within this assessment.

Dwelling	Easting	Northing	Distance to nearest turbine (km)	Tips (T) & Hubs (H) theoretical visibility	Comments
Whitecairn Farmhouse & Whitecairn cottage / Caravan Park Reception.	220837 220811	559654 559634	1.19km	18 blades 18 hubs	The residents of Whitecairn Farmhouse, orientated SE would experience open ground floor and upper floor views from 2 windows within a small part of the dwelling orientated NE. All remaining views would be restricted by the adjacent agricultural buildings. The residents of the Whitecairn Cottage / Caravan Park Reception are considered unlikely to experience potential views of the proposed turbines due to the neighbouring Whitecairn Farmhouse and associated agricultural buildings, which restrict views NE.
Glenhowl Farmhouse & cottage (2No dwellings)	220758	559300	1.47km	18 blades 17 hubs	The residents of Glenhowl Farmhouse would experience limited channelled views of the proposed 18 turbines. The agricultural buildings to the N of the farmhouse would primarily restrict the majority of views. The residents of Glenhowl Cottage would experience rear views NE towards the proposed turbines. Views would be partially filtered by woodland vegetation located in the middle ground to the NE.
Camrie Farmhouse and Bungalow	220147	560006	1.62km	18 blades 9 hubs	The residents of Camrie Farmhouse would experience upper and ground floor rear and side oblique views towards the proposed turbines. Views would be filtered by the extent of coniferous tree vegetation to the immediate east of the dwellings. The ascending landform to the E of the dwelling partially would restrict the extent of the proposed 18 turbines visible in the view. The residents of Camrie Farm Bungalow would experience oblique rear and side views towards the proposed turbines. The ascending landform to the E of the dwelling partially would restrict the extent of the proposed 18 turbines visible in the view.
Camrie Cottage	220146	559728	1.71km	18 blades 13 hubs	The residents of Camrie Cottage would experience open oblique principal views from the front of the dwelling towards the proposed turbines. The ascending landform to the E of the dwelling partially would restrict the extent of the proposed 18 turbines visible in the view.

Dwelling	Easting	Northing	Distance to nearest turbine (km)	Tips (T) & Hubs (H) theoretical visibility	Comments
Honey Pig Cottage & 2No other cottages. (Single storey dwellings).	220210	559610	1.7km	18 blades 16 hubs	<p>The residents of Honey Pig Cottage would experience oblique views NE from the side of the dwelling. Views would be partially screened / filtered by the mature coniferous tree screen vegetation located along the SW boundary of Whitecain Caravan Park.</p> <p>The cottage to the immediate N of Honey Pig Cottage would experience side views towards the proposed turbines, partially restricted by local landform and filtered by the mature tree screening vegetation associated with Whitecain Caravan Park.</p> <p>The residents of the adjacent cottage to the north, orientated N would experience no view from the gable end (no windows).</p>
Dervaird Farmhouse	222299	558309	2.15km	18 blades 15 hubs	The residents of Dervaird Farmhouse would experience views from the side of the farmhouse only towards the proposed 18 turbines. Views would be partially filtered by localised scattered vegetation and potentially the S parts of the wind farm restricted due to the ascending landform to the N.
High Glenjorrie Farmhouse	220799	558469	2.16km	18 blades 11 hubs	The residents of High Glenjorrie Farmhouse would experience oblique principal views towards the 18 turbines. Views would be partially restricted by adjacent agricultural buildings and filtered by the woodland in the middle ground to the NE beyond Glenhowl.
Blackhill (Single storey dwelling)	220275	558743	2.21km	18 blades 18 hubs	The residents of Blackhill would experience rear very oblique views towards the proposed 18 turbines. Views would be partially filtered by the woodland located N of Glenhowl.
Gleniron Farmhouse	219465	560171	2.26km	13 blades 3 hubs	The residents of Gleniron Farmhouse are considered unlikely to experience views of the potentially visible 13 turbines. There are no gable end windows orientated towards the proposed turbines. In addition an agricultural building immediately adjacent to the dwelling would restrict views from the northern parts of the dwelling where windows facing E/NE may be present.

Dwelling	Easting	Northing	Distance to nearest turbine (km)	Tips (T) & Hubs (H) theoretical visibility	Comments
High Glenjorrie Cottage (1No single storey dwelling)	220611	558285	2.40km	14 blades 12 hubs	The residents of High Glenjorrie Cottage would experience side oblique views over High Glenjorrie Farm from a single gable end window towards the 14 turbines. Ascending landform and the woodland NE of Glenhowl would partially filter / restrict views.
Keepers Cottage (Single storey dwelling)	219523	559523	2.47km	17 blades 10 hubs	The residents of Keepers Cottage would experience open views NE towards the proposed turbines from 1 window at the front of the dwelling. Part of the 17 turbines potentially visible would be restricted by the ascending landscape to the NE of the dwelling towards and beyond Camrie Farm.
Glen Chamber (1No Farm bungalow)	223797	563904	2.53km	18 blades 16 hubs	Principal open / partially filtered views SW from the front of the dwelling channelled between adjacent farm buildings and adjacent tree vegetation towards the proposed 18 turbines. Views of parts of the proposed turbines filtered by adjacent woodland.
Dergoals (1No single storey dwelling)	224536	559058	2.57km	18 blades 18 hubs	The residents of Dergoals would experience views towards the proposed 18 turbines from the gable end of the NE facing dwelling. Mature tree vegetation to the north of the dwelling would partially filter views of the NE parts of the wind farm.
Torwood Lodge	224353	563759	2.60km	9 blades 6 hubs	The residents of Torwood Lodge would experience side and rear oblique ground floor views SW towards the skyline plantation and proposed turbines. Views experienced from the rear of the dwelling would be heavily filtered by roadside and localised tree vegetation.
Airylogg	225562	562588	2.67km	11 blades 5 hubs	This property is currently unoccupied and has not been included within this assessment.
Un-named Dwelling N of Greyhill Cottages	221142	557803	2.68km	10 blades 0 hubs	Residents are considered to experience glimpse views of the 10 blades, primarily restricted by localised landform and scrub vegetation.

Dwelling	Easting	Northing	Distance to nearest turbine (km)	Tips (T) & Hubs (H) theoretical visibility	Comments
Torwood Bungalow (1no dwelling)	224455	5638310	2.72km	15 blades 9 hubs	Residents of Torwood Bungalow would experience very oblique principal views SW from the front of the dwelling towards the plantation skyline. Views towards the proposed 15 turbines would be filtered by localised woodland to the SW of the property and partially restricted by skyline plantation.
Knockisbee (1No Farmhouse)	225068	559397	2.74km	18 blades 18 hubs	Residents would experience no views towards the proposed 18 turbines. Views from the dwelling is restricted due to the lack of windows present, immediately adjacent agricultural buildings and the extent of woodland / plantation vegetation present immediately NE of the dwelling.
Greyhill Cottages (2No terrace single storey dwellings)	220980	557684	2.84km	0 blades 0 hubs	Residents would experience no view due to localised landform.
Mid Gleniron	218967	561206	2.85km	13 blades 1 hubs	This dwelling was not accessible during the site assessment. Through desk study and the use of aerial photography it is considered that the residents of Mid Gleniron would not experience views of the proposed turbine. Potential views of the 13 blade tips and 1 hub from the side of the S orientated farmhouse would be restricted by adjacent agricultural buildings and the plantation present on Camrie Fell.
Torwood Hotel (1No dwelling)	224450	564044	2.89km	18 blades 16 hubs	The residents of the Torwood Hotel are considered unlikely to experience views of the proposed turbines due to the extent of dense woodland vegetation surrounding the hotel and located to the immediate SW.
Craigenholly Cottage	219083	559180	2.90km	0 blades 0 hubs	Residents would experience no view due to localised landform.
Farmstead north of Fine View Farm (1No Farmhouse and 1No new build)	219513	558517	2.91km	17 blades 2 hubs	The residents of the Farmhouse (E property) would experience rear oblique views towards the 17 turbines, partially filtered by garden tree vegetation. The residents of the new build dwelling to the W of the farmhouse would experience oblique rear views towards the 17 turbines. Views would be partially restricted by the adjacent agricultural

Dwelling	Easting	Northing	Distance to nearest turbine (km)	Tips (T) & Hubs (H) theoretical visibility	Comments
					buildings and filtered by localised tree vegetation. Views from both dwellings would be additionally filtered in part by the woodland to the NE of Glenhowl Farm.
Officers Croft (1No dwelling)	219918	558004	3.01km	18 blades 18 hubs	The residents of Officers Croft would experience side views from an upper floor bay window towards the proposed 18 turbines. Views would be partially filtered by the woodland N of Glenhowl. Due to the low lying position of the dwelling and localised landform it is considered no ground floor views would be experienced.

Appendix D: Cumulative Landscape And Visual Assessment

1.1 Introduction

This Appendix presents an assessment of the potential cumulative landscape and visual effects of the proposed Carscreugh Wind Farm when considered in the context of other operational, consented and proposed wind farm developments, within an area extending up to a 60km radius of the Site. The assessment was undertaken by Stephenson Halliday, independent Environmental Planning and Landscape Architecture Consultants.

Cumulative landscape and visual effects can arise in three reasonably distinct ways:

- Firstly, the effect of an extension of an existing development or the positioning of a new development such that it would give rise to an extended and/or intensified impression of the original wind farm in the landscape as seen from fixed locations.
- Secondly, cumulative effects can arise through an increase in the perceptions of wind farm development as seen from fixed points from which more than one wind farm would now be seen in different parts of the landscape.
- Thirdly, an increase in the incidence of sequential perceptions of different turbines can occur through the recurrence of images and impressions arising from developments which are located at various points in the landscape and which are encountered when moving through it.

1.2 Methodology

1.2.1 General Approach

The Cumulative Landscape and Visual Assessment is organised in the following sections:

- Methodology – a brief outline of general methodology for cumulative assessment, with reference to established guidance;
- Scope of Assessment – outlining the Study Area, selection of projects for assessment, selection of receptors for assessment and sources of information;
- Composite Cumulative Landscape and Visual Effects – which considers the potential overall cumulative effects assuming all the projects where applications have been submitted are consented and constructed;
- Conclusions.

The assessment is illustrated with reference to figures showing: Cumulative Location Plan within a 60km radius (Figure CLVIA 01); Cumulative Viewpoint Location Plan (CLVIA 02); Landscape Character, Cumulative (Figure CLVIA 03 and 25); Landscape Planning Designations, Cumulative (CLVIA 04); Route Receptors (CLVIA 26) Cumulative ZTV plans (Figures CLVIA 05 to 24); and Cumulative Visualisations for 18 selected viewpoints.

This Cumulative Landscape and Visual Impact Assessment (CLVIA) has been based on the following best practice guidance:

- Guidelines for Landscape and Visual Assessment (Landscape Institute and Institute of Environmental Management and Assessment 2002);

- Landscape Character Assessment: Guidance for England and Scotland (The Countryside Agency and Scottish Natural Heritage 2002).

It also takes account of advice within the following documents:

- A Guide to Assessing the Cumulative Effects of Wind Energy Development ETSU Report W/14/00538/REP (2000);
- Scottish Natural Heritage Guidance: Cumulative effects of Wind Farms, Version 2 revised 13.04.05;
- Visual Representation of Windfarms: Good Practice Guidance (SNH 2006).

The assessment has drawn on information provided during consultation with Dumfries and Galloway Council (DCG) and Scottish Natural Heritage (SNH).

1.2.2 Assessing Cumulative Effects

Stage One: Baseline Assessment

The first stage of the assessment is to review the existing landscape and visual amenity of the Study Area. This establishes the baseline against which to review the magnitude and significance of cumulative landscape and visual effects. The baseline information includes landscape planning policy overview, designations, and description of landscape character types and potential visual receptors within the Study Area. The baseline landscape and visual assessment is presented within the Landscape and Visual Assessment (LVA) of the Addendum to the Environmental Statement and has not been repeated here, but is of equal relevance.

Stage Two: Prediction of Cumulative Effects

The prediction of landscape and visual effects involves analysis from fixed positions and sequential views from route corridors passing through the Study Area.

Study of Fixed Positions

The analysis of potential cumulative effects from fixed positions involved consideration of the predicted visibility of other wind farm developments from the 28 viewpoints used in the Carscreugh LVA. Viewpoints were then selected to be representative of potential cumulative effects experienced at different distances and directions from the site, as well as from the various landscape character types within the study area and include:

- Locations where simultaneous or combined visibility may occur. This is where two or more wind farms may be visible in the same field of view;
- Locations where successive or repetitive visibility occurs. This is where the observer may be able to see two or more wind farms from one viewpoint, but has to move his or her head to do so.

Recent guidance regarding Cumulative Landscape and Visual Assessment (SNH 2005) states that 'the purpose of a Cumulative Landscape and Visual Assessment (CLVIA) ... "is to describe, visually represent and assess ways in which a proposed wind farm would have additional impacts when considered together with other existing, consented or proposed wind farms"'.

It is important to differentiate between the assessment of cumulative effects arising from the proposed development with projects that are built or constructed and can therefore be considered as part of a scenario with some certainty and those that are proposed about which there can be little certainty. Accordingly the viewpoint analysis distinguishes between firstly, predicted cumulative effects arising from Carscreugh Wind Farm with operating / consented

wind farms and secondly, the effects arising from Carscreugh Wind Farm with other proposed wind farms.

The selected cumulative assessment viewpoints have been agreed in consultation with Dumfries and Galloway Council (DGC) and Scottish Natural Heritage (SNH). The viewpoint analysis includes description of the existing and predicted view, analysis of magnitude of change and the effects on landscape character and visual amenity with reference to Cumulative Wireframe visualisations.

This approach to cumulative viewpoint analysis should be qualified as viewpoints tend to be focused on the Carscreugh site and this is reflected in the relative contribution the proposed Carscreugh wind farm makes to cumulative effects at each of the assessment viewpoints.

Sequential Visual Assessment

Sequential or recurring visual effects occur in the changing views from route corridors passing through the Study Area where movement results in changing visibility of other developments or different views of the same development. The study of such effects is considered with reference to field observations from travelling along the main routes within the 35km Study Area. This involves consideration of the sequential effects experienced by road users and users of long distance footpaths (where applicable), and may also include the effects experienced by users of railways, cycleways and other recreational routes. The assessment of potential sequential visual effects has been undertaken in respect of the Carscreugh proposal and each of the other consented and proposed developments forming part of this cumulative assessment.

1.2.3 Stage 3: Assessment of Significance

The aim of the assessment is to identify, predict and evaluate potential cumulative effects arising from the proposed development in the context of other proposed wind energy developments in the surrounding area. Wherever possible, identified effects are quantified, but the nature of landscape and visual assessment requires interpretation by professional judgement. In order to provide a level of consistency to the assessment, the prediction of magnitude and assessment of significance of the residual landscape and visual effects have been based on pre-defined criteria. The approach follows the assessment criteria set out within the Landscape and Visual chapter in the main ES.

The additional parameters used to evaluate the cumulative magnitude of change at representative viewpoints include consideration of:

- Number of consented/ proposed wind farms in the view;
- Distance to each of the consented/ proposed wind farms;
- Direction of the consented/ proposed wind farms relative to the viewpoint;
- Horizontal angle of view occupied by each of the consented/ proposed developments; and
- Relative composition and scale of the consented/ proposed wind farms.

The viewpoint assessment makes reference to the direction and bearing to the outer turbines for wind farms which may be visible, and these are noted on the visualisations. The first wireframe is generally centred on the Carscreugh Wind Farm. The annotated directions and bearings are approximate only. This has been used as a tool to assist in the evaluation of the extent to which wind farms would be visible in different directions from any given viewpoint position.

The significance of any cumulative landscape and visual effect has been assessed in terms of major, moderate, minor or none. These categories have been based on combining viewpoint or landscape sensitivity and predicted magnitude of change to determine the significance of effects.

Where the potential landscape or visual effect has been classed as Major or Major/Moderate this is considered to be equivalent to likely significant effects referred to in the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 1999. The conclusion that some effects are significant must not be taken to imply that they are necessarily adverse or should warrant refusal. As with many aspects of landscape and visual assessment, significance of effect also needs to be qualified with respect to the scale over which it is felt. An effect may be locally significant, or significant with respect to a small number of receptors, but not significant when judged in a wider context.

1.2.4 Illustrative Tools

Cumulative Visualisations

The viewpoint analysis is illustrated with reference to cumulative wireframe visualisations. All photographs included in the assessment were taken with a 35mm digital SLR camera, with 50mm focal length lens, mounted on a level panoramic head tripod. Photographic panoramas are constructed using computer software PTGui with further application of Adobe Photoshop.

For each cumulative viewpoint a wireframe diagram is prepared using Windfarm computer software by Resoft, and is based on OS Landform Panorama height data.

All of the photographs and wireframes have been produced to record either a 90 degree or 180 degree angle of view, illustrating the full extent of the potential cumulative effects experienced at the viewpoint, and providing an indication of the visual context of the development. Bearings within all visualisations provide an indication of the direction of each 90 degree view. Sectors of views where there are no wind farms are not illustrated in the visualisations.

In this assessment the visualisations (a combination of existing photographs and wireframes), have been presented with a comfortable viewing distance of 300mm. This follows the recommendations of the Visual Representation of Windfarms: Good Practice Guidance (SNH 2006).

1.3 SCOPE OF ASSESSMENT

1.3.1 Study Area

In accordance with SNH Guidance 'Cumulative effect of windfarms' (2005) the assessment has considered all built, consented and submitted wind farm proposals within 60 km of the Carscreugh wind farm proposal, 'so that any potential cumulative effects towards the edge of a 30km zone of influence can be identified' (SNH, 2005).

The detailed cumulative effects have been considered within the 30km study area, as defined within the Landscape and Visual Assessment.

1.3.2 Selection of Projects for Assessment

The criteria used to define projects to be included in the Cumulative Assessment follow the current SNH guidance on Cumulative Assessment of Wind Farms, and are as follows:

- Operational or Under Construction wind farms within 60 km of Carscreugh Wind Farm;
- Consented wind farms within 60 km of Carscreugh Wind Farm;

- Proposed wind farms within 60 km of Carscreugh Wind Farm which have been submitted as planning applications.

Following a request from DGC and SNH, we have also included:

- Proposed wind farms at Scoping stage or within the Public Domain within 60 km of Carscreugh Wind Farm.

Where the proposals at Scoping stage have been shown on wireframes, they are indicated with a single turbine in the centre of the scoped area using notional turbine geometry, if more accurate details were not yet available.

Scoping of Wind Projects

Planning Authorities within the study area were consulted to confirm the planning status of all other wind farm projects within the study area, as detailed in Table 1 below, with reference to the CLVIA Location Plan (CLVIA 01):

Table 1: Wind farms considered within CLVIA

Ref Figure CLVIA.1	Wind Farm	Number of Turbines	Blade tip height (m)	Distance from Carscreugh Wind Farm
Baseline Wind Farms (Operational, Under Construction and Consented)				
A	Artfield Fell	15	76	5.1km
B	Arecleoch	60	135	15.8km
C	North Rhins	11	100	20.3km
D	Mark Hill	28	110	23.3km
E	Hadyard Hill	52	100	33.5km
F	Torrs Hill	52	100	41.1km
G	Windy Standard Extension	30	100	54.2km
H	Windy Standard	36	53	55.5km
I	Wether Hill	14	91	56.6km
Proposed Wind Farms (planning application submitted or at appeal)				
1	Barlockhart Moor	4	112	3.8km
2	Dersalloch	23	125	46.1km
3	Knoweside	15	76	51.3km
4	Blackcraig	31	100	50.6km
5	Margree	25	130	51.5km
6	Burnhead	19	100	53.3km
7	Afton	28	120	57.5km
Other Wind Farms (in public domain or submitted Scoping)				
i	Artfield Fell Extension	approx 7	notional 125	approx 4.7km
ii	Arecleoch Extension	up to 130	notional 125	approx 12.1km
iii	Hill of Ochiltree	approx 10	notional 125	approx 17.1km

iv	Glenvernock	approx 9	105	approx 16.5km
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Selection of Receptors

Within the 30km radius study area of the Carscreugh LVA there are a range of landscape and visual amenity receptors. A baseline assessment has been carried out to identify these receptors involving desk study and field work as detailed within the Landscape and Visual Assessment (LVA) of the Addendum to the ES.

Based on the wind farm LVA and in the context of the study area it is considered that the main cumulative landscape effects arising from the Carscreugh proposal would potentially occur within a 10-15km radius of the site. The predicted visibility of each cumulative wind farm is considered within each landscape character type within this area. Distance is a key factor in determining the prominence of the wind farm in the landscape character type (i.e. the nearest wind farm would generally have most prominence).

Landscape Receptors

Cumulative landscape receptors are defined as all landscape character areas in the study area, from where the Carscreugh Wind Farm may be visible. The following landscape types within a 10-15 km landscape character study area are defined within the Landscape and Visual Assessment (Appendix A):

- Upland Fringe (LCT 16);
- Plateau Moorland (LCT 17) and Plateau Moorland with Forest (LCT 17a);
- Drumlin Pasture in Moss and Moor Lowland (LCT 12);
- Moss & Forest Lowland (LCT 11);
- Coastal Flats (LCT 2)
- Peninsula (LCT 1) – Machars Peninsula;
- Drumlin Pastures (LCT 13);

There is only one designated landscape within the 15km study area, where the Carscreugh wind farm may be visible:

- Mochrum Lochs Regional Scenic Area (RSA)

Visual Amenity Receptors

Visual amenity receptors within a 15km radius of the Carscreugh site include individuals and groups of people who may have views of two or more developments from a static position, and those who experience sequential visual effects from routes crossing the study area. In the context of the Carscreugh development the main groups of visual receptors from static locations are defined as follows:

- Residents of towns and villages within the 15km Study Area with potential visibility of Carscreugh include: Glenluce, Kirkcowan and Stoneykirk.

Sequential visual effects are considered with reference to the following main routes crossing the study area where views may be gained of the Carscreugh proposal and one or more other cumulative wind farms:

- Main roads including A75, A77, A716, and A747;
- Main recreational routes in the study area, including The Southern Upland Way, and National Cycle Route 7.

1.3.3 Selection of Viewpoints for Assessment

The viewpoints have been selected to be representative of the potential cumulative effects experienced at different distances and directions from the site as well as the various landscape character types within the Study Area.

The following table presents a summary of the potential cumulative visibility from each of the LVIA assessment viewpoints, indicating the distance from the nearest visible turbine, within a 30km radius of the viewpoint. The selected cumulative assessment viewpoints are shown in white with those not selected shown in grey, and are located on Figure CLVIA 02:

Table 2: Scoping of Viewpoints for Cumulative Landscape and Visual Assessment Viewpoint

Viewpoint		Carscreugh	Baseline Wind Farms (Operational, Under Construction or Consented) (Distance from viewpoint in km)									Wind Farms with Planning Application submitted (Distance from viewpoint in km)						
			Artfield Fell	Arcleoch	North Rhins	Mark Hill	Hadyard Hill	Torrs Hill	Windy Standard	Windy Standard Extension	Wetherhill	Barlockhart Moor	Dersalloch	Knoweside	Blackcraig	Margree	Burnhead	Afton
1.	CARSCREUGH CASTLE	0.6	x	x	x	x	x	x	x	x	x	2.7	x	x	x	x	x	x
2.	CARSCREUGH CROFT	0.8	3.8	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3.	GRENNAN	1.0	x	x	x	x	x	x	x	x	x	4.7	x	x	x	x	x	x
4.	GARVILLAND	1.0	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
5.	WHITECAIRN CAMPSITE	1.1	x	x	18.5	x	x	x	x	x	x	2.8	x	x	x	x	x	x
6.	DERGOALS	2.6	7.1	x	22.1	x	x	x	x	x	x	3.0	x	x	x	x	x	x
7.	TORWOOD BUNGALOW	2.6	2.6	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
8.	BARLOCKHART (A747)	3.2	9.0	x	x	x	x	x	x	x	x	0.9	x	x	x	x	x	x
9.	WAR MEMORIAL/PARK IN GLENLUCE	3.2	x	x	x	x	x	x	x	x	x	1.9	x	x	x	x	x	x
10.	MINOR ROAD – ARTFIELD FELL	3.5	1.5	x	20.6	x	x	x	x	x	x	7.8	x	x	x	x	x	x
11.	TARF BRIDGE	4.0	2.6	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
12.	CASTLE OF PARK, GLENLUCE	4.3	x	18.8	16.6	x	x	x	x	x	x	2.9	x	x	x	x	x	x
13.	KNOCK FELL	5.6	10.5	21.7	23.2	28.3	-	x	x	x	x	3.3	x	x	x	-	-	x
14.	A75 CRAIGHLAW	6.4	8.0	19.0	x	x	x	x	x	x	x	8.3	x	x	x	x	x	x
15.	SOUTHERN UPLAND WAY (AIRYOLLAND MOSS)	7.2	8.8	13.4	x	x	x	x	x	x	x	x	x	x	x	x	x	x
16.	MOCHRUM LOCH	11.1	15.2	26.6	x	-	x	x	x	x	x	9.0	x	x	x	x	x	x
17.	SANDHEAD	16.0	21.0	26.8	x	x	x	x	x	x	x	13.9	x	x	x	x	x	x
18.	A77	18.5	21.8	x	x	x	x	x	x	x	x	17.9	x	x	x	x	x	x

Viewpoint		Carscreugh	Baseline Wind Farms (Operational, Under Construction or Consented) (Distance from viewpoint in km)									Wind Farms with Planning Application submitted (Distance from viewpoint in km)						
			Artfield Fell	Arcleoch	North Rhins	Mark Hill	Hadyard Hill	Torrs Hill	Windy Standard	Windy Standard Extension	Wetherhill	Barlockhart Moor	Dersalloch	Knoweside	Blackcraig	Margree	Burnhead	Afton
19.	SOUTHERN UPLAND WAY (KNOCKQUHASSEN)	18.8	20.9	21.0	x	x	x	x	x	x	x	19.1	x	x	x	x	x	x
20.	BENERAIRD	19.2	14.3	2.5	22.9	x	x	x	x	x	x	22.8	x	x	x	x	x	x
21.	WIGTOWN	20.9	22.4	-	x	-	x	x	x	x	x	21.0	x	x	x	x	x	x
22.	CREETOWN	25.4	26.0	-	-	-	x	x	x	x	x	26.2	x	x	x	x	x	x
23.	KNEE OF THE CAIRNSMORE OF FLEET	28.1	27.5	-	-	-	x	x	-	-	-	29.8	x	x	23.9	26.2	x	-
24.	MULL OF GALLOWAY	30.6	-	-	29.8	x	x	x	x	x	x	27.0	x	x	x	x	x	x
25.	THE MERRICK	31.1	26.7	25.1	-	16.6	18.2	x	23.8	22.4	27.3	-	18.1	-	26.3	25.0	23.2	25.9
26.	MARTYRS MONUMENT, WIGTOWN	20.8	22.4	-	x	-	x	x	x	x	x	x	x	x	x	x	x	x
27.	FELL END NEAR DRUMAWEN	7.3	6.8	17.1	x	20.5	x	x	x	x	x	10.3	x	x	x	x	x	x
28.	STANDING STONES OF TORHOUSE	15.9	17.8	28.5	x	x	x	x	x	x	x	x	x	x	x	x	x	x

X indicates that wind farm is not visible from viewpoint
 - indicates that wind farm is more than 30 km from viewpoint.

Sources of Information

Data used for the cumulative assessment has been based on the information presented within submitted Environmental Statements and further information obtained through consultation with the local authorities and project developers.

1.4 Viewpoint Analysis

The following text provides an overview of the potential composite cumulative effects at the 18 cumulative assessment viewpoints, illustrated with reference to the cumulative visualisations presented for viewpoints 1, 5, 6, 10, 13-20, and 23-28. The assessment is provided in two stages, and initially assumes the baseline proposals, those operational, under construction and consented projects are all constructed; and a second assessment assumes all other proposed projects where applications have been submitted are also constructed.

VIEWPOINT 1: VIEW FROM CARSCREUGH CASTLE

The Cumulative Visualisations 1a and c indicate that the following proposed wind farms would be potentially visible at this position.

Wind farm	Distance (km)	Direction	Bearing to outer turbines	Horizontal angle
Carscreugh (proposal)	0.6	N	305° to 023°	43°-45°
Barlockhart Moor (proposal)	2.7	S	184° to 191°	8°-10°

The proposed wind farm at Barlockhart Moor would be visible 2.7km away on the near skyline to the south. Carscreugh would be visible at close range in the opposite direction. Due to the close proximity of both wind farms there would be a significant cumulative effect at this position, with the two proposed wind farms potentially visible in different sectors of the view.

VIEWPOINT 5: VIEW FROM WHITECAIRN CAMPSITE

The Cumulative Visualisations 5c left and right indicate that the following baseline and proposed wind farms would be potentially visible at this position.

Wind farm	Distance (km)	Direction	Bearing to outer turbines	Horizontal angle
Carscreugh (proposal)	1.1	E NE	044° to 064°	21-23°
North Rhins (under construction)	18.5	W	262° to 266°	5°
Barlockhart Moor (proposal)	2.8	S SE	151° to 162°	12-14°

The North Rhins wind farm, currently under construction, is theoretically visible to the west at a distance of over 18km away, however views of this wind farm would be screened from the approach road to the campsite. Carscreugh would be visible at just over 1km east north east along the minor road in the opposite direction. Combined views of the two wind farms would be screened from this position however sequential views along the route would be possible. Due to the separation distance and extent of screening, no significant cumulative effects are predicted in relation to the baseline situation (North Rhins), over and above those of Carscreugh (significant) in its own right.

Barlockhart Moor would be located 2.8km south southeast on the slopes just below the horizon with the turbines appearing partly backgrounded and partly against the sky. Assuming the prior presence of the baseline and other proposals (Barlockhart Moor), there would be the potential

for a significant effect and the addition of Carscreugh would reinforce and extend this significant effect.

Viewpoint 6: VIEW FROM A75 AT DERGOALS

The Cumulative Visualisations 6d left and right indicate that the following baseline and proposed wind farms would be potentially visible at this position.

Wind farm	Distance (km)	Direction	Bearing to outer turbines	Horizontal angle
Carscreugh (proposal)	2.6	NW	296° to 330°	35°-37°
Artfield Fell (operational)	7.1	N NW	346° to 351°	6-7°
North Rhins (under construction)	22.1	W	265° to 269°	5°
Barlockhart Moor (proposal)	3.0	SW	223° to 234°	12°-14°
Artfield Fell Extension (scoping)	6.8	N NW	348° to centre	-
Hill Of Ochiltree (scoping)	17.6	N NE	027° to centre	-

The operational Artfield Fell wind farm is visible over 7km away on the skyline to the north, predominantly screened by landform. North Rhins will be visible over 22km to the west, with some screening by local landform. Carscreugh would be visible 2.6km to the north west. Due to the separation distance and extent of screening of the baseline proposals, no significant cumulative effects are predicted in relation to the baseline situation (Artfield Fell and North Rhins). The addition of the Carscreugh proposal would give rise to a significant effect primarily in relation to Carscreugh in its own right.

The proposed Barlockhart Moor is located 3km south west, partially screened by landform and forestry on the skyline. Assuming the prior presence of the baseline and other proposals (Barlockhart Moor), the addition of Carscreugh would lead to significant cumulative effects.

There are also two projects at scoping stage; Artfield Fell Extension nearly 7km north, in front of the existing wind farm and Hill of Ochiltree over 17km north, which is likely to be predominantly screened by landform.

VIEWPOINT 10: VIEW FROM MINOR ROAD – ARTFIELD FELL

The Cumulative Visualisations 10d left and right indicate that the following baseline and proposed wind farms would be potentially visible at this position.

Wind farm	Distance (km)	Direction	Bearing to outer turbines	Horizontal angle
Carscreugh (proposal)	3.5	S SE	160° to 181°	22-23°
Artfield Fell (operational)	1.5	NE	021° to 052°	32-34°
North Rhins (under construction)	20.6	W SW	248° to 251°	4°
Barlockhart Moor (proposal)	7.8	S	177° to 180°	4°
Artfield Fell Extension (scoping)	1.5	N NE	063° to centre	-

Artfield Fell located on the moorland slopes 1.5km away to the north east, seen at relatively close range, partially backgrounded and partially against the sky. North Rhins, currently under construction may be visible over 20km west, with further screening by local landform. Carscreugh would be visible 3.5km on the southern horizon in the opposite direction to Artfield Fell. Assuming the prior presence of the baseline (predominantly Artfield Fell), there would

already exist a significant effect in this area due to the proximity of Artfield Fell. The addition of Carscreugh (significant in its own right) would reinforce this pre-existing significant effect.

The Barlockhart Moor proposal would be visible 7.8km south and would be predominantly screened by intervening landform. Assuming the baseline and other proposal (Barlockhart Moor), the addition of Carscreugh would likely appear as an extension to Barlockhart Moor and reinforce a pre-existing significant effect.

Artfield Fell Extension is a scheme at scoping stage and would be visible further east adjacent to the existing Artfield Fell turbines.

VIEWPOINT 13: VIEW FROM KNOCK FELL

The Cumulative Visualisations 13d left and right indicate that the following baseline and proposed wind farms would be potentially visible at this position.

Wind farm	Distance (km)	Direction	Bearing to outer turbines	Horizontal angle
Carscreugh (proposal)	5.6	N NW	321° to 337°	17-18°
Artfield Fell (operational)	10.5	N NW	345° to 349°	5°
Arcleoch (under construction)	21.7	N NW	335° to 343°	9°
North Rhins (under construction)	23.2	W	273° to 277°	5°
Mark Hill (consented)	28.3	N	357° to 001°	5°
Barlockhart Moor (proposal)	3.3	W NW	284° to 293°	10°
Artfield Fell Extension (scoping)	10.2	N NW	347° to centre	-
Arcleoch Extension (scoping)	16.9	N NW	350° to centre	-
Glenvernock (scoping)	20.3	N NE	024° to centre	-°
Hill Of Ochiltree (scoping)	17.6	N NE	027° to centre	-

The nearest of the baseline proposals is Artfield Fell over 10km north and then Arcleoch, North Rhins and Mark Hill between 21km to 28km away. Carscreugh would be located 5.6km to the north beyond the forestry on Craigenveoch Fell. Assuming the prior presence of the baseline, the addition of Carscreugh would lead to a significant cumulative effect seen in the context of Artfield Fell and more distant views towards Arcleoch. This should be qualified as the Artfield Fell and Carscreugh wind farms would be seen as separate developments with differing layout characteristics responding to the grain of local topography.

The proposals of Barlockhart Moor would be visible 3.3km west, with limited screening by intervening landform and forestry. Assuming the prior presence of the baseline and other proposals (Barlockhart Moor) there would be a significant effect at this position and the addition of Carscreugh (significant in its own right) would reinforce this effect.

There are several wind farm schemes at scoping stage potentially visible from this viewpoint. Artfield Fell Extension, over 10km north; Arcleoch Extension nearly 17km to the north; Glenvernock over 20km north and Hill of Ochiltree over 17km north.

VIEWPOINT 14: VIEW FROM A75 CRAIGHLAW

The Cumulative Visualisation 14c indicates that the following baseline and proposed wind farms would be potentially visible at this position.

Wind farm	Distance (km)	Direction	Bearing to outer turbines	Horizontal angle
Carscreugh (proposal)	6.4	W	264° to 273°	10°
Artfield Fell (operational)	8.0	NW	307° to 315°	9°
Arcleoch (under construction)	19.0	NW	318° to 326°	9°
Barlockhart Moor (proposal)	8.3	W SW	238° to 242°	5°
Artfield Fell Extension (scoping)	7.8	W NW	305° to centre	-
Arcleoch Extension (scoping)	7.7	NW	330° to centre	-

A few turbines of Artfield Fell are visible just over the local horizon to the north west 8km away. Arcleoch, 19km to the north west, is likely to be screened by the stone wall on the horizon. Carscreugh would be visible over 6km west, partially screened by intervening landform. Assuming the baseline, the addition of Carscreugh would not result in a significant cumulative effect.

The other proposal of Barlockhart Moor would be located over 8km south west, partially screened by intervening landform just below the threshold of significant cumulative effects. Assuming the baseline and the other proposal (Barlockhart Moor), the addition of Carscreugh may lead to significant cumulative effects experienced by road users travelling in a westerly direction on the A75, but this should be qualified given the limited extent of potential visibility of the Carscreugh wind farm proposal in views from the A75 particularly when travelling in a westerly direction.

There are two proposals at scoping stage potentially visible from this viewpoint, both are extensions to baseline projects at Artfield Fell and Arcleoch, both over 7km away.

VIEWPOINT 15: VIEW FROM AIRYOLLAND MOSS (near the Southern Upland Way)

The Cumulative Visualisation 15c indicates that the following baseline and proposed wind farms would be potentially visible at this position.

Wind farm	Distance (km)	Direction	Bearing to outer turbines	Horizontal angle
Carscreugh (proposal)	7.2	E	096° to 106°	11°
Artfield Fell (operational)	8.8	E NE	057° to 066°	10°
Arcleoch (under construction)	13.4	N	004° to 013°	10°
Artfield Fell Extension (scoping)	6.9	N NE	025° to centre	-
Arcleoch Extension (scoping)	9.0	E NE	068° to centre	-

Artfield Fell is visible over 8km north east and Arcleoch will be visible, predominantly screened by landform and forestry over 13km on the northern horizon. The addition of Carscreugh, partially screened by landform, over 7km to the east would add another discrete wind farm on the horizon, however significant effects are not predicted in relation to Carscreugh and the baseline.

There are two proposals at scoping stage potentially visible from this viewpoint; both are extensions to baseline projects at Artfield Fell and Arecleoch, approximately 7km and 9km away.

VIEWPOINT 16: VIEW FROM MOCHRUM LOCH

The Cumulative Visualisation 16b indicates that the following baseline and proposed wind farms would be potentially visible at this position.

Wind farm	Distance (km)	Direction	Bearing to outer turbines	Horizontal angle
Carscreugh (proposal)	11.1	NW	312° to 321°	10°
Artfield Fell (operational)	15.2	N NW	331° to 334°	4°
Arcleoch (under construction)	26.6	N NW	329° to 333°	5°
Barlockhart Moor (proposal)	9.0	W NW	298° to 299°	2°
Artfield Fell Extension (scoping)	14.9	N NW	331° to centre	-

The top of the Artfield Fell array is located 15km north and is difficult to discern in average weather conditions. Only a few blade tips of Arecleoch are theoretically visible but are unlikely to be noticeable on the northern horizon. Carscreugh is fully screened by vegetation (even in winter) from this position, over 11km to the north west. Assuming the prior presence of the baseline, the addition of Carscreugh would not result in a significant cumulative effect.

Two blade tip of the other proposal of Barlockhart Moor, would theoretically be visible 9km away, however vegetation would restrict views from this position. Assuming the prior presence of the baseline and the other proposals (Barlockhart Moor), the addition of Carscreugh would not lead to significant cumulative effects.

The blade tips of the Artfield Fell Extension scheme which is at scoping may be visible adjacent to the operational array.

VIEWPOINT 17: VIEW FROM SANDHEAD

The Cumulative Visualisation 17b indicates that the following baseline and proposed wind farms would be potentially visible at this position.

Wind farm	Distance (km)	Direction	Bearing to outer turbines	Horizontal angle
Carscreugh (proposal)	16.0	NE	047° to 049°	3°
Artfield Fell (operational)	21.0	NE	036° to 039°	4°
Arcleoch (under construction)	26.8	N NE	012° to 015°	4°
Barlockhart Moor (proposal)	13.9	E NE	058° to 061°	4°
Artfield Fell Extension (scoping)	20.8	NE	040° to centre	-
Arcleoch Extension (scoping)	20.5	N NE	025° to centre	-

A few distant turbines of Artfield Fell may be visible 21km north east and the few distant blade tips of Arecleoch, over 26km to the north, are unlikely to be noticeable in this view. Carscreugh would be visible 16km away to the north east. Assuming the prior presence of the baseline, the addition of Carscreugh would not result in a significant cumulative effect.

The other proposal at Barlockhart Moor would be visible nearly 14km on the north eastern horizon. Assuming the prior presence of the baseline and the other proposals (Barlockhart Moor), the addition of Carscreugh would not lead to significant cumulative effects.

There are two proposals at scoping stage which may potentially be visible from this viewpoint; both are extensions to baseline projects at Artfield Fell and Arecleoch, both over 20km away.

VIEWPOINT 18: VIEW FROM A77

The Cumulative Visualisation 18b indicates that the following baseline and proposed wind farms would be potentially visible at this position.

Wind farm	Distance (km)	Direction	Bearing to outer turbines	Horizontal angle
Carscreugh (proposal)	18.5	E NE	071° to 074°	4°
Artfield Fell (operational)	21.8	E NE	058° to 060°	3°
Barlockhart Moor (proposal)	17.9	E	083° to 085°	3°
Artfield Fell Extension (scoping)	21.9	E NE	061° to centre	-

Part of the Artfield Fell array may be visible over 21km and Carscreugh would be visible over 18km to the east northeast, predominantly backgrounded. Assuming the prior presence of the baseline, the addition of Carscreugh would not result in a significant cumulative effect.

The other proposal of Barlockhart Moor would be visible nearly 18km to the east. Assuming the prior presence of the baseline and the other proposals (Barlockhart Moor), the addition of Carscreugh would not lead to significant cumulative effects.

There is a scheme at scoping stage which may be visible from this viewpoint adjacent to Artfield Fell approximately 22km away.

VIEWPOINT 19: VIEW FROM SOUTHERN UPLAND WAY (KNOCKQUHASSEN)

The Cumulative Visualisation 19b indicates that the following baseline and proposed wind farms would be potentially visible at this position.

Wind farm	Distance (km)	Direction	Bearing to outer turbines	Horizontal angle
Carscreugh (proposal)	18.8	E	084° to 087°	4°
Artfield Fell (operational)	20.9	E NE	068° to 072°	5°
Arcleoch (under construction)	21.0	NE	033° to 041°	9°
Barlockhart Moor (proposal)	19.1	E	097° to 098°	2°
Artfield Fell Extension (scoping)	21.1	E NE	073° to centre	-

Artfield Fell is visible 21km east northeast, predominantly backgrounded and Arecleoch will be screened by vegetation from this position. Carscreugh may be visible on the horizon over 18km to the east. Assuming the prior presence of the baseline, the addition of Carscreugh would not result in a significant cumulative effect.

The other proposal at Barlockhart Moor would be visible on the eastern horizon over 19km away. Assuming the prior presence of the baseline and the other proposals (Barlockhart Moor), the addition of Carscreugh would not lead to significant cumulative effects.

There is a scheme at scoping stage which may be visible from this viewpoint adjacent to Artfield Fell approximately 22km away.

VIEWPOINT 20: VIEW FROM BENERAIRD

The Cumulative Visualisation 20b indicates that the following baseline and proposed wind farms would be potentially visible at this position.

Wind farm	Distance (km)	Direction	Bearing to outer turbines	Horizontal angle
Carscreugh (proposal)	19.2	S SE	150° to 155°	6°
Artfield Fell (operational)	14.3	SE	139° to 143°	5°
Arecleoch (under construction)	2.5	E SE	103° to 134°	32°
North Rhins (under construction)	22.9	S SW	208° to 210°	3°
Barlockhart Moor (proposal)	22.8	S SE	158° to 159°	2°
Artfield Fell Extension (scoping)	16.0	SE	143° to centre	-

Artfield Fell is visible, predominantly backgrounded, over 14km south east and Arecleoch will be visible at relatively close range, 2.5km to the east south east. North Rhins is theoretically visible but would be screened by local landform. Carscreugh may be visible, fully backgrounded, 19km to the south southeast. Assuming the prior presence of the baseline, there would be a significant effect at this viewpoint primarily due to the close proximity of Arecleoch, however the addition of Carscreugh would not result in additional significant effects.

The other proposal of Barlockhart Moor may be visible nearly 23km to the south southeast, fully backgrounded. Assuming the prior presence of the baseline (Arecleoch & Artfield Fell) and other proposals (Barlockhart Moor), there would be a significant effect at this viewpoint primarily due to the close proximity of Arecleoch, however the addition of Carscreugh would not result in additional significant effects.

There is a scheme at scoping stage which may be visible from this viewpoint adjacent to Artfield Fell approximately 22km away.

VIEWPOINT 23: VIEW FROM KNEE OF THE CAIRNSMORE OF FLEET

The Cumulative Visualisation 23b indicates that the following baseline and proposed wind farms would be potentially visible at this position.

Wind farm	Distance (km)	Direction	Bearing to outer turbines	Horizontal angle
Carscreugh (proposal)	28.1	W	260° to 262°	3°
Artfield Fell (operational)	27.5	W	271° to 275°	5°
Barlockhart Moor (proposal)	29.8	W SW	253° to 254°	2°
Blackcraig (proposal)	23.9	NE	047° to 051°	5°
Margree (proposal)	26.2	NE	038° to 042°	5°
Artfield Fell Extension (scoping)	27.8	W	271° to centre	-
Glenvernock (scoping)	19.3	W NW	297° to centre	°
Hill Of Ochiltree (scoping)	20.6	W NW	297° to centre	-

Artfield Fell is located over 27km to the west and Carscreugh is theoretically visible over 28km to the west, both fully backgrounded. Assuming the prior presence of the baseline (Artfield Fell), the addition of Carscreugh would not result in a significant cumulative effect.

There are three other proposals, theoretically visible from this high point; Barlockhart Moor nearly 30km west southwest and Blackcraig and Margree 24km and 25km to the north east. Assuming the prior presence of the baseline and the other proposals, the addition of Carscreugh would not lead to significant cumulative effects.

There are three schemes at scoping stage which may be visible from this viewpoint; Artfield Fell Extension 27km to the west, Glenvernock 19km to the west north west and Hill of Ochiltree over 20km to the west north west.

VIEWPOINT 24: VIEW FROM MULL OF GALLOWAY

The Cumulative Visualisation 24b indicates that the following baseline and proposed wind farms would be potentially visible at this position.

Wind farm	Distance (km)	Direction	Bearing to outer turbines	Horizontal angle
Carscreugh (proposal)	30.6	N	012° to 014°	3°
North Rhins (under construction)	29.8	N NW	333° to 335°	3°
Barlockhart Moor (proposal)	27.0	N	014°	1°

A few blade tips of North Rhins, which is currently under construction, is theoretically visible nearly 30km away, however this would be very difficult to discern. Carscreugh is theoretically visible over 30km to the north. Assuming the prior presence of the baseline, the addition of Carscreugh would not result in a significant cumulative effect.

The other proposal of Barlockhart Moor is theoretically visible 27km to the north in front of the Carscreugh proposal. Assuming the prior presence of the baseline and the other proposals (Barlockhart Moor), the addition of Carscreugh would not lead to significant cumulative effects.

VIEWPOINT 25: VIEW FROM THE MERRICK

The Cumulative Visualisations 25c left and right indicate that the following baseline and proposed wind farms would be potentially visible at this position.

Wind farm	Distance (km)	Direction	Bearing to outer turbines	Horizontal angle
Carscreugh (proposal)	31.1	SW	219° to 220°	2°
Artfield Fell (operational)	26.7	SW	225° to 228°	4°
Arecleoch (under construction)	25.1	W SW	249° to 261°	13°
Mark Hill (consented)	16.6	W	265° to 274°	10°
Hadyard Hill (operational)	18.2	NW	298° to 315°	18°
Windy Standard & Ext (operational)	22.4	NE	039° to 051°	13°
Wether Hill (operational)	27.3	E NE	072° to 074°	3°
Dersalloch (proposal)	18.1	N	352° to 001°	10°
Blackcraig (proposal)	26.3	E	092° to 099°	8°
Margree (proposal)	25.0	E	086° to 090°	5°
Burnhead (proposal)	23.2	N	008° to 014°	7°
Afton (proposal)	25.9	NE	043° to 051°	9°
Artfield Fell Extension (scoping)	27.9	SW	225° to centre	-
Arecleoch Extension (scoping)	24.2	SW	239° to centre	-
Glenvernock (scoping)	14.4	SW	219° to centre	-
Hill Of Ochiltree (scoping)	14.8	SW	223° to centre	-

There are numerous baseline proposals potentially visible from this high viewpoint. The operational wind farms are Artfield Fell 26km south west, Hadyard Hill, 18km north west, Wind Standard (and the consented Extension) 22 km north east and Wether Hill 27km north east. The consented wind farms at Arecleoch 25km away and Mark Hill 16km will appear to the west south west and west when operational. Carscreugh is theoretically visible over 31km to the south west and assuming the prior presence of the baseline, the addition of Carscreugh would not result in a significant cumulative effect.

There are five other proposals potentially visible from this viewpoint; Dersalloch 18km and Burnhead 23km to the north, Blackcraig 26km and Margree 25km to the east and Afton nearly 26km to the north east. Assuming the prior presence of the baseline and the other proposals, the addition of Carscreugh would not lead to significant cumulative effects.

There are four schemes at scoping stage which may be visible from this viewpoint; Artfield Fell Extension 28km away, Arecleoch Extension 24km away, Glenvernock 14km away and Hill of Ochiltree 14km all to the southwest.

VIEWPOINT 26: VIEW FROM MARTYRS MONUMENT, WIGTOWN

The Cumulative Visualisation 26b indicates that the following baseline and proposed wind farms would be potentially visible at this position.

Wind farm	Distance (km)	Direction	Bearing to outer turbines	Horizontal angle
Carscreugh (proposal)	20.8	W	283° to 287°	5°
Artfield Fell (operational)	22.4	W NW	298° to 301°	4°
Artfield Fell Extension (scoping)	22.4	W NW	297° to centre	-
Arecleoch Extension (scoping)	27.5	NW	311° to centre	-
Glenvernock (scoping)	20.7	NW	333° to centre	-
Hill Of Ochiltree (scoping)	21.9	NW	332° to centre	-

Artfield Fell is distant on the horizon over 22km to the north west and Carscreugh would also be visible on the distant horizon over 20km to the west. Assuming the prior presence of the baseline, the addition of Carscreugh would not result in a significant cumulative effect.

There are no other submitted proposals visible from this viewpoint, however there are four proposals at scoping stage which might be visible between 20-28km away to the north west including Artfield Fell Extension, Arecleoch Extension, Glenvernock and Hill of Ochiltree.

VIEWPOINT 27: VIEW FROM FELL END NEAR DRUMAWEN

The Cumulative Visualisation 27b indicates that the following baseline and proposed wind farms would be potentially visible at this position.

Wind farm	Distance (km)	Direction	Bearing to outer turbines	Horizontal angle
Carscreugh (proposal)	7.3	W SW	244° to 251°	8°
Artfield Fell (operational)	6.8	W NW	286° to 297°	12°
Arecleoch (under construction)	17.1	NW	310° to 323°	14°
Mark Hill (consented)	20.5	N NW	344° to 350°	7°
Barlockhart Moor (proposal)	10.3	SW	225° to 229°	5°
Artfield Fell Extension (scoping)	7.0	W NW	283° to centre	-
Arecleoch Extension (scoping)	12.0	NW	319° to centre	-
Glenvernock (scoping)	10.9	N NE	021° to centre	-
Hill Of Ochiltree (scoping)	10.9	N NE	014° to centre	-

Artfield Fell is visible over 6km on the western horizon and Arecleoch and Mark Hill will be visible 17km and 20km to the north west and north. Carscreugh would be visible over 7km to the south west on the horizon. Assuming the prior presence of the baseline, the addition of Carscreugh would increase the turbine presence in this view, but would not result in a significant cumulative effect.

The other proposal of Barlockhart Moor is theoretically visible 10km to the south west, however local landform does have a screening effect along parts of this minor road. Assuming the prior presence of the baseline and the other proposals, the addition of Carscreugh would not lead to significant cumulative effects.

There are four schemes at scoping stage which may be visible from this viewpoint; Artfield Fell Extension 7km to the west, Arecleoch Extension 12km north west, Glenvernock 11km to the north northeast and Hill of Ochiltree over 11km to the north northeast.

VIEWPOINT 28: VIEW FROM STANDING STONES OF TORHOUSE

The Cumulative Visualisation 28b indicates that the following baseline and proposed wind farms would be potentially visible at this position.

Wind farm	Distance (km)	Direction	Bearing to outer turbines	Horizontal angle
Carscreugh (proposal)	15.9	W NW	283° to 288°	6°
Artfield Fell (operational)	17.8	W NW	302° to 306°	5°
Arecleoch (under construction)	28.5	NW	311° to 313°	3°
Artfield Fell Extension (scoping)	17.7	W NW	301° to centre	-

Artfield Fell is visible on the horizon over 17km to the north west and the tips of Arecleoch will be screened by forestry over 28km on the north western horizon. A few turbines of Carscreugh would be visible nearly 16km to the west northwest, partially screened by intervening tree cover. Assuming the prior presence of the baseline, the addition of Carscreugh would not result in a significant cumulative effect.

There are no other proposals visible from this position, however there is one proposal at scoping stage which may be visible; Artfield Fell Extension may be visible over 17km away adjacent to the operational site.

1.5 COMPOSITE CUMULATIVE LANDSCAPE AND VISUAL EFFECTS

The following section considers the potential composite cumulative effects arising from the construction of Carscreugh against a baseline situation consisting of all operational and consented projects. In addition, potential cumulative effects arising from Carscreugh are considered assuming that all the projects where applications have been submitted are constructed. Table 1 provides details of operational, consented and proposed wind farm projects within the study areas on which this assessment is based.

1.5.1 Cumulative Effects on Landscape Receptors

Landscape Character

The Carscreugh project lies within the Upland Fringe Landscape Character Type. The Location of other wind farm projects in relation to landscape character types within a 30 km radius is summarised in Table 3.

Table 3: Location of Wind Farm projects in relation to Landscape Character Types

Windfarm	Distance from Carscreugh wind farm	Landscape Character type
Carscreugh	n/a	Upland Fringe – LCT 16
Baseline Wind Farms:		
Artfield Fell	4.5km	Plateau Moorland - LCT 17
Arecleoch	15.3km	Plateau Moorland with Forestry - LCT 17a

Windfarm	Distance from Carscreugh wind farm	Landscape Character type
North Rhins	19.4km	Peninsula – Rhins Peninsula - LCT 1
Mark Hill	22.5km	Plateau Moorland with Forestry – LCT 17a
Proposed Wind Farms:		
Barlockhart Moor	3.2km	Peninsula – Machars Peninsula –LCT 1

The direct effects on the character of the landscape surrounding each of the wind farms, in the situation that they are developed would give rise to a wind farm landscape in its own right where the turbines become the principal defining element of this character with a local landscape sub-type. In the case of the Carscreugh proposal this would give rise to a wind farm landscape essentially within and up to 700m of the turbines with a new landscape sub type Upland Fringe with Wind Farm in the region of 3 to 3.5km of the turbines, where the wind turbines would have a locally characterising influence on the landscape.

The baseline situation comprises the existing turbines at Artfield Fell are located some 4.5km north of the Carscreugh site within the Plateau Moorland landscape type. Arecleoch and Mark Hill lies over 15km and 22km north within Plateau Moorland with Forestry and North Rhins lies nearly 20km east on the (Rhins) Peninsula landscape type. Excluding Carscreugh from consideration it is considered there is sufficient distance between the three baseline projects for there to be no conjoining of wind farm landscapes and also no conjoining of sub-types. Adding Carscreugh into the equation would not lead to a conjoining of localised wind farm landscapes, however due to the proximity of Carscreugh and Artfield Fell there would be some coalescence of the Plateau Moorland with Wind Turbines sub-type in between the two proposals. This would constitute a significant cumulative effect on local landscape character, but would not affect the Plateau Moorland type or area as a whole.

Assuming the prior presence of the proposed 4 turbines at Barlockhart Moor located 3.2km south east and predominantly within the (Machars) Peninsula landscape type. This proposal would also potentially give rise to a localised wind farm landscape and landscape character subtype in the vicinity. In consideration of the baseline, Barlockhart Moor and Carscreugh there would be no conjoining of localised wind farm landscapes. However, due to the proximity of these three proposals, there would be some coalescence of the local wind farm subtypes created in between these proposals which would constitute a significant cumulative effect on local landscape character, but would not affect any of the affected landscape types as a whole. There would be no other potentially significant cumulative landscape effects on the in relation to Carscreugh and any other proposals within the study area.

Landscape Designations

Mochrum Loch RSA is located approximately 8km south east of the Carscreugh proposal. In relation to the baseline, there may be the potential for views of Artfield Fell, Arecleoch, and North Rhins from parts of this RSA, as illustrated in cumulative viewpoint 16b, however the addition of Carscreugh would not lead to significant cumulative effects on this landscape designation. In relation to the other proposals, only Barlockhart Moor would be visible from parts of this RSA. Assuming the prior presence of the baseline and the other proposals, the addition of Carscreugh would not lead to significant cumulative effects on this landscape designation.

1.5.2 Cumulative Effects on Visual Amenity Receptors

Static Cumulative Effects

Residents

From the village of Glenluce, located 3km south west of the proposal, no significant effects were identified in relation to Carscreugh alone and analysis of the baseline cumulative ZTV's suggest that potentially only North Rhins, 17km west, may be visible from the elevated fringes of this settlement but views of both proposals from the same dwellings would be limited if any and no significant effects are predicted. In terms of potential cumulative visibility in relation to the other proposals, there may be some views of Barlockhart Moor from Glenluce in an easterly direction and due to the close proximity (1-2km away) of this wind farm there could be the potential for significant effects. However due to the limited visual effect of Carscreugh on the residents of Glenluce, a significant cumulative effect from the addition of Carscreugh is not predicted.

From the village of Kirkcowan, located 9.5km to the east of Carscreugh, no significant effects were identified in relation to Carscreugh alone and analysis of the baseline cumulative ZTVs suggest that potentially only Artfield Fell, 11km west and Arecleoch, 21km north west, may be visible from the elevated western fringes of this settlement where views of Carscreugh would be screened by intervening woodland and forestry. No significant cumulative effects are predicted in relation to the addition of Carscreugh to the baseline. In terms of potential cumulative visibility in relation to the other proposals, there may be some views of Barlockhart Moor, 11km south west, from the western fringes of Kirkcowan, where Carscreugh is fully screened. No significant cumulative effects are predicted from the addition of Carscreugh to the baseline or other proposals from Kirkcowan.

From the village of Stoneykirk, located 14.5km to the southwest of Carscreugh, no significant effects were identified in relation to Carscreugh alone and analysis of the baseline cumulative ZTVs suggest that potentially Artfield Fell, 18km north east, Arecleoch, 23km north west, and North Rhins, 7km north west are theoretically visible from the village. Assuming the prior presence of the baseline wind farms, the addition of Carscreugh would not lead to a significant cumulative effect. In terms of potential cumulative visibility in relation to the other proposals, there may be some views of Barlockhart Moor, 13km east. Assuming the prior presence of the baseline and other proposals, the addition of Carscreugh would not lead to a significant cumulative effect.

Sequential Cumulative Effects

Road Users

The potential significance of cumulative visual effects experienced by those travelling on the road network has been considered with reference to the Cumulative ZTV visibility maps (CLVIA 26 and CLVIA 05 – CLVIA 24), cumulative viewpoint analysis and visual survey of key routes within the Study Area. Routes where visibility is not predicted by ZTV analysis have not been considered. Key routes considered as part of this cumulative assessment are illustrated on CLVIA 26.

A75: Eastbound from Stranraer there would be limited views of Carscreugh until after Glenluce where intermittent views would occur until Dergoals. In relation to the baseline wind farms, travelling eastbound along this section between Glenluce and Dergoals, only Artfield Fell may potentially be visible (7km north), as illustrated in cumulative viewpoint 6d, in combination with Carscreugh intermittently for about 4-5km in length. Further eastbound, potential views of Artfield Fell would continue until Kirkcowan and there may be the potential for a long distance

(24km away) isolated view of Mark Hill beyond Kirkcowan but no further sequential views eastbound within the study area.

Travelling westbound from Ravenstall Point, very distant views of Carscreugh may be visible between Carsluith and Palnure 23-30km away and a couple of intermittent views between Newton Stewart and Kirkcowan (Cumulative Viewpoint 14c) and a few short sections of more open closer range views on the approach and just beyond Dergoals. With regard to the other baseline proposals, there would be intermittent distant views of Artfield Fell between Ravenstall Point and Newton Stewart, some of which could be combined. Between Newton Stewart and Kirkcowan there could be views of Mark Hill and Arecleoch combined with Carscreugh, but forestry in the area would likely screen some of these views. Between Kirkcowan and Glen Luce, there is the potential for both sequential and combined views of Carscreugh with Artfield Fell, Arecleoch and North Rhins as illustrated in cumulative viewpoints 14c and 6d where local screening reduces the potential for combined views. Beyond Glenluce there would be the potential for views of North Rhins until Stranraer.

In relation to the baseline, the addition of Carscreugh would not lead to significant cumulative effects on users of the A75 above and beyond those predicted in relation to Carscreugh (significant in its own right), due to the extent of local screening in limiting potential combined views and the limited extent and separation distance of most baseline wind farms in the sequential views.

In relation to the other proposed wind farms, only Barlockhart Moor would be visible on the A75. Travelling eastbound from Stranraer, there would be no potential views until Dunragit, where there may be views of Barlockhart Moor alone until the approach to Glenluce where views of Carscreugh would be predominantly screened. Within Glenluce, views of both proposals drop away and then would re-appear on higher ground beyond Glenluce. There would be the potential for views of Barlockhart Moor in the opposite direction to Carscreugh for a short time until passing Barlockhart Moor at close range.

In relation to the baseline and other proposed wind farms travelling westbound from Ravenstall Point, there would be some combined distant views of Barlockhart Moor (25km away) between Ravenstall Point and Creetown. There would also be the potential for combined views of Barlockhart Moor between Newton Stewart and Kirkcowan limited by the forestry cover in the area. Between Kirkcowan and Glenluce, Barlockhart Moor is potentially visible from many of the same locations as Carscreugh, at distances of between 8km and 0.5km away. Beyond Glenluce there would be no further views of any proposed wind farms. Assuming the prior presence of the baseline and other proposals (Barlockhart Moor), there would be an existing significant effect on part of the A75, between Kirkcowan and Glenluce, due to Barlockhart Moor and the addition of Carscreugh would reinforce but not extend the area of significant effects.

A77: Northbound there would be distant views of Carscreugh on the descent of The Rhins 19km-15km away and the potential for blade tips only between Lochans and Stranraer 14km away. In relation to the baseline wind farms, distant views of Artfield Fell and Arecleoch would also be visible in combination with Carscreugh on the descent of The Rhins, as illustrated in cumulative viewpoint 18b, and from Lochans into Stranraer. There may be the potential for distant glimpses of Hadyard Hill and a view of Arecleoch travelling northbound on the approach to Ballantrae. Travelling southbound in relation to the baseline, the only wind farm with potential for visibility is North Rhins, between the shores of Loch Ryan to Stranraer and then on the west facing descent of The Rhins into Portpatrick. In relation to the baseline, the addition of Carscreugh would not lead to significant cumulative effects on users of the A77 due to the limited extent of visibility and separation distance of Carscreugh.

In relation to the other proposed wind farms, only Barlockhart Moor would be visible on the A77. Distant views of Barlockhart Moor would be visible on the east facing descent of The Rhins into

Lochans and into Stranraer in combination with Carscreugh, Artfield Fell and Arecleoch, as illustrated in cumulative viewpoint 18b. Assuming the prior presence of the baseline and other proposals (Barlockhart Moor), the addition of Carscreugh would not lead to significant cumulative effects on users of the A77 due to the limited extent of visibility and separation distance of Carscreugh.

A716: There is the potential for views of Carscreugh along much of this route (predominantly northbound), however localised vegetation would restrict views to intermittent only of Carscreugh along this route. In relation to the baseline wind farms, views of North Rhins would be very limited and at the most would consist of glimpses only between Drummore and Sandhead and then potential views between Sandhead and Lochans. The distant proposals of Artfield Fell (18km-30km away) and Arecleoch (20km-38km away) are theoretically visible along much of this route, but would be limited by roadside vegetation. In relation to the baseline, the addition of Carscreugh would not lead to significant cumulative effects on users of the A716 due to the limited extent of visibility and separation distance of Carscreugh.

In relation to the other proposed wind farms, only Barlockhart Moor (13km-21km away) would be visible on much of the A716. The visibility of Barlockhart Moor would be in combination with the baseline and Carscreugh, but combined views along the A716 would be limited by vegetation along the road. Assuming the prior presence of the baseline and other proposals (Barlockhart Moor), the addition of Carscreugh would not lead to significant cumulative effects on users of the A716 due to the limited extent of visibility and separation distance of Carscreugh.

A747: There would be a distant glimpsed view of Carscreugh 27km away, north of Glasserton, and then intermittent views from Auchnernalg to the A75 with a relatively close range open view to Carscreugh on the immediate approach to the A75. In relation to the baseline wind farms, there would be the potential for intermittent views travelling northbound only, of Artfield Fell (9km-13km north), Arecleoch (19-22km north) and North Rhins (19km west) from the high points of the road between Auchnernalg and the A75 in combination with Carscreugh. In relation to the baseline, the addition of Carscreugh would not lead to significant cumulative effects on users of the A747 above and beyond those predicted in relation to Carscreugh (significant in its own right), due to the limited extent and separation distance of most baseline wind farms in the sequential and combined views.

In relation to the other proposed wind farms, only Barlockhart Moor would be visible (3.5km to less than 0.5km away) on the A747 northbound on high ground between Auchnernalg and the A75 in combination with Carscreugh and the baseline. Assuming the prior presence of the baseline and other proposals (Barlockhart Moor), there would be an existing significant effect on part of the A747, due to Barlockhart Moor and the addition of Carscreugh would reinforce but not extend the area of significant effects.

Recreational Routes

Southern Upland Way: There would be distant and limited views of Carscreugh both northbound and southbound through the study area. In relation to the baseline wind farms, there would be the potential for combined distant views from The Rhins, of Artfield Fell (20km north east), Arecleoch (21km north east) and Carscreugh (18km north east). There would also be the potential for close range views of North Rhins, less than 1km south, on the top of The Rhins but combined views would not be obtained due to landform and the direction of travel. Views would drop away of Carscreugh and Arecleoch past the A77, but there may be views to Artfield Fell until the railway crossing. There may be a view of both Carscreugh (7km east) and Artfield Fell (9km north east) from high ground on either side of Glenwhan Moor, south of Auchmantle, similar to Cumulative Viewpoint 15c at Airyolland Moss, where Arecleoch (14km north) would be predominantly screened. North of New Luce, there would not be any further views of Carscreugh northbound, however there would be the potential for intermittent views of Artfield Fell (1.5 –

7km away), Arecleoch (9-13km away) and Mark Hill (12km away) between New Luce and Glen Trool.

Southbound within Glen Trool, views would be screened by landform and forestry. Between Bargrennan and Knowe for 1-2km on Glenvernoch Fell, there would be the potential for combined views of Carscreugh (13km southwest) and Artfield Fell (11km south west), and Arecleoch (15km north west). The route is predominantly with forestry until Artfield Fell, where there would be a limited (less than 0.5km) length of path where combined views of Carscreugh (6km south) may be obtained with close range views of Artfield Fell (1.5km east) and distant views of North Rhins (21km south west). There would be potential for further intermittent views of North Rhins alone ranging from 21km away to less than 1km when passing the wind farm on the Rhins peninsula. In relation to the baseline, there may be a localised existing significant effect on part of the route near Artfield Fell, however the addition of Carscreugh would not lead to significant cumulative effects on users of the Southern Upland Way due to the limited extent of visibility and separation distance of Carscreugh.

In relation to the other proposals within the study area, only Barlockhart Moor would be visible from the Southern Upland Way. Views of Barlockhart Moor northbound would occur on The Rhins and on both sides of the A77, and on both sides of Glenwhan Moor. Views of Barlockhart Moor southbound would occur on Glenvernoch Fell and Artfield Fell, in combination with Carscreugh and the baseline proposals. Assuming the prior presence of the baseline and other proposals (Barlockhart Moor), there may be a localised existing significant effect on part of the route near Artfield Fell, however the addition of Carscreugh would not lead to significant cumulative effects on users of the Southern Upland Way due to the limited extent of visibility and separation distance of Carscreugh.

National Cycle Route 7: There would be limited potential for distant views of Carscreugh in the vicinity of Creetown and Calgow both over 20km away. There may be the potential for very limited distant views of Artfield Fell, Arecleoch and Mark Hill, however the addition of Carscreugh would not lead to significant cumulative effects on users of National Cycle Route 7 due to the limited extent of visibility and separation distance of Carscreugh.

In relation to the other proposals within the study area, only Barlockhart Moor would be visible from very limited parts of the National Cycle Route 7. Assuming the prior presence of the baseline and other proposals (Barlockhart Moor), the addition of Carscreugh would not lead to significant cumulative effects on users of National Cycle Route 7 due to the limited extent of visibility and separation distance of Carscreugh.

1.6 SUMMARY AND CONCLUSIONS

This part of the assessment has considered the potential overall cumulative effects of the development of Carscreugh wind farm against a baseline of the existing and consented wind farm projects within the 60 km study area. In addition, the assessment considers the potential cumulative effects in the context of all the proposed wind farm developments within the study area.

In terms of landscape effects, if only the baseline existing and consented wind farms are considered, the proposed Carscreugh wind farm would lead to a localised wind farm landscape, limited to the individual sphere of influence of the Carscreugh site and would not lead to a blurring or loss of distinction within the Upland Fringe landscape type. However the introduction of Carscreugh, would lead to some coalescence of the landscape subtype 'Plateau Moorland with Wind Farm' created by Artfield Fell to the north but would not lead to a blurring or loss of distinction to the Plateau Moorland landscape type as a whole.

In the situation that all of the baseline and proposed schemes were consented and constructed, these proposals would potentially give rise to localised wind farm landscapes in their respective vicinities and with the exception of Barlockhart Moor, no cumulative landscape effects were identified. Due to the proximity of Barlockhart Moor, there would be some coalescence of the local wind farm subtypes created in between these proposals which would constitute a significant cumulative effect on local landscape character, but would not affect any of the affected landscape types as a whole.

The assessment has confirmed that the addition of Carscreugh to either the baseline or in addition to the other proposals would not lead to significant cumulative effects within the Mochrum Lochs RSA.

In terms of visual amenity, there were no significant cumulative effects were identified in relation to local settlement, with the potential for limited cumulative effects to be experienced in views from dispersed dwellings in the vicinity of Carscreugh where effects would relate primarily to Carscreugh as a stand alone project. From the main road routes, there were no significant cumulative effects identified in relation to the baseline (existing and consented) wind farm within the study area, except in views from limited sections of the A75. There was the potential for significant cumulative effects from sections of the A75 and A747 in combination with the other proposal of Barlockhart Moor. There were no significant cumulative effects identified in relation to the main recreation routes of the Southern Upland Way or National Cycle Route 7.

Overall it is concluded that significant cumulative landscape and visual effects would be very limited and localised in extent.