



DUMFRIES AND GALLOWAY COUNCIL

## **Local Development Plan**

### **Supplementary Guidance**

Adopted 22nd June 2017

## *Part 1 Wind Energy Development: Development Management Considerations*

### *Appendix 'C' Dumfries & Galloway Wind Farm Landscape Capacity Study*

## Executive Summary

The Dumfries and Galloway Wind Farm Landscape Capacity Study (DGWLCS) assesses the sensitivity of landscape character types, and more locally defined character areas, to different sizes of wind turbine development. It also considers scope for offshore wind energy developments, based on a regional coastal character assessment. The study was revised and updated in 2016 in response to the considerable amount of wind farm development in Dumfries and Galloway and the continuing demand for larger turbines. Overall findings, conclusions and recommendations can be used to inform strategic planning for wind energy developments with the detailed assessments providing more specific guidance to be used when considering development proposals.

**Scope and Methodology:** The methodology follows best practice guidance on developing landscape capacity studies. It establishes a 'landscape baseline', based on current landscape conditions and a review of operational and consented wind turbine development in the region. The study considers landscape sensitivity to a wide range of turbines, based primarily on turbine height. It focusses on the remaining capacity for large turbines and a consideration of potential cumulative effects. Broad patterns or concentrations of development are analysed in greater detail within their landscape context to develop broad strategic guidance. The study also assesses sensitivity to very large wind turbines

(turbines >150m) in selected upland landscapes and considers scope for the repowering of existing wind farms involving replacement with substantially larger turbines.

Detailed sensitivity assessments are based on defined landscape character types/areas. However, potential indirect effects on landscape character and/or on views can extend over a wide area, including other nearby landscape character types/areas or in some cases adjacent authorities. As a result, sensitivity assessments for individual proposals may need to consider both the 'host' landscape character type/area and adjoining or close-by landscape character types/areas where wider sensitivities may apply.

**Structure:** Section A establishes the context of the study and explains the adopted methodology. Section B has a summary of the study findings and recommendations, followed by detailed sensitivity assessments for individual character types/areas and for offshore wind energy developments. Each landscape character type/area has a separate section with descriptions of landscape character, cultural heritage and an overview of existing/consented developments With links to detailed maps. Guidance on development is given with a combined landscape and visual overall sensitivity score, and a separate score for the landscape values sensitivity criterion. Detailed assessments of sensitivity, key constraints and opportunities for different turbine typologies are set out in tabular form. In landscapes where operational and consented wind farms

already influence character and views, cumulative issues likely to be associated with additional development are identified and this informs the guidance set out for each landscape character type/area. Section C includes two supporting studies; a review of the existing regional landscape character assessment; and an assessment of opportunities for repowering existing schemes with larger turbines and for introducing turbines in excess of 150m in height.

**Summary of Findings:** The landscape of Dumfries and Galloway is notably diverse with the contrast of character types producing rich, multi-layered landscapes and high quality scenery, recognised in the scenic designations which cover extensive parts of the region.

The region's larger operational and consented wind farms generally occupy less sensitive, sparsely settled and simple upland areas. Remaining undeveloped parts of these upland landscapes are often more constrained as they lie closer to more sensitive settled areas. Developments are particularly extensive and are a key characteristic in the Wigtownshire Moorlands, the Southern Uplands close to the border of East Ayrshire and the Forest of Ae. Some areas are considered to have reached capacity for development, due to the significant cumulative effects already evident because of the close siting and/or varied design of developments. These include the area around Upper Nithsdale and the south-western part of the Wigtownshire Moorlands.

Smaller groups of large turbines are also located in less extensive areas of simpler upland plateau, lying within or closer to more settled valleys and coastal areas. Although there has not been widespread development of large wind turbines within more sensitive lowland areas, such developments are more visible from settlements and key transport routes than the more extensive wind farms located within the much larger scale upland areas.

The study identifies the greatest scope for additional development in parts of the Southern Uplands with Forest, with some more limited remaining opportunities likely in the Plateau Moorlands, Plateau Moorlands with Forest and Foothills with Forest landscape character types. Cumulative effects with operational and consented wind farms and likely increased effects on surrounding more sensitive landscapes are key constraints in the remaining undeveloped parts of these landscapes.

The more rugged hill ranges of the Southern Uplands, the Coastal Granite Uplands and the Foothills landscapes are identified as being important to keep free of large scale wind turbines in order to conserve scenic distinctiveness and minimise impact on more settled dales and valleys. Smaller scale and more settled lowland landscapes, generally lying in the south of the region, are also identified in the study as being of higher sensitivity to larger wind turbines.

For offshore wind energy development, the study recommends the protection of the special qualities of coastal landscapes which form an essential part of the identity of Dumfries and Galloway. Enclosed bays, the wilder seascapes associated with the Mull of Galloway and the Machars peninsula and coastal views from the A75 and settlement are noted as being of particular sensitivity.

**Limitations:** The study provides information on the relative sensitivity of landscapes to different scales of wind turbine development. It is accepted that the majority of large scale wind energy developments are likely to incur significant adverse landscape and visual effects. The study sets out guidance on the nature and likely severity of potential effects and proposes a strategy aimed at protecting the most sensitive landscapes. Landscape and visual sensitivity comprise one of a range of issues that need to be considered in determining the potential acceptability of a specific development; these are covered by other sections of the Dumfries and Galloway Local Development Plan and associated supplementary guidance. Strategic guidance within the DGWLCS does not replace the need for individual landscape and visual impact assessments and/or Environmental Assessments for individual wind energy developments.

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# Section A: Background

## 1. Introduction

### 1.1 Background to the study

#### 1.1.1 Scottish Planning Policy 2014

Scottish Planning Policy 2014 (SPP) requires local authorities to ensure that an area's full potential for electricity and heat from renewable resources is achieved, while giving due regard to relevant environmental, community and cumulative impact considerations. SPP stresses the need for the planning system to guide development to appropriate locations and local development plans are required to set out the issues that will be taken into account when considering specific proposals for energy developments. SPP states that planning authorities... "should identify where there is strategic capacity for wind farms, and areas with greatest potential for wind development, considering cross-boundary constraints and opportunities" (SPP paragraph 162). Potential cumulative effects should be made clear by planning authorities.... "recognising that in some areas the cumulative impact of existing and consented energy development may limit capacity for further development".

#### 1.1.2 The role of landscape capacity studies for wind energy development

Scottish Natural Heritage (SNH) provides guidance on the use of landscape capacity studies in the document Spatial Planning for Onshore Wind Turbines - natural heritage considerations (June 2015). This guidance states that landscape capacity studies are a material development management consideration that will underpin supplementary guidance and inform good decision making. SNH considers that these studies can support the requirements of SPP by identifying landscape sensitivities early in the process and capacity for further development, considering cumulative landscape and visual effects. Landscape capacity studies can also provide advice on general design, such as turbine height and layout, and on the scope for change to existing wind farm development, for example, through the replacement of turbines (commonly known as 'repowering').

### 1.2 Study Aims

This study revises and updates the 2011 Dumfries and Galloway Wind Farm Landscape Capacity Study (DGWLCS) in response to changes in baseline conditions and to reflect current planning policy and guidance. The study provides:

- A detailed landscape and visual sensitivity assessment for wind turbine/wind farm developments based on landscape character types and areas defined in the SNH Landscape Character Assessment for Dumfries and Galloway.
- Guidance on what size of wind energy development would be appropriate, in landscape and visual terms, within the different landscape character types/areas considered in the study and on which areas are unsuitable in landscape and visual terms for wind energy development.
- Consideration of scope for repowering of operational and consented wind energy developments including assessing landscape sensitivity to very large turbines in excess of 150m to blade tip.
- Information on potential cumulative landscape and visual impacts, identifying where cumulative thresholds for development have been/are close to being reached.
- Siting and design guidance for landscape character types/areas identified as having some potential for development.

### 1.3 Structure of the report

Section 2 explains the function of landscape capacity studies and defines the terminologies used. The adopted methodology establishes the landscape character types/areas and the development typologies assessed in the study. Operational and consented wind farm and turbine developments which form the baseline for the study are also identified.

Landscape and visual sensitivity assessments have been produced for landscape character types and more locally defined landscape character areas within Dumfries and Galloway. These consider sensitivity against key landscape and visual criteria for a range of development typologies principally based on turbine height. Guidance is provided on cumulative issues, opportunities and constraints for development and on siting and design, where scope for development is identified, for each landscape character type/area. Sensitivity for offshore wind energy development is also provided with this being based on a regional scale coastal character assessment. Summary and detailed assessments and guidance for all scales of onshore and offshore development are set out in Section B.

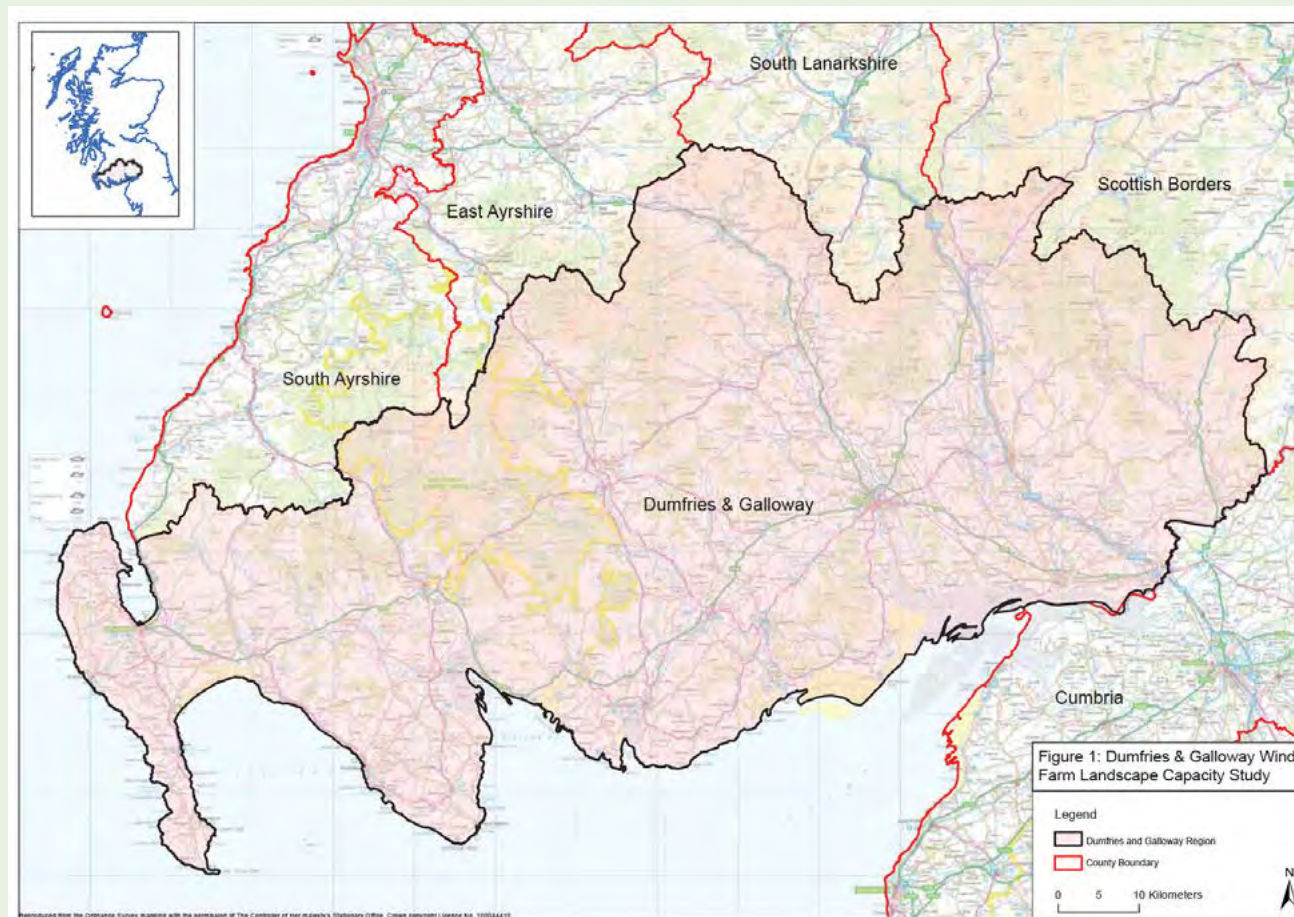
## 2. Study Methodology

The study considers the sensitivity of key characteristics of different landscapes within Dumfries and Galloway to changes that would be brought about by new wind energy development. Although the focus is on landscapes within

Dumfries and Galloway, landscape and visual sensitivities and potential cumulative issues associated with adjoining authorities are also considered. The Study Area is shown in Figure 1 below.

The sensitivity assessment within this study assesses landscape and visual aspects only and a range of environmental and other factors also need to be considered in the strategic planning and appraisal of wind energy development proposals. These are covered elsewhere within the main text of the supplementary guidance.

Figure 1



### 2.1 Landscape capacity studies

Landscape capacity is described as 'the degree to which a particular landscape character type or area is able to accommodate change without significant effects on its character, or overall change of landscape character type. Capacity is likely to vary according to the type and nature of change being proposed'<sup>1</sup>

There is currently no formally agreed approach or methodology for assessing the sensitivity or capacity of different landscapes to wind energy development. Scottish Natural Heritage (SNH) Commissioned Report 385 Landscape Capacity Studies in Scotland - Review and Guide to Good Practice was issued in 2010 and this study accords with the guidance set out in this document and also the SNH online Toolkit on commissioning landscape capacity studies which was informed by SNH Commissioned Report 385. More detailed guidance is also provided by SNH in the document *Siting and Designing Wind Farms in the Landscape* (2014) which includes advice on strategic planning

<sup>1</sup> Swanwick, Carys and Land Use Consultants, *Landscape Assessment Guidance for England and Scotland*, 2002, Countryside Agency and Scottish Natural Heritage.

for wind farms, and in the Siting and Design of Single and Groups of Small Turbines in the Landscape (2012). A full list of reference material used in the study is set out in Annex A.

Most landscape capacity studies are based on landscape character units and identify key characteristics of each landscape unit potentially sensitive to a given development. The particular characteristics defined as key sensitivity criteria may change according to the nature of the development being considered, although the methodological approach between studies is generally similar. Visibility and views may be considered as a separate issue or may form part of the assessment of landscape sensitivity as a criterion together with key landscape characteristics.

Landscape values (which include designated or valued landscapes) may be considered as a separate criterion in the sensitivity assessment although this will largely depend on the background information available on the reasons for designation and the brief from the commissioning body.

The Guidelines for Landscape and Visual Impact Assessment Version 3 (GLVIA3) sets out a methodology for appraising landscape sensitivity which considers susceptibility and value. While this methodology is similar to the methodology used in the DGLWCS, GLVIA3 makes it clear that the purposes of assessing sensitivity in the wider

arena of landscape planning is different to that undertaken as landscape and visual impact assessment which is specific to a particular project or development and its location.

## 2.2 Definition of terms

The following definitions of terms apply to this study (see Annex B for full glossary):

### Landscape character

Landscape relates not only to the physical attributes of the land but also to the experience of the receptor. Landscape character is made up of the physical characteristics such as landform, land cover and settlement pattern (which exist whether anyone sees them or not) plus a range of experiential and perceptual responses to that landscape.

### Landscape sensitivity

Sensitivity relates to landscape character and how vulnerable this is to change. In this study, change relates to wind energy development and any findings on landscape sensitivity are restricted to this. Landscapes may have different sensitivities to other forms of change or development. In this study, sensitivity is assessed by considering the effect of different heights of wind turbine development on the physical, experiential and perceptual characteristics of landscapes. Landscapes that are highly sensitive are at risk of having their key characteristics fundamentally altered by the wind turbine typology under consideration in the assessment.

### Landscape capacity

This relates to how far a landscape can accommodate development without significant adverse impacts occurring on its character. Landscape character and sensitivity are part of this, but in this study capacity also includes an assessment of visual sensitivity and landscape values.

## 2.3 General approach to the study

The approach to the study has been informed by guidance on the potential impacts and landscape sensitivities associated with wind energy development and on the practical application of methodologies used in landscape capacity studies we have undertaken. The study has involved the following key tasks:

- Identification of existing and consented wind farm and turbine developments in Dumfries and Galloway and within adjoining authorities to inform the baseline for this study.
- Identification of the different wind turbine development typologies to be assessed in the study in collaboration with the Steering Group which comprises representatives of Dumfries and Galloway Council and SNH.
- Definition of the landscape and visual sensitivity criteria to be used in the assessment.



- Field work to assess the sensitivity of landscape character types/areas to the agreed development typologies using identified sensitivity criteria and considering operational and consented wind energy developments.
- Consideration of potential 'repowering' of existing wind farms, assessing the potential landscape and visual effects of introducing larger wind turbines to the Dumfries and Galloway landscape. This assessment has been undertaken in the field using computer-generated Zone of Theoretical Visibility (ZTV) mapping and visualisations.
- Identification of areas where the number, extent and proximity of operational and consented wind farm developments has resulted in cumulative landscape and visual impacts. A more detailed assessment of cumulative effects and capacity has been undertaken in these areas.
- An overview of landscape and visual sensitivities across the study area with recommendations on strategic landscape and visual considerations for wind energy developments within and close to Dumfries and Galloway.

## 2.4 Development typologies

### 2.4.1 Smaller typologies

The height of turbines relative to other structures in the landscape is a key consideration in terms of landscape 'fit'. Different sensitivities come into play once turbines exceed the height of other common landscape features, for example trees and small wood pole lines. We have found during our field assessments (and observations of existing smaller turbines in the landscape) that there is a noticeable threshold at around 30-35m height to blade tip where over this height a turbine will quickly become a dominant feature in many lowland/more settled landscapes.

The focus of this study is on commercial wind farm developments and extensions to existing wind farms rather than smaller turbines. Turbines below 30m high to blade tip are not considered in detail in this study. The majority of landscapes within Dumfries and Galloway can accommodate turbines of this size providing they are appropriately sited. 'Generic' guidance on siting turbines below 50m high is contained in Chapter 4 of the Supplementary Guidance main document.

### 2.4.2 Larger typologies

In terms of larger developments (turbines 50m +) we have principally considered the height of turbine within the sensitivity assessment as this is a critical factor in determining landscape and visual sensitivity. We have not specifically

considered pre-determined numbers of turbines within the typologies assessed as this would make the sensitivity assessment complex and potentially difficult to follow. Some indication is given however of the likely extent of development that may be accommodated where the sensitivity assessment indicates some capacity within the guidance set out for each landscape character area. The assessment therefore is applicable to both single, small groups and larger groups of turbines comprising 'wind farm' developments.

### 2.4.3 Development typologies considered in the study

We have considered the following development typologies in the study:

- Small-medium turbines 20m to 50m (to blade tip)
- Medium turbines 50m to 80m high
- Large turbines 80-150m high
- Very Large turbines over 150m
- Offshore turbines - 175-225m high

The 2016 review of the DGWLCS only undertook sensitivity assessments for Very Large turbines in landscape character types/areas where scope for the Large typology was identified in the original 2011 study.

#### 2.4.4 Development typologies and landscape character areas

The study has focussed on assessing the relationship between the height of the turbine and the landscape and visual sensitivity criteria. In undertaking this analysis, it has been assumed that the Medium and Small-medium typologies (turbines 20-80m) are more likely to comprise single and small groups of turbines rather than more extensive 'wind farms'. The assessment considers scope for multiple developments located across the character area. The number of turbines that can be accommodated within a wind farm development will be influenced by the relative extent of the landscape character type/area (or less sensitive part of a landscape character area) and potential effects on key landscape and visual constraints outlined in the assessment.

### 2.5 The sensitivity assessment

The study considers the sensitivity of key landscape and visual characteristics of different landscape character areas within Dumfries and Galloway to the development typologies outlined above. In terms of assessing the potential effects of turbines on key characteristics, judgements were made on turbine height first. Numbers of turbines were considered in relation to the scale of key landscape features and any visual sensitivities. The field assessment used a series of computer generated visualisations showing different heights of turbine to inform the judgements made on landscape and

visual sensitivities. Where relevant, key sensitivities in relation to landscapes lying outside Dumfries and Galloway's boundaries in adjacent authorities are also noted.

#### 2.5.1 Landscape and visual sensitivity criteria

The sensitivity assessment considers the following criteria in assessing the potential effects of wind energy development on landscape character types/ areas:

- Landscape scale
- Landform
- Land cover pattern
- Settlement and archaeology
- Perceptual qualities
- Landscape context
- Views and visibility
- Landscape values

A detailed description of the factors considered within the sensitivity assessment is set out in Table 2 below:

**Table 2: Sensitivity criteria used in the assessment**

Sensitivity criteria	Factors considered and relevance of criteria to wind turbines
Landscape scale	<ul style="list-style-type: none"> <li>• Consideration of the scale of the landscape taking into account the degree of relief, amount of topographical containment, degree of openness and enclosure and the extent of land visible.</li> <li>• Identification of areas of containment and factors that create enclosure where scale reduces. Identification of features against which the size of a turbine might be easily referenced.</li> <li>• Consideration of how the size of the development might impact on the understanding of scale of the landscape.</li> <li>• Assessment of how development would relate to the scale of the landscape including whether it would be likely to dominate or appear compatible in scale in terms of the relative scale of landform, landscape pattern and individual features, including buildings in the landscape.</li> <li>• Consideration of how development would affect expansiveness and the sense of distance.</li> <li>• In general, the more open the landscape and the larger the scale of the landscape the greater the ability to relate to larger development typologies.</li> </ul>
Landform	<ul style="list-style-type: none"> <li>• Consideration of the overall topographical shape and the degree of complexity of landform including identification of any distinct 'landmark' features.</li> <li>• Assessment of how development, including ancillary works, would impact on or relate to landform and whether it would intrude or detract if close to distinctive landform features.</li> <li>• In general, the simpler and more gently graded the landform the better the visual relationship with the simple form of turbines, and more gentle gradients are likely to better accommodate the platforms and roads associated with larger turbines.</li> </ul>

Sensitivity criteria	Factors considered and relevance of criteria to wind turbines
<b>Land cover and landmark features</b>	<ul style="list-style-type: none"> <li>• Consideration of the degree of complexity and diversity of land cover pattern (field enclosure, woodlands, water courses and lochs) and whether pattern is strong or distinctly repeated, displays integrity or where it is fragmented.</li> <li>• Assessment of the degree of diversity, and the importance of this in informing the distinctiveness of the landscape character.</li> <li>• In general, a landscape with simple land cover pattern, for example grass moorland or more uniform commercial forestry, would be of reduced sensitivity to development while a more intricate pattern of woodlands or strong field enclosure pattern would be more sensitive.</li> <li>• Assessment of how development could relate to pattern; whether it would disrupt or dominate strong pattern, undermine well balanced diversity, interrupt or fragment integrity of pattern, fit with areas where pattern is more simple or increase visual confusion where pattern is very fragmented.</li> <li>• Consideration of potential effects on landmark features, such as hill top copses, designed landscapes and features, water bodies.</li> </ul>
<b>Settlement and archaeology</b>	<ul style="list-style-type: none"> <li>• Consideration of the pattern, density and character of settlement, its relationship to topography or other natural features and its setting, roads and other built structures. Consideration of historic features and sites and their setting. Landscapes with notable historic settlements and archaeology would generally be of increased sensitivity.</li> <li>• Assessment of how development might impinge on these characteristics; where there may be scope to attain some visual separation to minimise effects on settlement setting and avoid fragmentation of the pattern of built development and its association with topography or other natural features.</li> <li>• Where larger scale industrial buildings and built structures such as pylons, masts and existing wind farms are present, the relationship of turbine development to these is considered.</li> <li>• Historic and archaeological features which contribute to landscape character are assessed in terms of any potential effects on setting.</li> </ul>

Sensitivity criteria	Factors considered and relevance of criteria to wind turbines
<b>Perceptual qualities</b>	<ul style="list-style-type: none"> <li>• Consideration of the degree of modification by human intervention (such as roads, settlement, forestry, masts and wind turbines), consideration of how development could affect perceptions of naturalness and the degree of tranquillity experienced. More modified and developed landscapes (some of these featuring wind farm development) would generally have a reduced sensitivity to wind energy development.</li> <li>• Consideration of the sense of remoteness in terms of ease of access or seclusion (in the sense of the degree of containment that can be experienced rather than purely distance from roads and settlement) and whether and how development would alter these perceptions. Identification of landscapes where the number and distinctiveness of archaeological or historic features can give a strong sense of history or 'timelessness'. Identification of opportunities related to more developed and modified landscapes.</li> </ul>
<b>Landscape context</b>	<ul style="list-style-type: none"> <li>• The role of adjacent character types in contributing to the overall character of the type being assessed. This includes consideration of where adjacent or nearby landscape character types may provide containment, a backdrop or skyline, increase or reduce the experience of scale or complexity or combine to provide a notably scenic whole.</li> <li>• Assessment of the potential effects of development on adjacent character types and vice versa. This includes assessment of inter-visibility and potential effects on nearby landscapes.</li> <li>• Landscape types that are more closely juxtaposed and contrast strongly with surrounding landscapes may be especially sensitive. Landscape types which are large in extent, or which have similar scale or vegetation pattern to neighbouring landscapes may have more scope for larger typologies.</li> </ul>
Views and visibility	<ul style="list-style-type: none"> <li>• The extent of likely visibility (including considerations of whether the landscape is well settled and easily accessible or not) and types of views. The degree of openness or enclosure which influences visibility, including the amount of screening created by topography and woodland. In general, well-settled landscapes with many roads and footpaths are likely to be more sensitive in visual terms than sparsely settled landscapes distant from transport routes, although some remote upland landscapes can be highly visible from surrounding lower-lying landscapes thus increasing sensitivity.</li> <li>• The type of views, including elevated, extensive views which are sustained, framed views to focal points or glimpse views, or views experienced as part of a sequence or as revealed views creating a sense of arrival into the landscape type.</li> <li>• Consideration of the significance of skylines and visual horizons.</li> <li>• Key vistas or backdrops associated with historic landscapes or other features.</li> </ul>

Sensitivity criteria	Factors considered and relevance of criteria to wind turbines
Landscape values	<ul style="list-style-type: none"> <li>• The assessment of landscape values takes into account designated landscapes including National Scenic Areas (NSAs) and Regional Scenic Areas (RSAs) and other non-designated landscape values including Wild Land Areas, Inventory and Non-Inventory listed Gardens and Designed Landscapes and the Galloway Forest Park (including the Dark Skies Park) (see Figures 5 and 6).</li> <li>• In addition, the factors potentially influencing landscape value set out in the Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3) are taken into account with recreation value, landscape condition and the rarity of the landscape particularly considered.</li> <li>• Judgements have been made in the assessment on the extent of the designation/interest as it occurs across landscape character types/areas and the effect of wind turbines on the special qualities associated with the designation/interest.</li> <li>• Factors such as local recreational assets or community associations with landscape can influence landscape value. These may not all be listed within descriptions of individual landscape units or have been considered within the assessment of 'landscape values' but should be identified for consideration on a case by case basis.</li> </ul>

### 2.5.2 Assessing landscape values

There are some drawbacks in taking account of landscape values in the sensitivity assessment in that landscape character types do not generally accord with designated areas (these tend to span a number of character types) and this therefore prevents even scoring across the whole character type. The Steering Group however considered that the inclusion of landscape values as a sensitivity criterion in the study would give added weight and rationale, especially as robust justification and citation of national and local designated landscapes in Dumfries and Galloway is available.

The DGWLCS is a strategic study and as such there are likely to be sensitivities relating to more locally valued landscape features that may need to be

addressed in more detail as part of landscape and visual impact assessments of specific development proposals.

### 2.6 Sensitivity ratings

Each of the sensitivity criterion set out in Table 2 above has been 'scored' using a five-point scale. An overall landscape and visual sensitivity rating is also set out considering all of the landscape and visual criteria with the exception of landscape values. This is because designated landscapes and other values are usually not evenly spread across landscape character units and it is helpful to therefore separately identify sensitivity in respect of this criterion.

The overall landscape and visual sensitivity rating has been arrived at by considering the combined weight of evidence set out in the sensitivity assessment (including potential cumulative issues) using professional judgement, rather than using a numerical scoring system.

This is interpreted in Table 3 below:

**Table 3: Explanation of Sensitivity Ratings**

Overall Landscape and Visual Sensitivity rating	Definition
<b>Low</b>	The development typology relates well to key landscape characteristics and change is able to be accommodated without significant adverse impacts on landscape character or visual amenity.
<b>Medium - low</b>	Some limited sensitivities although there are opportunities to accommodate the development typology in most locations.
<b>Medium</b>	Some key landscape characteristics or aspects of visual amenity are sensitive but there is still some ability to accommodate development in some situations without significant character change or visual impact; the development typology relates to some aspects of landscape character.
<b>High-medium</b>	A number of key landscape characteristics are vulnerable to change. Development would undermine some important defining aspects of landscape character and/or visual amenity and/or may result in significant cumulative effects with other wind farm developments. A limited amount of development may be able to be accommodated in very small parts of some landscape character types/areas however.
<b>High</b>	The majority or all of the key landscape characteristics are vulnerable to change. Development would conflict with key aspects of landscape character and visual amenity with widespread and significant adverse impacts likely to arise.

## 2.7 Significance and acceptability

Most large scale wind energy developments are likely to incur significant adverse landscape and visual effects. The DGLWCS sets out guidance on the likely nature, extent and severity of potential effects for different scales of wind energy development against a series of landscape and visual criteria. It also proposes a strategy aimed at protecting the most sensitive landscapes within Dumfries and Galloway from inappropriate development. However, the study only considers landscape and visual sensitivities; determining the relative acceptability of a development will depend on a range of environmental and other factors.

## 2.8 Cumulative issues and strategic capacity assessment

Detailed sensitivity assessments in Section B (under 'Cumulative issues' and 'Key constraints' for each LCT/unit) consider operational and consented turbines and wind farms and any existing cumulative landscape and visual effects that are already evident.

The guidance outlined for each landscape character type/area considers the findings of the sensitivity assessment against the sensitivity criteria noted in section 2.5 above but is also informed by relevant cumulative issues.

Landscape and visual cumulative impacts considered within the study include:

- Change in landscape character - i.e. where an addition to existing and consented wind farms and turbines is likely to result in wind turbines becoming a recognisable and consistent characteristic associated with a specific landscape character area, rather than a one off feature (this may not necessarily be a negative impact);
- Significant alteration to a defining characteristic of that landscape character - i.e. a characteristic which is recognised as contributing to the distinctive identity of the character of an area is likely to be lost or significantly diminished by the addition of one or more wind farms/ wind turbines to multiple operational and consented wind farms or turbines;
- Loss of recognisable development pattern - i.e. where wind farms or turbines are introduced into a landscape where operational wind farms or turbines already create a recognisable or coherent pattern of development which relates strongly to particular landscape characteristics but additional development diminishes the integrity and robustness of the pattern leading to fragmentation of landscape character;

- Visual dominance - i.e. where wind farms or turbines become a visually dominant feature because of their combined presence as multiple or merged developments affecting a skyline as viewed from a significant viewpoint, or encountered sequentially as a series of focal points from a road or stretch of coast which is a definable journey;
- Visual clutter - where different types of turbines, including different heights and styles of design, come together to create a muddled visual distraction from the landscape or key features.

### 2.8.1 Concentrations of existing development

A review has also been undertaken of four broad areas where the number and extent of operational and consented wind farm developments has already incurred significant change to landscape character and/or views and where there is potential for significant cumulative landscape and visual effects to arise, if additional wind farm development were to be accommodated. This review is based on sensitivity assessments undertaken for individual landscape character areas. The findings are set out in Section 3.4.

### 2.8.2 Strategic landscape considerations

Section 3.7 looks at broader strategic landscape considerations and includes analysis of the spacing, size and design of operational and consented developments, plus the potential cumulative landscape and visual effects that might occur, should additional wind energy developments be

introduced to an area. Identifying broad patterns of development and any associated cumulative effects, alongside broad landscape and visual sensitivities can be used to help identify areas of potential capacity for different forms and scales of development.

## 2.9 Detailed Sensitivity Assessments

### 2.9.1 Format of the detailed assessments:

An introduction to each landscape character area briefly describes the location of the character type/ area and outlines operational and consented wind energy developments located both within the subject LCT/area and sited in the surrounding area. 'Thumb-nail' maps indicate the extent and general location of units across the region with hyperlinks providing access to more detailed mapping.

A summary of sensitivity is provided with a combined score given for landscape and visual sensitivities and a separate sensitivity in relation to landscape values. Cumulative issues and key constraints and opportunities to development are also set out for each landscape character type/ area and the sensitivity assessment concludes with recommendations related to the scope of capacity and guidance on siting of wind turbine development.

Assessments against the 8 sensitivity criteria discussed in Sections 2.5/6 and Table 2 above are set out in tables for each LCT/unit, with columns for the different typologies assessed.



Detailed sensitivity assessments in Section B sub-sections 4-28, consider the sensitivity of landscape character types ('LCTs'), and in some instances more local landscape character areas ('landscape units'), to different wind energy typologies.

### 2.9.2 Typologies assessed for different Landscape areas/units

More remote upland areas within Dumfries and Galloway continue to attract interest from larger scale developments, whereas settled lowland areas have attracted smaller 'farm-scale' turbines. Detailed sensitivity assessments for individual LCTs/units therefore focus on the most likely forms of development, as shown in the following table:

**Table 4: Breakdown of Typologies assessed in different landscape character types/units**

#### LCT's likely to be suitable for larger turbines:

Detailed sensitivity assessments for the Very Large typology (turbines >150m high) were only undertaken for LCTs/units assessed as having a medium or lower sensitivity to large turbines in the 2011 DGWLCS. These are:

- LCT 17; Plateau Moorland
- LCT17a; Plateau moorland with Forestry
- LCT18a; Foothills with Forestry (Stroan, Cullendoch, Ae, Eskdale, Oer and Tinnisburn units only)
- LCT19; Southern Uplands (Nithsdale and NW Lowther units only)
- LCT19a; Southern Uplands with Forests

These units were also assessed for the Medium and Large typologies.

#### Small scale valleys and glens (LCTs 3, 4, 5 and 10):

Detailed sensitivity assessments for larger turbines are not provided for these areas, since demand for wind energy developments is very low. However, a summary of sensitivity is included in the assessments.

#### All other LCTs/units:

Detailed assessments are provided for the Small-medium, Medium and Large typologies for all other LCT/units:

General guidance on the siting and design of wind turbines under 50m high is provided in the main text of the Supplementary Guidance rather than in the detailed assessments in section B.

Detailed assessments focus on the landscapes lying within Dumfries and Galloway's boundaries but note key landscape and visual sensitivities within adjacent authorities where relevant.

## 2.10 Repowering of existing wind farms and introducing 'very large' turbines

The 2016 review of the DGWLCS included an assessment of opportunities for repowering wind farms by replacing existing turbines with larger ones. It also included an assessment of the new 'Very Large' typology within Dumfries and Galloway. These assessments were informed by computer-generated visibility mapping and visualisations based on selected operational and consented wind farms and showing replacement with larger turbines. The background to this study is contained in Annex D.

Existing wind farms are a feature of many less sensitive areas of upland landscapes in Dumfries and Galloway. The sensitivity assessment assumes that operational and consented wind farms form the baseline and therefore scope to successfully accommodate Very Large turbines as new developments is limited. This is because cumulative effects could potentially occur with other wind farms (where differences in size would be obvious) and also because remaining undeveloped areas in these upland areas are often more sensitive, usually because they occur in peripheral areas which lie closer to more sensitive settled landscapes. The replacement of existing well-sited wind turbines with larger turbines could potentially avoid such impacts and opportunities for repowering are therefore set out in the

guidance sections for the landscape character types/areas where Very Large turbines (>150m) have been assessed. The results also informed the strategic considerations set out in Section 3.7.

## 2.11 Interpreting the overall sensitivity ratings

In terms of guidance, the study indicates that where a landscape character type/area is identified as being of **High** sensitivity rating overall for any typology, it is the opinion of the consultants that the typology cannot be accommodated in the landscape character type/area (or in some instances close-by it) without significant adverse landscape and/or visual effects arising across a wide range of key landscape and visual sensitivities.

Landscape character types/areas found to be of **High-medium** sensitivity will have a number of significant constraints to wind farm/turbine development. While some characteristics (usually found in limited parts of these landscapes) may relate better to such development, significant adverse landscape/visual effects are likely to occur on other key characteristics. We consider that there is likely to be either no scope or very limited scope for development in a small part of these character types/areas only.

Where a **Medium** sensitivity is identified, there is scope for development to be accommodated with fewer significant impacts on key sensitivities. Medium sensitivity landscapes are not without

constraints however and developers should be required to take note of these in the siting and design of proposals. A **Low-medium** sensitivity indicates some limited sensitivities although there are opportunities to accommodate the development in most locations. A **Low** sensitivity landscape is one where the development typology relates well to key landscape characteristics and where change is able to be accommodated without significant adverse impacts arising on landscape character or visual amenity.

A high rating in a single sensitivity, for example scale, context or perceptual qualities, might be sufficient to trigger a determining concern in consideration of a particular development with a low score in respect of other sensitivities not necessarily diminishing the overall sensitivity rating. Professional judgement has been used in arriving at the overall sensitivity scores, taking into account the weight of evidence rather than adopting a rigid numerical scoring system.

### 2.11.1 Consideration of turbine height

The study considers the sensitivity of landscape character types/areas to a limited number of pre-determined turbine typologies, principally based on height. It is not practical to appraise a wide range of turbine typologies in a landscape capacity study as it becomes too complicated in the field assessment but also in clearly presenting findings on sensitivity. Individual applications therefore need to be considered on a case-by-case basis

and where turbine heights are close to the upper height threshold used in the assessment (ie within 2metres of the cut-off for the Small and Small-Medium typologies and within 5m for the Medium and Large typologies), the guidance provided for both typologies should be taken into account.

Due to the strategic nature of this study, applications for individual proposals should demonstrate that turbines will not cause significant adverse effect on the key sensitivities identified in this assessment. This must be informed by visualisations generated from agreed viewpoints.

### **2.11.2 The need for more detailed appraisal of specific proposals**

Caution is needed in interpreting the combined sensitivity scores set out in the sensitivity tables contained in section B of this report as these represent an average across broad character types and areas and considerable variation can occur across these landscapes. The assessment identifies constraints in analysis and at a strategic scale and developers would need to demonstrate how they have dealt with potential effects on the constraints identified in the sensitivity assessment at a detailed level in relation to a specific scheme.

## **2.12 Landscape context and indirect effects**

The sensitivity assessments have been undertaken on the basis of defined landscape character types/ areas. Landscape character types/areas can have 'fluid' boundaries where a gradual transition can occur between adjacent character areas with some similar characteristics. Wind turbines are also tall structures which often influence other nearby landscapes, resulting in indirect effects on character and/or on views. It is recommended that when considering individual proposals, the sensitivity assessments outlined for both the 'host' landscape character type/area and immediately adjoining and any other close-by landscape types/ areas are reviewed as wider sensitivities may apply. In some cases, landscape character types/areas extend into adjacent authorities and these areas also need to be considered.

Indirect landscape and visual effects can be determining considerations in the appraisal of wind farm proposals. Where there is a close juxtaposition of contrasting character types (as often occurs in Dumfries and Galloway) large developments in one area can have considerable effects on neighbouring and nearby areas and,

where intervening areas are coastal or low-lying, even on areas at longer range. Such effects are most marked where:

- A host landscape is relatively elevated and more influential on the character or views of surrounding landscapes.
- The host landscape is less sensitive and surrounding landscapes more sensitive because of their reduced scale or increased diversity, for example.
- The host landscape has a function as a backdrop, skyline or plays an otherwise important role in the overall scenic composition.

## **2.13 Baseline operational and consented wind farms and turbines**

The following operational and consented wind farm developments set out in Table 5 have formed the baseline for the assessments set out in this study with a cut-off date of the end of July 2016 being set. These developments are shown in Figure 2.

Table 5: Wind Farm Baseline for the Study

Windfarm	Turbines	Height to blade tip	Authority and DG character type
<b>Operational and under-construction wind farms and turbines &gt; 50m high</b>			
Arecleoch	60	135m	SAC
Aries	14	137m	DG (17a)
Artfield Fell	15	76m	DG (17)
Balmurrie Fell	7	80m	DG (17)
Barlockhart	4	112m	DG (1/12)
Blackcraig	23	110m	DG (18a)
Carlesgill	6	99.5m	DG (19a)
Carscreugh	18	70m	DG (16)
Clyde	152	125m	SLC
Clyde extension	54	142/125.5m	SLC
Dalswinton	15	125m	DG (18a)
Ewe Hill	6	111.5m	DG (18)
Glenchamber	11	126.5m	DG (17)
Hare Hill	20	63.5m	EAC
Harestanes	71	125m	DG (18a)
Kilgallioch	96	146.5m	DG (17a)
Mark Hill	28	110m	SAC
Minnygap	10	125m	DG (18)
Minsca	16	120m	DG (18)
North Rhinns	11	100m	DG (1)
Plascow	3	76.5m	DG (20)
Robin Rigg (offshore)	60	125m	DG
Sunnyside	2	62m	DG (9)
Torrs Hill	2	100m	DG (18a)
Wether Hill	14	93m	DG (19a)
Windy Standard	36	57.5m	DG (19a)
Whiteside Hill	11	121.2m	DG (19)

Windfarm	Turbines	Height to blade tip	Authority and DG character type
<b>Consented wind farms and turbines &gt;50m high</b>			
Afton	27	100/120m	EA
Andershaw	11	125m	SL
Barlockhart Moor extension	4	115m	DG (1/12)
Blackhill/Magheuchan Rig	12	130m	DG (19a)
Ewe Hill (phase 2)	16	111.5m	DG (19a)
Gass Farm	9	126.5m	DG (17a)
Glen App	14	126.5m	SA
Glenmuckloch	8	133.5m	DG (19)
Hare Hill extension	35	125m	EA
Kennoxhead	19	145m	SL
Middle Muir	15	152/136m	SL
Mochrum Fell	8	116/126m	DG (18a)
Penbreck	9	125m	SL
Sandy Knowe	24	125m	DG (9)
Sanquhar	9	130m	DG (19)
Solwaybank	15	126.5m	DG (18)
Stranoch	24	110/125m	DG (17)
Twenty Shilling	9	125m	DG (19)
Windy Standard extension	30	100/120m	EA

*DG Dumfries and Galloway, EA East Ayrshire, SL South Lanarkshire, SA South Ayrshire*

### 2.13.1 Smaller wind turbine developments

There are a number of operational single and small groups of turbines below 50m high in Dumfries and Galloway. These are largely located within the farmed lowlands of the region and are particularly prevalent in the Machars and Rhinns peninsulas.

## 2.14 Baseline landscape character

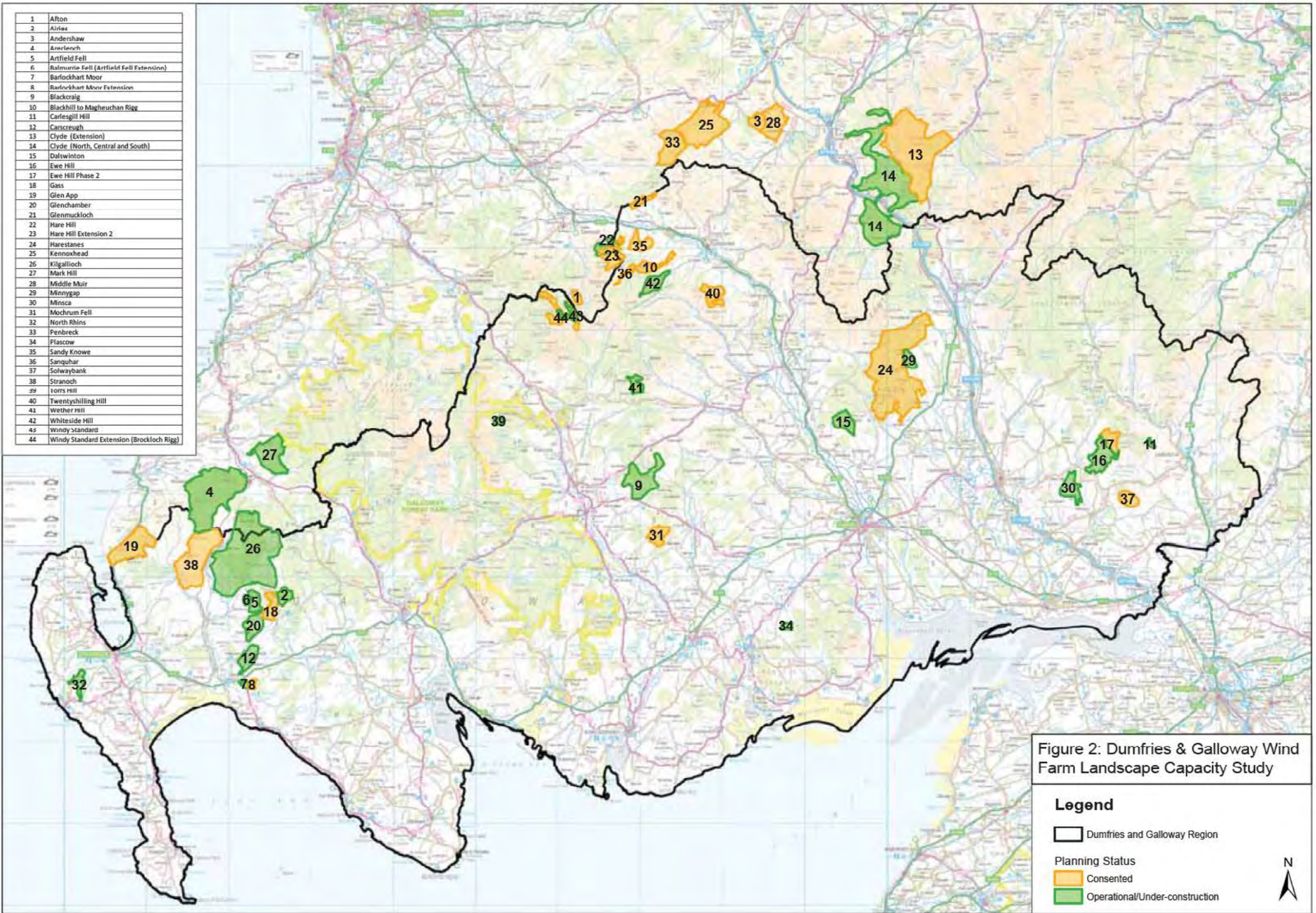
The 1998 Dumfries and Galloway Landscape Assessment forms the basis for the assessment set out in this study. Some minor revisions to classification and boundaries were made to this character assessment for the purposes of the sensitivity assessment and these are summarised in Annex C. SNH are currently reviewing the national character assessments and it is expected that some, but not all, of the changes to classification made for the purposes of the capacity study will be adopted in the revised Dumfries and Galloway Landscape Assessment.

The landscape character types/areas considered in the sensitivity assessment are shown in Figure 3.

## 2.15 Cultural heritage overview

The study team for the 2011 DGWLCS included an archaeologist who researched baseline information on cultural heritage, accompanied us during field work and provided specialist advice to the Council on designations and policy. Cultural heritage features which make a notable contribution to landscape character were recorded during our field work. Archaeologically Sensitive Areas (ASA), which are referenced in the sensitivity assessment, are shown on Figure 4.

- 1 Alton
- 2 Airax
- 3 Andershaw
- 4 Azevlench
- 5 Artfield Fell
- 6 Balmunie Fell (Artfield Fell Extension)
- 7 Barlockhart Moor
- 8 Barlockhart Moor Extension
- 9 Blackraig
- 10 Blackhill to Magheuchan Rigg
- 11 Carlesgill Hill
- 12 Cansceurbh
- 13 Clyde (Extension)
- 14 Clyde (North, Central and South)
- 15 Dalswinton
- 16 Ewe Hill
- 17 Ewe Hill Phase 2
- 18 Gass
- 19 Glen App
- 20 Glenchamber
- 21 Glenmuckloch
- 22 Hare Hill
- 23 Hare Hill Extension 2
- 24 Harestanes
- 25 Kennoshead
- 26 Kigalloch
- 27 Mark Hill
- 28 Middle Muir
- 29 Minnygap
- 30 Minica
- 31 Mochrum Fell
- 32 North Rhins
- 33 Penbreck
- 34 Plascow
- 35 Sandy Knowe
- 36 Sanguhaz
- 37 Solwaybank
- 38 Stranoch
- 39 Tors Hill
- 40 Twentyshilling Hill
- 41 Wether Hill
- 42 Whiteside Hill
- 43 Windy Standard
- 44 Windy Standard Extension (Brockloch Rigg)



1	Peninsula
1a	Peninsula with Gorse Knolls
2	Coastal Flats
3	Shallow Flat Bottomed Valley
4	Narrow Wooded River Valleys
5	Intimate Pastoral Valley
6	Lower Dale
7	Middle Dale
7a	Middle Dale with Hills
8	Flooded Valley
9	Upper Dale
10	Upland Glens
11	Moss and Forest Lowland
12	Drumlin Pasture in Moss and Moor Lowland
13	Drumlin Pastures
14	Coastal Plateau
15	Flow Plateau
16	Upland Fringe
17	Plateau Moorland
17a	Plateau Moorland with Forest
17b	Plateau Moorland with Lochs
18	Foothills
18a	Foothills with Forest
19	Southern Uplands
19a	Southern Uplands with Forest
20	Coastal Granite Uplands
21	Rugged Granite Upland
21a	Rugged Granite Upland with Forest

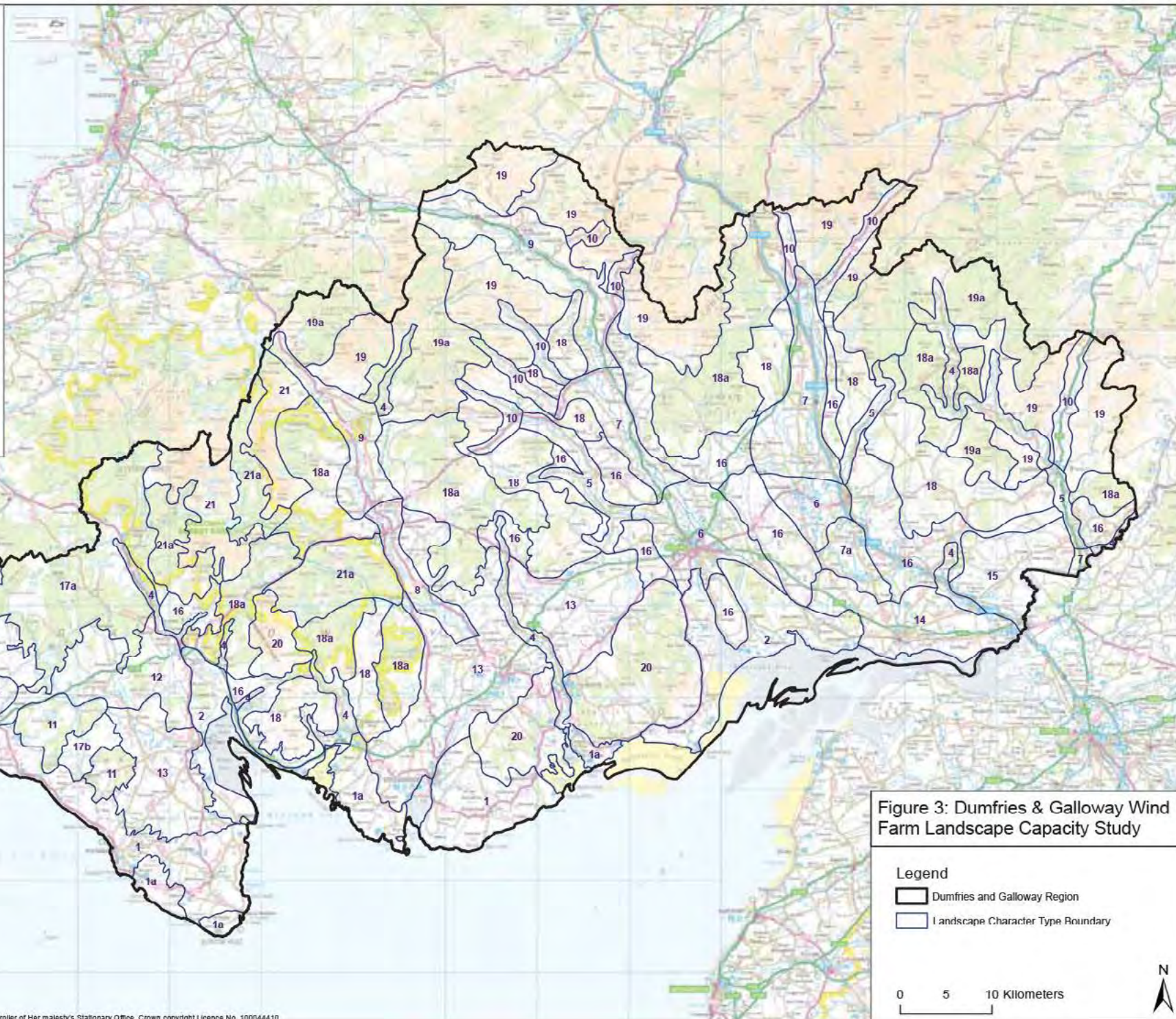


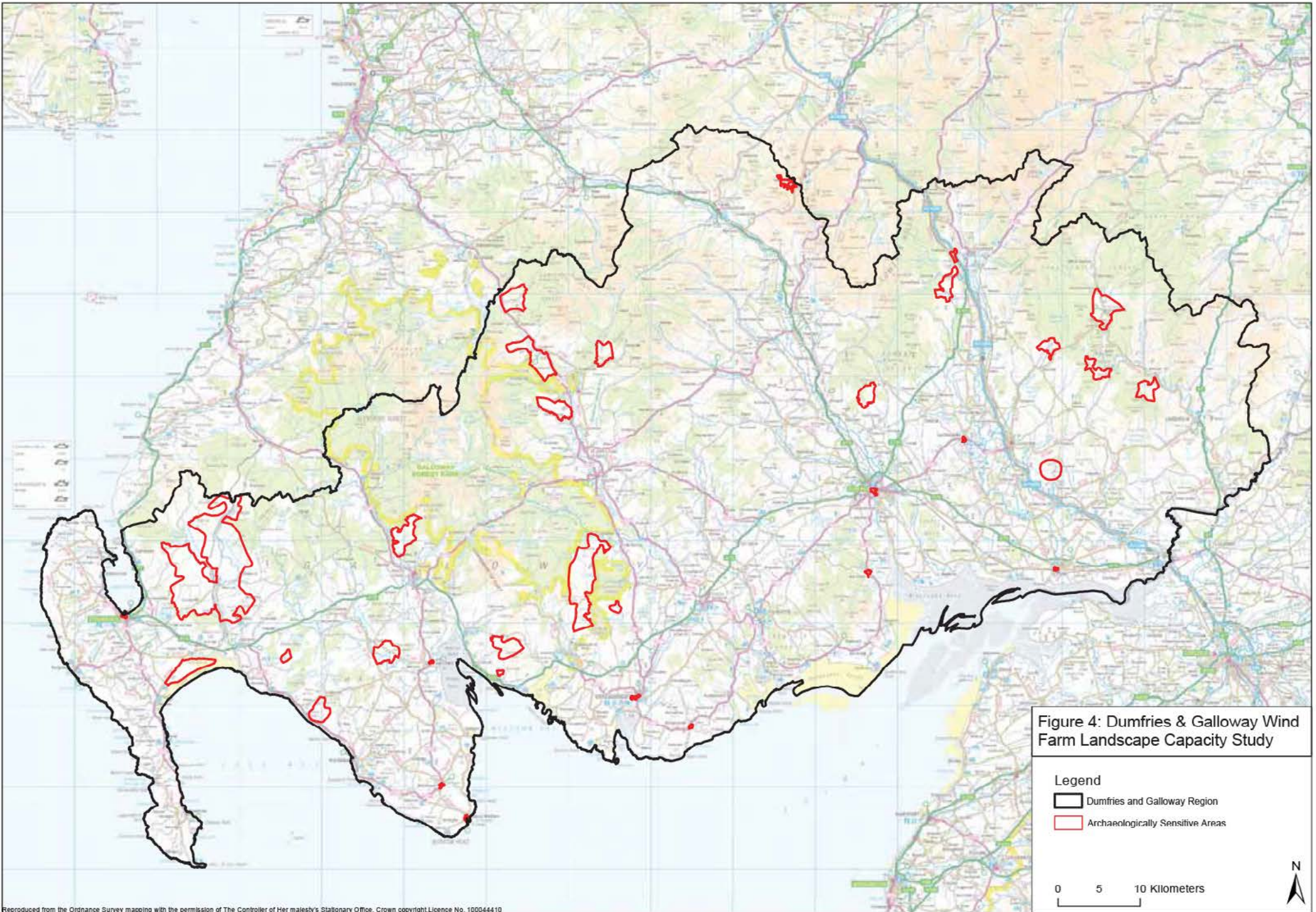
Figure 3: Dumfries & Galloway Wind Farm Landscape Capacity Study

**Legend**

- Dumfries and Galloway Region
- Landscape Character Type Boundary

0 5 10 Kilometers

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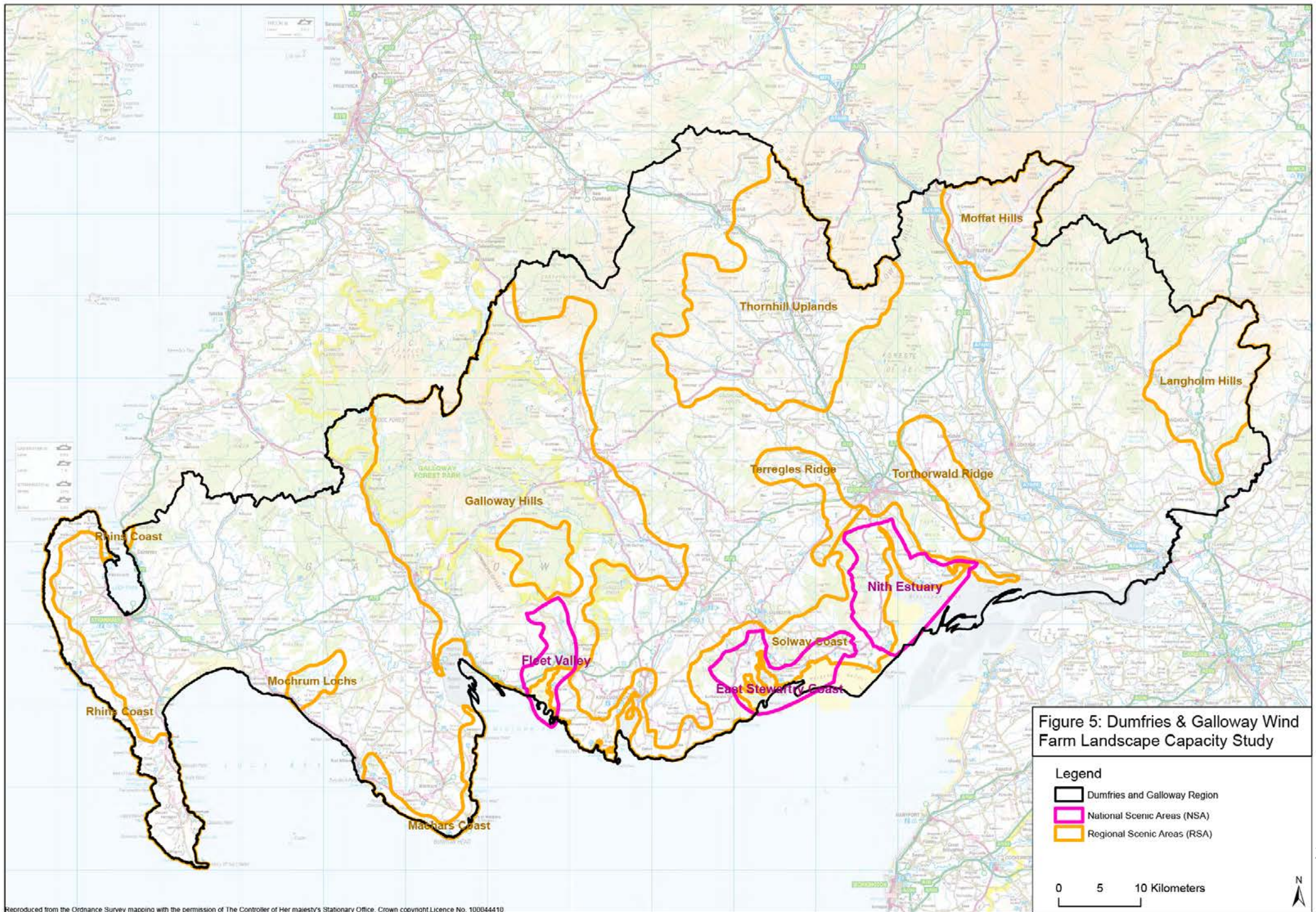


Figure 5: Dumfries & Galloway Wind Farm Landscape Capacity Study

**Legend**

- Dumfries and Galloway Region
- National Scenic Areas (NSA)
- Regional Scenic Areas (RSA)

0 5 10 Kilometers

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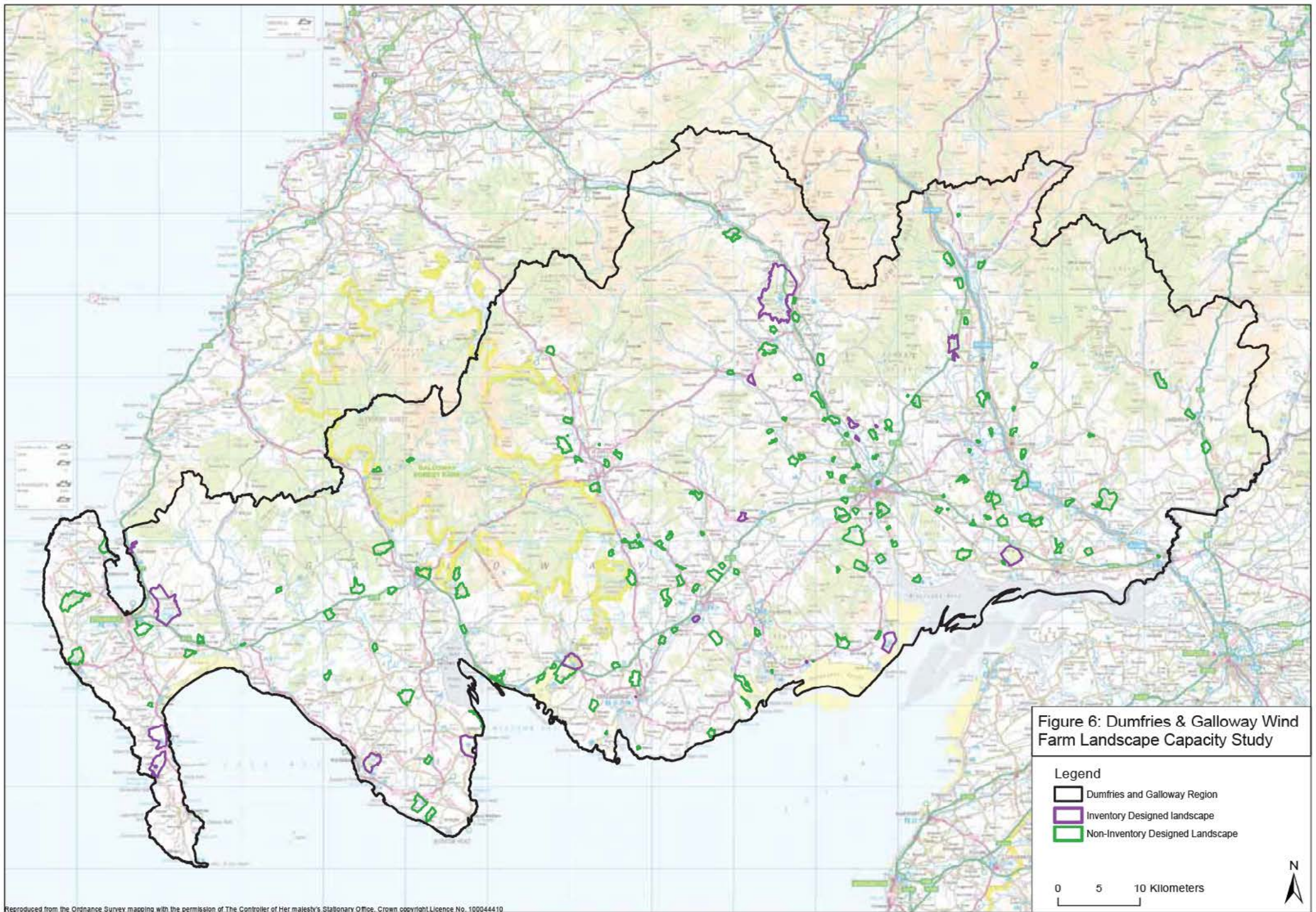
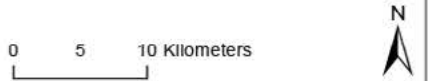


Figure 6: Dumfries & Galloway Wind Farm Landscape Capacity Study

- Legend
- Dumfries and Galloway Region
  - Inventory Designed landscape
  - Non-Inventory Designed Landscape



## Section B: Recommendations and Detailed Assessments

### 3. Key Study Findings and Recommendations

#### 3.1 Introduction

This section summarises the key findings of the sensitivity assessment undertaken as part of the study. It sets out the conclusions reached on opportunities for further wind farm development in Dumfries and Galloway, while minimising landscape and visual impact, including scope for very large wind turbines over 150m high. It addresses the landscape and visual issues associated with wider strategic planning of wind energy developments, considering potential cumulative landscape and visual effects, and outlines recommendations on a landscape strategy.

More detailed assessments for specific landscape character areas and units are contained in Sections 4-28, with Sensitivity assessments and guidance for offshore wind energy development in Section 29.

#### 3.2 Scope for very large turbines and repowering projects

##### 3.2.1 Introduction

The size of turbines within new wind farm developments has significantly increased over the last 10 years. Some of the earliest wind farms in Dumfries and Galloway comprise 57m and 76m

high turbines. The majority of wind turbines within operational wind farms in Dumfries and Galloway are currently around 100m high whereas the Kilgallioch wind farm which is under-construction has 146.5m high turbines.

Proposals for much larger turbines can also be associated with 'repowering' of existing wind farms and turbines. Repowering commonly involves the replacement of operational wind turbines coming to the end of life with more efficient, and usually larger, turbines. Other repowering options which may be considered by operators include extending the blades of existing turbines, energy storage and other measures to increase efficiency and energy output.

##### 3.2.2 Landscape and visual sensitivity assessment

An assessment has been undertaken to consider opportunities for repowering existing wind farms and for very large wind turbines (>150m high to blade tip). The assessment has been informed by computer-generated visibility mapping and visualisations based on selected operational and consented wind farms and showing replacement with larger turbines. The background to this study is contained in Annex D.

More detailed sensitivity assessment has also been undertaken of landscape character types/areas where some scope for the large typology (turbines 80-150m high) was identified in the 2011 DGWLCS. These comprise the following landscapes:

- Plateau Moorland (17)
- Plateau Moorland with Forest (17a)
- Foothills with Forest - Eskdale, Oe, Tinnisburn (18a)
- Foothills with Forest - Stroan, Cullendoch, Ae (18a)
- Southern Uplands - Nithsdale, NW Lowther (19)
- Southern Uplands with Forests (19a)

##### 3.2.3 Conclusions

The extent of new visibility associated with increasing turbines to 150m and 200m within operational and under-construction wind farms within Dumfries and Galloway would not be substantial in most cases. However, in developments where the present turbines are relatively small, and also in some instances where they are particularly prominently sited, a more significant increase in the extent of visibility is displayed.

The key effects in significantly increasing turbine size would mainly be experienced in elevation in the field, although the degree of impact will be greatly influenced by distance, turbine size and the context of the view. In general, the larger the extent and scale of upland landscape and its distance from more well-settled areas, the more scope there is for larger turbines to be accommodated. Other landscape and visual constraints come into play though and these include potential cumulative effects with other nearby wind farms related to contrasts between different turbine sizes but also blade rotation speeds and turbine layouts which have potential to create a visually confusing image.

Following a review of visualisations from key viewpoints in the field and additional sensitivity assessment of a Very Large typology (turbines >150m), it is concluded that turbines towards 200m high to blade tip would be too large to accommodate **as new developments** in landscape and visual terms anywhere in Dumfries and Galloway apart from the Eskdalemuir unit of the Southern Uplands with Forest (19a). This is either because the receiving landscape is insufficiently extensive to minimise effects on adjacent smaller scale and/or more sensitive landscapes or because more extensive and large scale landscapes already accommodate many wind farms of varied heights and designs and cumulative effects would be a major constraint. The Eskdalemuir area of the Southern Uplands with Forest does not accommodate any existing wind energy development. It also extends into adjacent Scottish

Borders in the Craik Forest area (an area with similar character and sensitivity) thus increasing the extensiveness of this landscape and the distance from more sensitive landscape and visual receptors.

### 3.2.4 Guidance for repowering schemes

Recent changes to payments are likely to favour continuation of operational wind turbines as long as possible, although incentives could change in the future. Modifications to existing turbines may be a possibility and these measures may include lengthening turbine blades to increase power output. Cumulative landscape and visual effects associated with such modifications are likely to be minimised where developments are distant from roads, well-used recreational routes and settlement thus reducing instances of where turbines of different design and proportions are seen in close proximity.

As many of the older wind farms with smaller turbines now lie close to wind farms with much larger turbines, for example, the 76m high turbines of the Artfield Fell development seen closely juxtaposed with the 125m high Glenchamber turbines, replacement of smaller turbines with larger turbines could theoretically attain some compatibility of size and reduce cumulative effects. Other factors need to be considered, however, including whether the wind farm was appropriately sited in landscape and visual terms in the first place and whether much larger turbines would be compatible with the scale of the landscape or the development site.

Contrasts in turbine size between developments will also be more obvious where the existing development is sited in flatter landscapes, or in the case of the Robin Rigg windfarm, off-shore, where the full height of turbines is seen from key views. There is likely to be greater opportunity to accommodate a more significant height differential between turbines in undulating landscapes where the wind farm is more distant from roads and settlement.

The sensitivity assessment considers adding Very Large turbines (>150m) to a baseline where wind farms are usually already present thus resulting in potential cumulative effects. Repowering of some operational, under-construction and consented wind farms may, however, provide opportunities to accommodate much larger turbines in future. More acceptable candidates for replacement with turbines closer to 200m high (in terms of minimising landscape and visual and cumulative impacts) comprise wind farms sited in the less sensitive core areas of the Plateau Moorland with Forest (17a) and Plateau Moorland (17) which are relatively distant from settlement and well-used roads. However, even in these less sensitive areas, repowering schemes would need to involve redesign of turbines layout and a possible reduction in numbers to avoid significantly exacerbating effects on adjacent more sensitive valleys in Dumfries and Galloway and South Ayrshire.

There is some scope to **replace** more sensitively sited operational and consented wind turbines with turbines around 150m high in parts of the Southern Uplands - Nithsdale, Southern Uplands with Forest - Ken and Carsphairn (19a) and the Foothills with Forest - Ae (18a). Much larger turbines (up to 200m) would be likely to dominate the scale of these less extensive hills and significantly exacerbate effects on close-by small scale glens, dales and landmark hills.

The Annandale unit of the Foothills (18) and the Stroan unit of the Foothills with Forest (18a) accommodate operational and consented wind farms. These upland areas are generally less extensive and lie closer to more sensitive settled landscapes. It was concluded that increases in turbine heights (which are currently around 110-126m) could not be accommodated in these landscapes.

Many wind farms in the landscapes noted above are under-construction and are therefore unlikely to be repowered in the near future. Cumulative effects with existing nearby wind farms comprising smaller turbines will therefore need to be carefully assessed when considering repowering proposals. Redesign of wind farm developments as part of the repowering process, including altering the layout/ number of turbines, may offer opportunities to avoid exacerbating effects on adjacent more sensitive landscapes and on views. Further information on accommodating Very Large turbines and repowering is set out in section 3.4 which considers broad areas with concentrations of wind farm development.

### 3.3 Scope for large turbines 80-150m

The study concludes that there is limited scope for additional large turbines (80-150m) to be accommodated in the following landscapes:

- Plateau Moorland (17)
- Plateau Moorland with Forest (17a)
- Foothills with Forest - Ae, Stroan, Eskdale, Oer and Tinnisburn (18a)
- Southern Uplands - NW Lowthers area only (19)
- Southern Uplands with Forest - Ken and Carsphairn area (19a)

Cumulative landscape and visual effects are a key constraint in these landscapes and careful design will be needed to minimise effects associated with turbines of different scale and design as well as avoiding significant exacerbation of effects on prominent skylines and on adjacent smaller scale landscapes.

There is increased scope for large turbines to be accommodated in the Eskdalemuir unit of the Southern Uplands with Forest (19a) due to the absence of wind farm development in this area, the expansive scale of this landscape and its distance from sensitive receptors.

### 3.4 Concentrations of existing development

The Wigtownshire Moorlands, the Stroan/Ken area, Nithsdale and Ae/Annandale areas have been considered in more detailed in the study due to the number and extent of operational and consented wind farms located in these areas and the potential for significant cumulative landscape and visual effects to arise if additional wind farm development were to be accommodated. These areas are shown in Figures 8-11 and a summary of the review and remaining capacity in these areas is outlined below.

### 3.4.1 Wigtownshire Moorlands

This area encompasses the Upland Fringe - Camrie area (16), the Plateau Moorland and the Plateau Moorland with Forestry (17a) landscape character types (see Figure 8).

These landscape character types/areas are strongly influenced by wind farm development. The Arecleoch and Kilgallioch wind farms comprise extensive wind farms which are largely located in the less settled core of these upland plateau landscapes, thus reducing landscape and visual effects. A pattern of smaller wind farms (mainly in terms of the number of turbines although sometimes also turbine height) occurs to the south at the transition between LCTs 17/17a and 16. The recently consented Stranoch wind farm will be sited within a more extensive area of open moorland within LCT 17.

Significant cumulative landscape and visual effects are evident in the southern part of this area where the variety of wind farm designs, in terms of turbine sizes, elevations and layout pattern and densities, and the relative proximity of wind farm developments results in substantial visual confusion. This is principally experienced from roads and settlement including sections of the A75, the eastern coast of The Rhins and the Stranraer Basin. The Barlockhart and Carsecreugh wind farms incur the greatest effects as they are located in transitional landscapes close to more settled lowland and coastal areas.

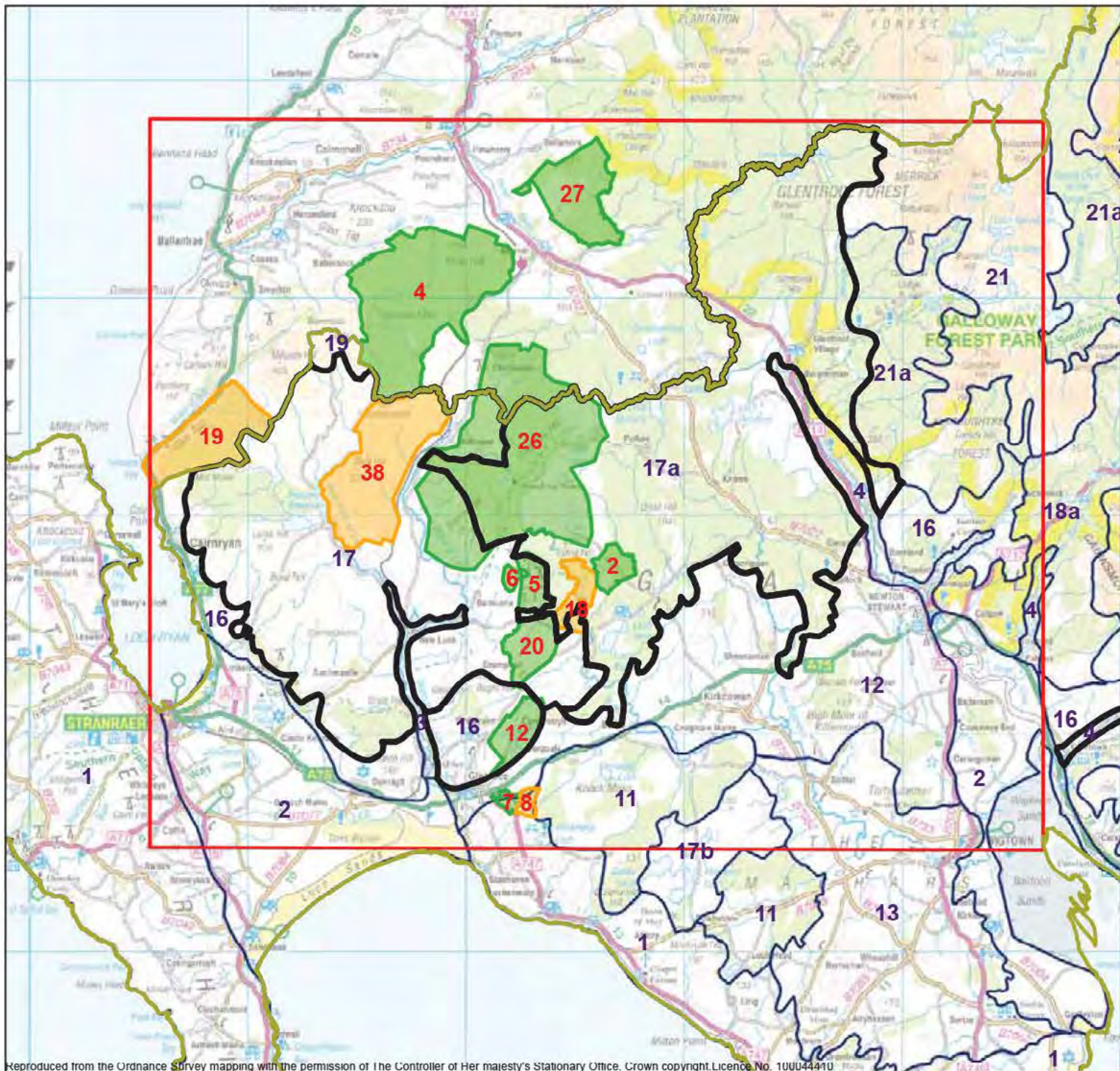
The key findings of the sensitivity assessment are:

- Operational and under-construction wind farm developments already occupy less sensitive core areas of the upland plateau landscapes, where Very Large (150m+) turbines could potentially have been located to minimise effects on smaller scale features such as settled valleys, small hills and lochs and on the Merrick Wildland Area (WLA) and the Galloway Hills. The assessment concludes that there is no scope for Very Large turbines. Repowering of operational wind farms is unlikely in this area given the current construction of developments and recent consents.
- There may be some very limited scope for a small number of additional Large turbines (80-150m) although this will be constrained by potential effects on the Merrick WLA, on the remaining more extensive areas of open moorland in the south of this area which are rich in archaeology and are a diminishing landscape feature in Dumfries and Galloway and on smaller scale more diverse landscapes such as the Cree valley, pronounced small open hills, loch basins and pockets of settled farmland on the outer fringes of this area.

Key cumulative effects are likely to be associated with:

- The potential exacerbation of effects on the setting of the Merrick WLA in combination with other wind farms including those in East and South Ayrshire.
- Sequential effects experienced from the A75 particularly if wind farm development was also sited within LCTs 11 and 12 potentially resulting in a concentrated 'corridor' of large wind turbines west of Newtown Stewart.
- The study concludes that capacity is close to being reached for further wind energy development in the southern part of the Wigtownshire Moorlands area. Repowering opportunities may exist for operational/ under-construction wind farms located in the less sensitive core areas of these extensive and sparsely settled moorlands provided that effects on nearby settled areas, such as the Water of Luce and the Duisk valleys, ASAs, the Merrick WLA and cumulative effects with other wind farm developments could be minimised. Turbines up to 200m may be able to be accommodated although this will be dependent on redesign of the wind farm layout to avoid significantly exacerbating existing landscape and visual effects.

# Wigtownshire Moorlands - Figure 8: Dumfries & Galloway Wind Farm Landscape Capacity Study



## Legend

- Dumfries and Galloway Region
- Wigtownshire Moorlands Study Area
- Landscape Character Type Boundary
- Landscape Character Types focus of detailed cumulative study.
- Windfarm Planning Status
- Consented
- Operational/Under-construction

## Landscape Character Type

1	Peninsula
2	Coastal Flats
3	Shallow Flat Bottomed Valley
4	Narrow Wooded River Valleys
11	Moss and Forest Lowland
12	Drumlin Pasture in Moss and Moor Lowland
13	Drumlin Pastures
16	Upland Fringe
17	Plateau Moorland
19	Southern Uplands
21	Rugged Granite Upland
17a	Plateau Moorland with Forest
17b	Plateau Moorland with Lochs
18a	Foothills with Forest
21a	Rugged Granite Upland with Forest

## Windfarms

2	Airies
4	Arcleoch
5	Artfield Fell
6	Balmurrie Fell (Artfield Fell Extension)
7	Barlockhart Moor
8	Barlockhart Moor Extension
12	Carscreugh
18	Gass
19	Glen App
20	Glenchamber
26	Kilgallioch
27	Mark Hill
38	Stranoch

### 3.4.2 Ken and Stroan area

This area encompasses the Foothills with Forest (18a) - Stroan unit and the Southern Uplands with Forest (19a) - Carsphairn and Ken areas (see Figure 9).

Wind farm development is a key characteristic of the Carsphairn and Ken units of the Southern Uplands with Forest (19a). The operational wind farms of Wether Hill and Windy Standard and the consented wind farm of Blackhill to Magheuhan Rig are sited in these landscapes and other wind farms in the adjoining Southern Uplands (19) Nithsdale area and in neighbouring East Ayrshire additionally exert a strong influence on the character of these uplands.

The Stroan area of the Foothills with Forest (18a) extends to the south of the Ken area of the Southern Uplands with Forest although inter-visibility between the two areas is limited by forestry and landform. The under-construction Blackcraig and consented Mochrum Fell wind farms are located in the Stroan area. This landscape is more sensitive as it provides an immediate backdrop to well-settled lowland areas.

The main findings of the sensitivity assessment are:

- There is no scope for Very Large turbines (+150m) in this area as new developments given key landscape and visual constraints and cumulative effects with operational, under-construction and consented wind farm developments sited in this and nearby landscapes.

- Some limited scope may exist for the Large typology (turbines 80-150m) within the less visually prominent interior of the upland plateaux of the Ken and Carsphairn units of the Southern Uplands with Forest (19a) although this is constrained by potential effects on the setting, and views to and from, the landmark hill of Cairnsmore of Carsphairn, the Loch Doon area in East Ayrshire and more sensitive well-defined hills lying on the outer edges of these landscapes which provide an important backdrop to smaller scale valleys.
- Some very limited scope exists for the Large typology (turbines 80-150m) to be sited on less prominent ridges and hills in the Stroan area of the Foothills with Forest (18a) but set well back from the richly diverse Flooded Valley (8) and Drumlin Pastures (13). It will be important to minimise cumulative effects on key skylines, by ensuring that wind farms are small and clustered and form an incidental rather than a dominant feature in this landscape due to the close proximity of more sensitive settled Lowland landscapes. Landscape and visual effects should be minimised through the selection of turbines compatible in size and design with under-construction and consented wind farms in this area.

Key cumulative effects that could occur if additional wind farm development were located in this area include:

- The creation of a concentrated band of wind farm development linking wind farms located in

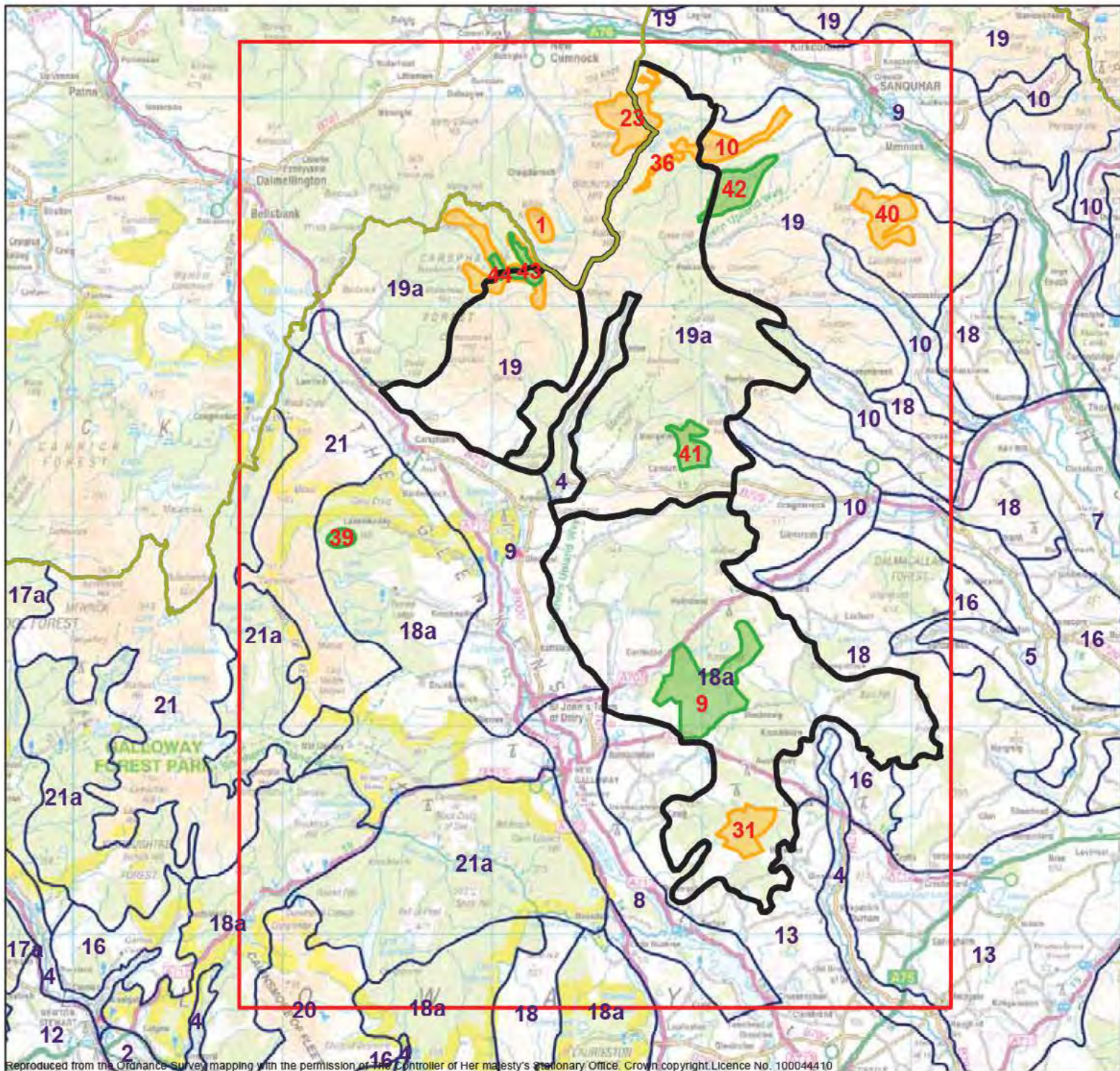
the Ken unit with the Blackcraig and Mochrum wind farms located in the Stroan unit of the Foothills with Forest (18a) to the south, extending the influence of wind farms into the well-settled lowlands of Dumfries and Galloway.

- Cumulative effects would arise on views from more elevated views from popularly accessed hills such as Cairnsmore of Carsphairn and from the Rhinns of Kells. The setting and views from the Loch Doon area in neighbouring East Ayrshire could also be affected.
- Sequential effects on views from roads and a build-up of turbines on the prominent skyline of the less extensive southern uplands of the Stroan unit of the Foothills with Forest (18a) which would affect the setting and views from nearby smaller scale and well-settled landscapes in the lowlands of Dumfries and Galloway.

It is concluded that there is only limited scope for additional wind energy development to be accommodated in this area. There are opportunities for repowering some existing wind farms in the Ken and Carsphairn units of the Southern Uplands with Forest (19a). Turbines around 150m would be likely to fit better with the scale of these generally less extensive upland areas and minimise effects on adjacent more sensitive smaller scale valleys and landmark hills. Very Large turbines should be resisted in the Stroan unit of the Foothills with Forest (18a) due to the close proximity of this landscape to sensitive and well-settled lowland landscapes.



Ken/Stroan - Figure 9:  
Dumfries & Galloway Wind  
Farm Landscape Capacity Study



**Legend**

- Dumfries and Galloway Region
- Ken/Stroan Study Area
- Landscape Character Type Boundary
- Landscape Character Types focus of detailed cumulative study.

**Windfarm Planning Status**

- Consented
- Operational/Under-construction

**Landscape Character Type**

4	Narrow Wooded River Valleys
8	Flooded Valley
9	Upper Dale (Valley)
10	Upland Glens
13	Drumlin Pastures
13	Drumlin Pastures
16	Upland Fringe
18	Foothills
19	Southern Uplands
20	Coastal Granite Uplands
21	Rugged Granite Upland
18a	Foothills with Forest
19a	Southern Uplands with Forest
21a	Rugged Granite Upland with Forest

**Windfarms**

1	Afton
9	Blackcraig
10	Blackhill to Magheuchan Rigg
23	Hare Hill Extension 2
31	Mochrum Fell
36	Sanquhar
39	Torr's Hill
40	Twentysilling Hill
41	Wether Hill
42	Whiteside Hill
43	Windy Standard
44	Windy Standard Extension (Brockloch Rigg)

### 3.4.3 Nithsdale area

This area encompasses the Upper Dale (9) - Upper Nithsdale area and the Southern Uplands (19) - Nithsdale and NW Lowthers landscape character types (see Figure 10).

Wind farm development is/will be a key characteristic of these landscapes. The under-construction Whiteside wind farm and the consented Sanquhar, Glenmuckloch and Twenty-shilling wind farms are located within the Southern Uplands (19) while the operational Sunnyside turbines and consented Sandy Knowe wind farm (with similarly large turbines) contrasts with these developments by being partially sited within the smaller scale Upper Dale (9) character type rather than a correspondingly larger scale upland landscape. Significant cumulative effects will occur in this area once these developments are constructed with these effects likely to include diminishment of the rural character of the north-western section of Upper Nithsdale (9) and domination of wind farm development on views from roads, footpaths and settlement. The operational/consented Hare Hill and Afton wind farms, which are located in neighbouring East Ayrshire, additionally exert a strong influence on the Upper Nithsdale area.

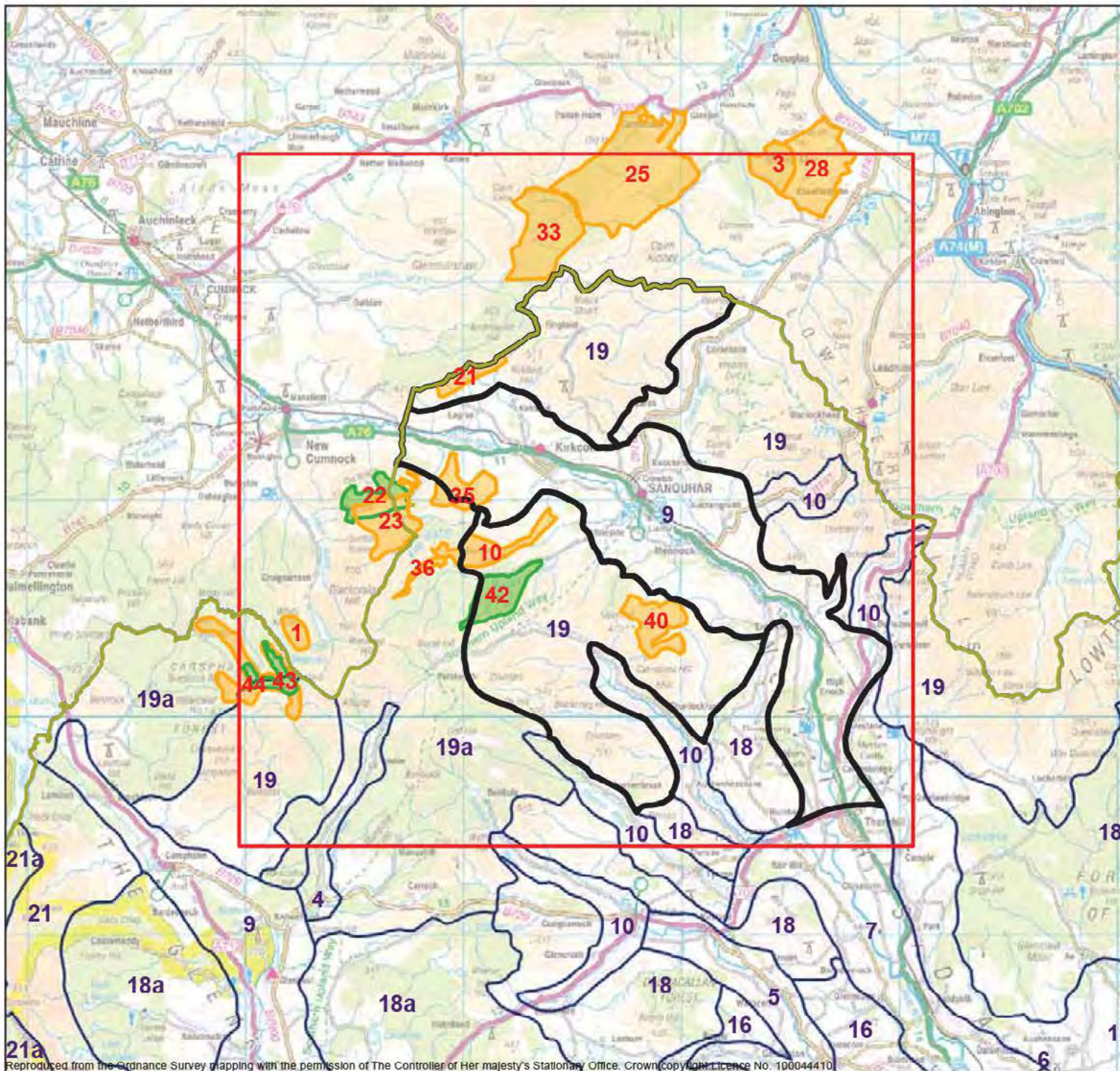
The key findings of the sensitivity assessment are:

- There is no scope for new developments of Very Large turbines (+150m) in this area given key landscape and visual constraints and cumulative effects with operational, under-construction and consented wind farm developments sited in this and nearby landscapes.
- Operational and under-construction wind farm developments already occupy the least sensitive areas of upland plateau within the Nithsdale area of the Southern Uplands (19). Remaining areas of less developed upland are small in extent and significant landscape and visual constraints are associated with the southern hills of this unit as they are covered by a RSA and form an important scenic backdrop to smaller glens and valleys and the Drumlanrig Castle designed landscape. The study concludes that capacity is close to being reached in this area of the Southern Uplands (19).
- Some limited scope may exist for the Large typology (turbines 80-150m) within the less visually prominent interior plateau of the NW Lowthers unit of the Southern Uplands (19) although turbines should be carefully sited to avoid significant intrusion on views from settlement and roads within Upper Nithsdale (9) and to minimise the extent of development visible on the skyline of the uplands and cumulative effects with the Sandy Knowe and Sunnyside wind energy developments located in this adjacent landscape.

Key cumulative effects are likely to be associated with:

- The potential exacerbation of effects on the Upper Dale - Upper Nithsdale (9) in combination with other wind farms including the developments of Sandy Knowe and Sunnyside sited in Upper Nithsdale and wind farms in neighbouring East Ayrshire.
- Sequential effects experienced from the A76 particularly if wind farm development was sited so visible on containing skylines seen either side of the valley of Upper Nithsdale, potentially creating a dominant corridor effect.
- It is concluded that there is only very limited scope for additional development in part of this area. Repowering of some well-sited developments may be possible with turbines around 150m more likely to fit with the scale of the Southern Uplands (19) in this area. A key constraint, however, will be to avoid significant additional impact on adjacent sensitive dales and glens.

Nithsdale - Figure 10:  
Dumfries & Galloway Wind  
Farm Landscape Capacity Study



**Legend**

- Dumfries and Galloway Region
- Nithsdale Study Area
- Landscape Character Type Boundary
- Landscape Character Types focus of detailed cumulative study.

**Windfarm Planning Status**

- Consented
- Operational/Under-construction

**Landscape Character Type**

9	Upper Dale (Valley)
10	Upland Glens
16	Upland Fringe
18	Foothills
19	Southern Uplands
19a	Southern Uplands with Forest

**Windfarms**

1	Afton
3	Andershaw
10	Blackhill to Magheuchan Rigg
21	Glenmuckloch
22	Hare Hill
23	Hare Hill Extension 2
25	Kennoxhead
28	Middle Muir
33	Penbreck
35	Sandy Knowe
36	Sanquhar
40	Twentyshill Hill
42	Whiteside Hill
43	Windy Standard
44	Windy Standard Extension (Brockloch Rigg)

### 3.4.4 Ae/Annandale area

This area encompasses the Annandale unit of the Foothills (18) and the Ae unit of the Foothills with Forest (18a) landscape character types (see Figure 11).

Wind farm development is a key characteristic of the Ae Foothills with Forest and the southern part of the Annandale Foothills landscapes. The operational Dalswinton and Harestanes wind farms are located in the Ae Foothills with Forest. The Harestanes wind farm occupies a broad, gently undulating upland plateau west of Annandale and although it is a large development of 71 turbines, it is not visually prominent in wider views from Annandale or Nithsdale. The operational Dalswinton wind farm, which is also located in the Ae Foothills with Forest (18a), and the operational Minsca and consented Solwaybank wind farms, sited in the Annandale Foothills (18), are more visually prominent from well-settled dales and other lower-lying landscapes as they sit on the outer edge of these foothills. The under construction/consented Ewe Hill wind farm, which is partially sited in the Annandale Foothills, is/ will be likely to be less visually prominent.

The operational Clyde wind farm in neighbouring South Lanarkshire differs greatly from the Harestanes development in respect of its location. This wind farm is sited on rolling hills that lie in close proximity to the narrow valley of the Evan Water which forms a pass through the Lowther Hills, and is visually prominent from major transport routes and also from several settlements. This development is separated and visually contained from the

Harestanes wind farm by the higher ground of the Lowther Hills.

The key findings of the sensitivity assessment are:

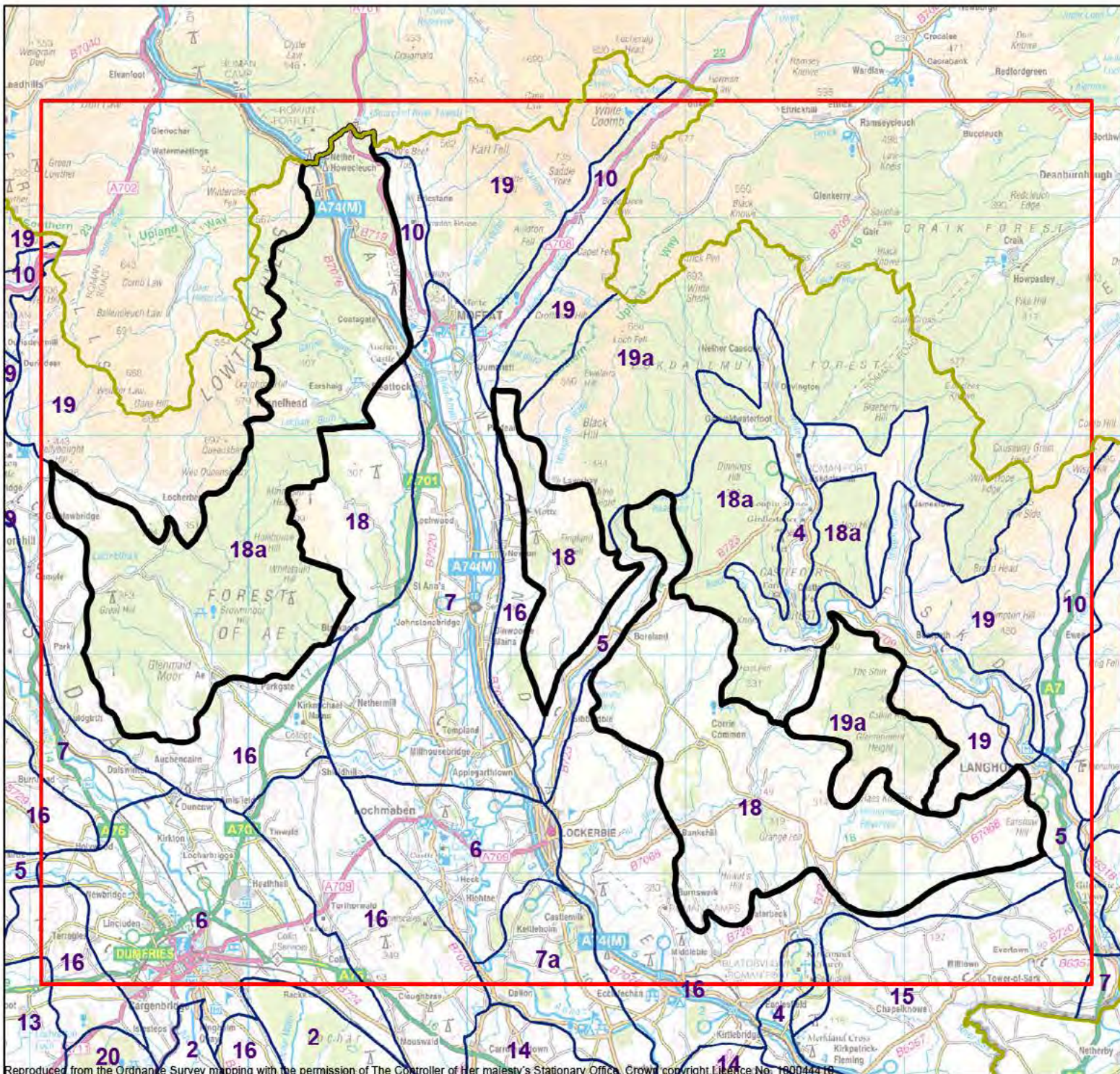
- There is no scope for new developments of Very Large turbines (+150m) in the Ae Foothills with Forest (18a) principally because the less sensitive interior of these foothills is already occupied by the Harestanes wind farm. If very large turbines, which could be up to 200m high, were located in the remaining undeveloped areas of these foothills, they would be likely to incur significant and widespread effects on Nithsdale and Annandale and on other more sensitive surrounding landscapes.
- Some very limited scope may exist for large turbines (80-150m) in the northern part of the Ae Foothills with Forest (18a) although turbines should be carefully sited to avoid significant effects on the setting of the Lowther Hills, including the landmark Queensberry Hill, and on views from Moffat and the Evan valley and cumulative effects with the Clyde wind farm.
- Capacity for large turbines (80-150m) was concluded to have been reached in the Annandale Foothills (18) due to the density and dominance of operational and consented wind farms in the southern part of this landscape and the narrowness of the northern area, its closer proximity to Annandale and the greater influence of the Minnygap and Harestanes wind farms seen to the west.

Key cumulative effects are likely to be associated with:

- Views from popularly accessed hill summits such as the Moffat Hills, where further development within the northern part of the Ae Foothills could consolidate wind farm development, appearing as a concentrated and, potentially conjoined, band of turbines extending along much of Annandale and the upper Clyde valley.
- Additional wind farm development sited on the outer edges of both the Ae Foothills with Forest (18a) and the Annandale Foothills (18) would exacerbate the prominence of operational wind farms already affecting immediate skylines seen from nearby lower-lying well-settled landscapes including Nithsdale and Annandale.
- The creation of a 'corridor' effect of wind farms sited on either side of Annandale, particularly where this dale narrows in the north and where the Harestanes and Minnygap wind farms are more visible. This would extend the dominant effect of the Clyde wind farm experienced from major transport routes and settlement to the north.

It is concluded that there is only very limited scope for additional wind energy development in this area. While it is considered that there is no scope for new developments of Very Large turbines (>150m), there may be some opportunities for repowering of the Harestanes wind farm provided effects on views from Annandale, the A701, the Torthorwald Ridge and on the setting of Queensberry Hill were not significantly exacerbated. Other operational and consented wind farms in the Ae/Annandale area are located in less extensive upland landscapes and lie close to more sensitive settled valleys and dales and repowering schemes involving substantially larger turbines would not be appropriate in landscape and visual terms.

**Ae/Annandale - Figure 11:  
Dumfries & Galloway Wind  
Farm Landscape Capacity Study**



**Legend**

- Dumfries and Galloway Region
- Annandale Study Area
- Landscape Character Type Boundary
- Landscape Character Types focus of detailed cumulative study.

**Windfarm Planning Status**

- Consented
- Operational/Under-construction

**Landscape Character Type**

2	Coastal Flats
4	Narrow Wooded River Valleys
5	Intimate Pastoral Valley
6	Lower Dale (Valley)
7	Middle Dale (Valley)
7a	Middle Dale with Hills
10	Upland Glens
15	Flow Plateau
16	Upland Fringe
18	Foothills
19	Southern Uplands
18a	Foothills with Forest
19a	Southern Uplands with Forest

**Windfarms**

11	Carlesgill Hill
15	Dalswinton
16	Ewe Hill
17	Ewe Hill Phase 2
24	Harestanes
29	Minnygap
30	Minsca
37	Solwaybank

### 3.5 Scope for smaller wind turbines

Changes to funding and turbine technology have resulted in a significant reduction in interest in smaller turbines across Dumfries and Galloway since the DGWLCS was written in 2010. The updated study therefore focusses on commercial wind farm developments and extensions to existing wind farms rather than smaller turbines.

The medium typology (turbines 50-80m) considered in the sensitivity assessment has been assumed more likely to comprise single or small groups of turbines associated with a farm or community rather than a commercial wind farm development. Turbines of this size will still form large structures in most of the lowland landscapes of Dumfries and Galloway and cumulative effects with operational and consented wind farms will also be a key constraint within or close-by larger scale landscapes.

The Small-medium typology (turbines 30-50m) is only assessed in detail in smaller scale lowland landscapes. Small turbines, generally under 20m high and comprising single and small groupings often closely associated with farms, tend to appear as 'incidental' features in the landscape as they fit with the scale of woodlands, individual trees and larger buildings. Larger wind turbines, in contrast, form a focus, and can disrupt the repeated pattern of small scale features (farm buildings, drumlins, walls, small woodlands) across the landscape. The sensitivity assessment concludes that lowland

farmed landscapes such as the Drumlin Pastures (13), Peninsula (1) and Middle/Lower Dales (6,7), could accommodate the small-medium typology (turbines up to 50m high) in limited areas. However, many of these lowland landscapes have an even dispersal of relatively small farms and capacity would be quickly reached if even a small number of these were to feature a turbine of this height, with multiple turbines in close proximity likely to overwhelm landscape features.

In some parts of the Rhins and Machars peninsulas, the number and range of designs of small turbines, generally under 30m high, has led to some localised cumulative landscape and visual effects. Ongoing review of cumulative landscape and visual effects of multiple wind turbine developments will be necessary to ascertain when capacity is close to being reached, or has been exceeded.

### 3.6 Offshore wind farms

General landscape and visual sensitivities relating to coastal character and offshore wind farm development have been identified. Seven coastal character units have been defined and the sensitivity of each of these to a development typology assumed to comprise wind farms of over 50 turbines and with turbines up to 200m height to blade tip. The Mull of Galloway, Wigtown Bay and Inner Solway seascape units were concluded to have a high sensitivity to offshore wind farm development principally because of the proximity of the coast and potential effects on

coastal character or effects on wildland qualities. Sensitivity was High-medium in all remaining seascape units apart from the West Rhins Coast which was judged to have a Medium sensitivity to offshore development, although sensitivity would increase if offshore wind farms were sited closer than approximately 5km from the coastal edge.

### 3.7 Strategic landscape considerations

Detailed sensitivity assessments identify constraints and opportunities within specific character types and smaller landscape areas. Although landscape context is considered as one of the key sensitivity criteria, the assessment essentially relates to specific landscapes and any effect on nearby character types. The sensitivity assessment does not take into account the experience and appreciation of the landscape of Dumfries and Galloway as a whole. The following paragraphs (3.7.1 - 3.7.7) provide this landscape overview; summarising current issues relating to wind farm development and also addressing strategic cumulative landscape and visual effects of wind farm and turbine development, before listing key strategic landscape recommendations.

### 3.7.1 An overview of the landscape of Dumfries and Galloway

The landscape of Dumfries and Galloway is notable for its diversity, featuring an extensive and varied coastline and associated seascapes, small scale valleys and glens, broad dales, farmed lowlands with an intricate pattern of small, enclosed pastures, punctuated by outcrop coastal hills and fringed by rolling foothills. Extensive plateau moorlands occur to the west while the wild Galloway Hills and Southern Uplands backdrop the lowland landscapes to the north, extending into neighbouring authorities. The juxtaposition and contrast of character types produces rich, multi-layered landscapes and high quality scenery, recognised in the National Scenic Areas (NSAs) and Regional Scenic Areas (RSA) that cover substantial parts of the Region.

### 3.7.2 Current trends and issues related to wind farm development in Dumfries and Galloway

The following trends and issues have been taken into account in considering an appropriate landscape strategy for Dumfries and Galloway:

- Demand for extensions to existing wind farms that could potentially encroach on more sensitive landscapes and result in cumulative effects with other wind farms
- Increased demand for wind farm developments (usually comprising smaller numbers of large turbines <80m) sited on transitional landscapes on the outer fringes of upland areas and

therefore incurring increased impact on surrounding settlement, roads and smaller scale landscapes than the much larger wind farms sited in more remote and extensive core upland areas.

- The presence of operational and consented wind farm development in many more extensive upland areas, apart from the Eskdalemuir area of the Southern Uplands (19a), which poses significant constraints to additional development in terms of cumulative effects.
- The effect of increasing wind farm development on open moorland which is becoming rare in Dumfries and Galloway and threats to other key landscape features such as the coast, diverse farmland and intimately scaled valleys and glens.

### 3.7.3 Current patterns of wind energy development

Operational and under-construction large wind farms comprising over 50 turbines, such as the Harestanes and Kilgallioch developments, are associated with extensive, simple, gently undulating upland landscapes which provide a better context for the size of these developments. They are also generally set back from the periphery of these uplands thus minimising landscape and visual impact on settled valleys and dales. Large wind farms also border Dumfries and Galloway in South Ayrshire, East Ayrshire and South Lanarkshire with some located in similar

extensive upland landscapes. Less extensive wind farms also occur in the Carsphairn and Ken units of the Southern Uplands with Forest (19a) with developments such as Windy Standard, having minimal effects on character and views within Dumfries and Galloway.

Smaller operational wind farms of generally <20 turbines, but still comprising turbines over 100m in height, include Dalswinton, Wether Hill, North Rhins, Blackcraig, Barlockhart and Minsca. With the exception of Wether Hill, these developments are located in less extensive areas of gently undulating upland plateau located on the edge of, or within, settled lowland landscapes with a more intricate and smaller scale pattern of topography and landuse. These wind farms are consequently also much more visible from settlement and key transport routes than the more extensive wind farm developments located within the much larger scale and sparsely settled uplands. The consented Mochrum Fell, Sandy Knowe and Solwaybank wind farms will have similar effects.

The existing pattern of wind farm development therefore varies across Dumfries and Galloway and neighbouring authorities and some developments are more successful in their siting and design than others. Significantly larger wind farm developments are predominantly associated with the more extensive upland landscapes but large turbines have also extended close to lowland areas, albeit in schemes with smaller numbers of turbines.



### 3.7.4 Scope for additional larger typologies

The sensitivity assessment found that the uplands and forested foothills within Dumfries and Galloway offered some limited scope to accommodate further larger wind farm development. These areas include some parts of the:

- Plateau Moorland (17),
- Plateau with Forestry (17a),
- Foothills with Forest (18a, Eskdale, Oer and Tinnisburn units),
- Foothills with Forest (18a, Stroan, Cullendoch, Ae units)
- Southern Uplands (19, NW Lowther unit)
- Southern Uplands with Forest (19a),

Refer to sections 4-28 for detailed analysis; also to Section 3.7.5 below, which lists areas where capacity has been or is close to being reached (including some areas within the above units).

Extensive areas of the uplands and foothill landscapes within Dumfries and Galloway (and neighbouring authorities) are commercially forested. Wind farm development could be perceived as the 'next wave' of dramatic change to these landscapes and it is perhaps too easy to conclude that wind farms should be sited within commercial forestry as the landscape has already been radically changed in the recent past. Forestry has often (although not always) been established on the more accessible upland slopes, which are often gently graded. It is the underlying topography and, in some instances the simple vegetation

pattern of less diverse forest, and not the presence of the forestry alone, which results in some of these uplands and foothills being identified as potential areas for development in the sensitivity assessment. The sensitivity assessment however clearly identifies forests where good design and other attributes, such as more complex landform, have created attractive forests often well-used for recreation and these landscapes consequently have a higher sensitivity to development.

In a context where extensive commercial forestry is a key characteristic of much of the Southern Uplands with Forest (19a), the Foothills with Forest (18a) and the Plateau Moorland with Forest (17a) character types, areas of less modified open ground, found more discretely within each character type and often more extensively in surrounding uplands, are valuable in providing contrast to coniferous forest and increasing landscape diversity. While the expansive scale, often simple landform and land cover of these more open upland landscapes can theoretically relate to large scale wind farm development, such development would also conversely, substantially alter the character of these areas which are often valued for their openness, expansiveness and natural qualities. The sensitivity assessment identifies where the openness and less modified character of the landscape is an important attribute increasing sensitivity. **Further strategic consideration of the importance of conserving less modified and open upland areas is necessary across Dumfries and Galloway as a whole.**

There is some limited scope to consolidate the association of existing more successfully sited large wind farm development with extensive, sparsely settled landscapes with a predominantly simple landform and land cover by directing new wind farm developments to similar landscapes. **It is recommended that this clear pattern of wind farm development should not be muddled by locating Very Large and Large development typologies in more complex, smaller scale and/or settled landscapes as this will increase landscape and visual impacts but also dilute a clear strategy and association of a particular wind farm type with a particular landscape character.**

The Upland Fringe (16), Foothills (18), Moss and Forest Lowland (11) (and parts of the Coastal Granite Uplands (20)) character types, while having some characteristics that could relate to larger typologies, are generally more sensitive in that they form the transition between uplands and lowlands and/or lie closer to smaller scale, more intricate and diverse, lowland landscapes where they could potentially overwhelm the scale and detract from the character of these landscapes. The inter-visibility of these transitional landscapes between Uplands and Lowlands also adds further complication in terms of potential cumulative effects between smaller and larger typologies which could potentially be sited in the same character type. **It is recommended that larger wind farm typologies are directed away from these landscapes.**

### 3.7.5 Landscapes where capacity has been exceeded or is very close to being reached.

These comprise the following landscape character types and areas:

- In the southern part of the Plateau Moorland and Plateau Moorland with Forest (17 and 17a) where the wide variety of closely juxtaposed wind farm developments has led to significant cumulative effects.
- The Upper Dale - Nithsdale (9), Southern Uplands - Nithsdale unit (19) and the northern part of the Ken unit of the Southern Uplands with Forest (19a) where the number and varied design of operational and consented wind farm developments will be likely to result in significant cumulative effects and where effects on scenic glens and landmark hills would be exacerbated.
- Foothills - Annandale (18), where further wind farm development would occupy the majority of small hills affecting landscape diversity and increasing cumulative effects on surrounding settled valleys.
- Foothills with Forest - Ae (18a), where the less sensitive 'core' area of this largely forested plateau already accommodates extensive wind farm development with undeveloped peripheral areas more sensitive as they lie closer to settled dales.

### 3.7.6 Turbines in lowland landscapes

Existing small turbines, located on farms in lowland landscapes within Dumfries and Galloway, are generally below 30m high. Small turbines (single and clusters) closely associated with farms tend to appear as 'incidental' features while larger wind turbines form a focus, disrupting the repeated pattern of small scale features (farm buildings, drumlins, walls, small woodlands) across the landscape. Directing larger typologies to more extensive upland landscapes set back from more sensitive lowland areas will limit landscape and visual impacts. It will also reduce the potential for cumulative landscape and visual impacts to occur between different scales and designs of turbines, in areas where demand for farm-based turbines is greatest.

### 3.7.7 Designated landscapes and other formally recognised values

Clear justification and description of special qualities exists to support the NSA and RSA designations in Dumfries and Galloway. The assessment has considered these special qualities, the qualities of Inventory and Non-Inventory listed designed landscapes and Wild Land Areas in determining sensitivity to different development typologies. The NSAs, as nationally important landscapes, would be afforded significant protection as stated in SPP. The sensitivity assessment found that, irrespective of character type, larger and small-medium typologies (turbines >30m) would be likely to have a significant

effect on the special qualities and character of these designated landscapes. It was concluded that small turbines would have less of an effect within the designated landscapes provided these were sensitively sited. A number of the RSAs are important in providing a wider landscape setting to the much more closely defined NSAs.

Although none of the larger wind farms are currently sited within designated landscapes in Dumfries and Galloway, the existing Craig wind turbines (4 turbines, 100/125m) are located just within the Langholm Hills RSA, the consented Twenty-shilling (9 turbines, 125m) and Torrs Hill wind turbines (2 turbines, 100m) lie wholly or partially within the Galloway Hills RSA. An existing single turbine (32.5m) is also sited within the Solway Coast RSA.

### 3.8 A recommended landscape strategy

- **Protection of the most scenic of Dumfries and Galloway's landscapes** by directing large, medium and small-medium wind turbine development away from designated landscapes and avoiding intrusion on Inventory listed designed landscapes.
- **Maintaining the wildland qualities of the Galloway Hills** as a core aspect of the identity of Dumfries and Galloway by directing wind farm development away from these uplands and avoiding developments that could impact on the wider landscape setting and appreciation of these uplands in views from surrounding landscapes. Cumulative landscape and visual effects of wind farm development in surrounding landscapes will need to be carefully considered in terms of potential effects on the perception of wildness within the Merrick WLA. With wind farm development now occupying extensive tracts of the Cumulative Wigtownshire Moors it is important to protect these hills and their setting/special qualities. Cumulative landscape and visual effects of wind farm development in the north-eastern part of Dumfries and Galloway will also need to be carefully considered in terms of potential effects on the perception of wildness within the Talla Hart WLA.
- **Protect the special qualities of the coastal landscapes and wider seascape** which form an essential part of the identity of Dumfries and Galloway, by resisting offshore development within enclosed bays, close to shore or sited within a seascape context with a notably wild, elemental quality where it would result in significant landscape and visual impacts. Operational and consented onshore wind farms do not currently have a significant effect on the most scenic coastal peninsulas and bays. Views to the coast from the A75 between Dumfries and Newton Stewart are still largely free of any wind farm development. Offshore development should be resisted within enclosed bays, the inner Solway and the wilder seascapes of the Mull of Galloway. Extensions to the operational Robin Rigg wind farm involving larger turbines should be avoided.
- **Promote a clear pattern of larger wind farm development associated with less sensitive upland landscapes** where the more extensive scale can better accommodate, and can provide an appropriate wider setting to large developments, minimising impacts on less sensitive landscapes, and consolidating a strategy whereby a particular wind farm type is associated with a particular landscape character.
- **Direct larger typologies away from lowland landscapes** as these are striking in the rich variety of landscapes, often with many layers of archaeological and historical interest, frequent small scale topography, complex landforms and intricate patterns of settlement and land use. Smaller turbines would form more of an incidental feature in these sensitive landscapes while larger turbines would dominate and detract.
- **Direct larger typologies away from landscapes with 'upland' characteristics which lie within a lowland context** including landscapes such as the Moss and Moor Lowland (11), the Foothills (18) and parts of the Coastal Granite Uplands (20) where a simple landform and land cover could theoretically relate to this typology but where these areas are not extensive in scale and lie in close proximity to more sensitive smaller scale, settled landscapes.
- **Limit intrusion on adjacent settled landscapes** by avoiding larger typologies within the Upland Fringes (16) and setting all turbines well back from the sensitive edges of the Foothills (18) to avoid them appearing overly dominant on skylines and minimising impact on adjacent smaller scale landscapes.

- **Conserve the openness and unmodified nature of upland landscapes** such as the more dramatic and undeveloped Southern Uplands - Moffat, Langholm, Lowther, Beneraird, Carsphairn (19), Foothills (18), the southern part of the Plateau Moorland (17) and also characteristic of parts of the Plateau with Forest (17a), which are important qualities in a context where expansive upland areas within Dumfries and Galloway are commercially forested and/or accommodate extensive wind farm development.
- **Avoid cumulative effects of wind farm development in Annandale** which is important in providing the threshold to Scotland and Dumfries and Galloway from the south and where operational and consented wind farms could create a corridor effect in combination with any future development seen on the edge of the Foothills (18), Foothills with Forest (18a) and Upland Fringe (16).
- **Protect the setting of landmark archaeological features** and the ASAs which make a strong contribution to the richness of the Dumfries and Galloway landscape.
- **Undertake ongoing review of the cumulative landscape and visual effects of multiple wind turbine developments** in order to ascertain when capacity is close to being reached.

## Detailed Sensitivity Assessments

## 4. Peninsulas (1)

### 4.1 Introduction

The Peninsula landscape character type comprises the coastal promontories of Rhins, Machars and Dundrennan found in the western half of the region. Each of these three landscape units are considered separately in the sensitivity assessment which follows due principally to the differences in landform, the degree of openness and scale between them.

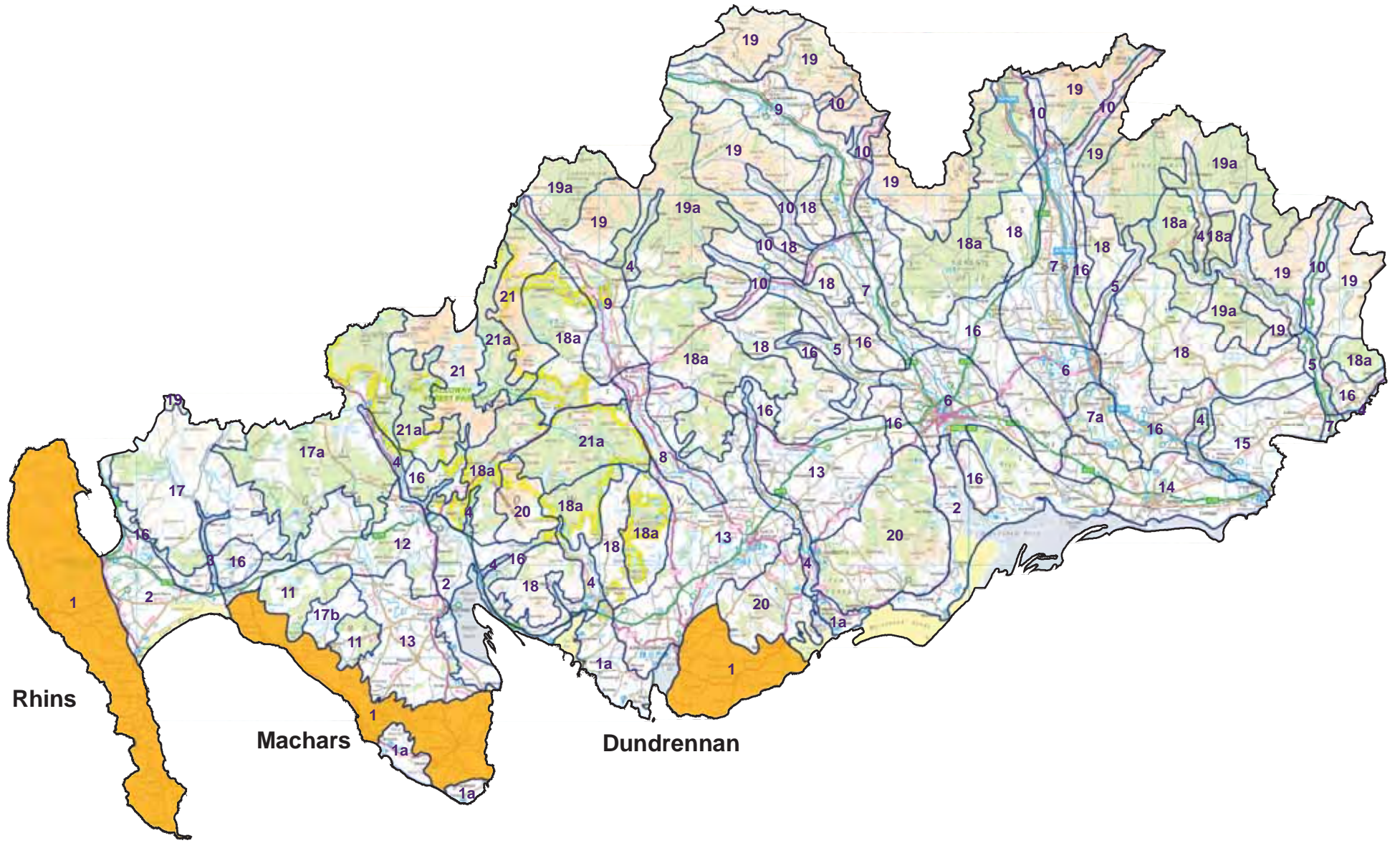
#### 4.1.1 Operational/consented wind farms

The operational North Rhins wind farm is located in the Rhins landscape unit. This development comprises 11 turbines, 100m high to blade tip. A number of small wind turbines between 12 and 30m high have been erected on farmland within the Rhins and Machars landscape units. Many of these comprise small Proven wind turbines, some of which are defunct.

#### 4.1.2 Cultural heritage overview

This landscape type is characterised by post-improvement (19th - 20th century) fields and farming, with a number of designed landscapes as well as relict pre-improvement (pre-19th century) land-use evidence with their remains of buildings and distinct field shapes north of Portpatrick (Rhins), around Mochrum Fell (Machars) and Townhead (Dundrennan). In addition there are some discrete areas of pre-medieval land-use surviving particularly in the Rhins. As well as the ASA of Changue Fell there are numerous archaeological sites of outstanding significance, some of which are promoted to the public.

Character Type Key Map - 1. Peninsula



## 4.2 Rhins area

### 4.2.1 Description and summary of sensitivity

The Rhins peninsula has a sheltered interior with the sea present nearby but not always easy to access due to the steepness of the coast. The diverse rugged landform and often strong sense of wildness associated with much of the coast increases sensitivity to all wind turbines. The rolling interior of the peninsula varies in its scale and degree of openness and although it is generally less sensitive than the coastal edge, the rolling landform, small enclosed fields and consistent pattern of compact farms and other small buildings, increases sensitivity to larger wind turbines. Some areas with a more upland character of open moorland are present although these are relatively limited in extent. The North Rhins wind farm occupies one of the more extensive upland areas while higher and more open hills to the south form part of the highly sensitive rugged Mull of Galloway. Visibility from roads and settlement is often restricted by the rolling landform. There are distant views to the Rhins from the Machars and from the settled coastal plain close to Stranraer. Fine panoramic views from the Mull of Galloway and along the Rhins coast from beaches and footpaths increase visual sensitivity.

Combined landscape and visual sensitivity is concluded to be **High** for large turbines (80-150m), **High-medium** for the medium typology (50-80m) and **Medium** to the small-medium typology (30-50m).

In terms of landscape values, sensitivity is considered to be **High-medium** for the large typology and **Medium** for the medium and small-medium typologies (turbines below 80m) evaluated principally in terms of coastal sensitivities which form the key focus of the RSA designation.

### 4.2.2 Cumulative issues

The operational wind farm of North Rhins is located in a broader section of the Rhins peninsula at Broad Moor. This development has a limited effect on views from roads and settlement on the Rhins due to the rolling landform and occasional tree cover. It is highly visible in more distant views to the Rhins peninsula from the Machars and Stranraer Basin however where it forms a prominent feature seen on the skyline. Sensitivity in relation to cumulative effects is reduced because of the length of the Rhins peninsula and the very limited extent of the skyline occupied by the operational North Rhins wind farm together with the generally restricted close views of this development. from settlement and roads within the Rhins. Cumulative effects would be more likely to occur however if turbine sizes were noticeably different between developments.

While there are some localised cumulative effects associated with smaller wind turbines (generally <20m high) associated with farms on the Rhins peninsula, the generally consistent pattern, size and number of turbines and the screening provided by the rolling landform, results in these not being significant or widespread.

The operational wind farms of Barlockhart, Carscreugh, Artfield/Balmurrie Fell and Glenchamber are seen from the east coast of the Rhins and while these developments appear cluttered (forming a concentrated mass of turbines of different sizes in these views) they are generally seen at distance which reduces cumulative effects to some degree. The operational Arecleoch wind farm is more visible from the north-eastern part of the Rhins and the consented Glen App and Stranoch wind farms are also likely to be seen in these views. Cumulative effects between these developments and any additional large turbines sited within the Rhins would be unlikely to be significant due to the degree of separation between the landscape character types they are located in.

Key potential cumulative effects that could arise include:

- Small turbines sited close to the North Rhins wind farm (and any other larger wind turbines/wind farm) which could together present a visually confusing image, for example on the skyline of the Rhins peninsula seen from the A77.
- Variations in the type and size of single and small groups of small turbines proposed within the Rhins which could result in visual confusion if concentrated in small area.
- Sequential visual impacts experienced when travelling on coast roads or coastal paths.



#### 4.2.3 Key constraints

- The increasing narrowness of the peninsula to the south which limits scope for large typologies to be accommodated and reduces the space or setting around developments necessary to ensure they do not dominate more settled smaller scale landscapes.
- The strong qualities of remoteness and naturalness associated with the northern, western and southern coasts of the Rhins peninsula.
- The rugged landform and wider seascape context of the Mull of Galloway and dramatic views from elevated roads, footpaths and the coast to the Isle of Man.
- More complex areas of small scale drumlins, policy woodlands and small enclosed fields.
- Archaeological features and distinctive small scale domestic buildings particularly prominent around the coast and in the south of the peninsula.
- Concentrations of smaller wind turbines in some limited parts of the Rhins which have resulted in cumulative impacts particularly where turbine designs vary.

#### 4.2.4 Opportunities

An elevated open and more expansive upland area within the broader central section of the peninsula where a very small number of additional large turbines could potentially be accommodated.

Gentler hill slopes set away from more sensitive coasts, policy landscapes and settlements where single and small groups of turbines below 50m high could be accommodated to minimise visual intrusion.

#### 4.2.5 Guidance for development

There is some **very limited** scope for additional large turbines to be accommodated in this landscape as an extension to the operational North Rhins wind farm. Any extension would need to be sited to ensure that the amenity of small dispersed dwellings and the design integrity of the original wind farm were not significantly affected. It is recommended that existing overhead lines and any new electricity connection should be buried to mitigate the existing clutter of vertical structures around this wind farm. Care should be taken to attain a compatibility of size between existing and proposed turbines from key views. Turbines around 100m high are more likely to be appropriate in terms of achieving compatibility of size with existing wind turbines within the North Rhins wind farm and avoiding dominating nearby smaller scale landscapes and the backdrop to Stranraer.

There is **very limited** scope for the medium typology (50-80m) to be accommodated due to the absence of areas with a simpler more upland character without other sensitivities, such as the perception of wildness and cumulative effects with the operational North Rhins wind farm, being triggered.

There are some limited opportunities for the small typology (30-50m) single and small groups of wind turbines to be associated with gentler hill slopes away from more sensitive coastal areas and avoiding impact on policy landscapes and small settlements. There are greater opportunities for turbines <30m to be sited within the Rhins due to their better scale relationship with buildings, woodland and field pattern. Turbines of this size could be located to minimise cumulative effects particularly given the rolling landform of the Rhins which provides screening and reduces inter-visibility between developments. Supplementary guidance is provided on the siting and design of smaller turbines (<50m).

All turbines should avoid the more isolated and unmodified coastal areas with perceived qualities of wildness and should be sited away from cliff edges, coastal promontories and areas with a complex pattern of small drumlins. Cumulative effects with smaller operational wind turbines will be a constraint in some parts of the Rhins.

**Character Type 1: Peninsula - Rhins Area**

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Scale and openness</b>			
<p>The Rhins combines rolling low hills and ridges with small rounded, often interlocking hills generally below 100m elevation, and narrow valleys reducing landscape scale. Higher, broader hills between 160-182m occasionally occur and these have a larger scale and more open character. Landscape scale is reduced along the coast where the raised beaches, sea cliffs and rounded hill summits alternate with shallow valleys creating a more complex but small scale landscape although the presence of the sea increases scale.</p>	<p>Large turbines (100m) are already sited on one of the broader and higher upland areas and while these relate to the scale and openness of their landscape setting, there are very few areas of a similar scale and openness which could accommodate a similar scale of development. This typology would dominate the small scale of rolling ridges and rounded hills, both the narrow interior and shallow coastal valleys, the vertical scale of the coastal landscapes and the narrow southern tip of the Rhins.</p> <p><b>Sensitivity rating: High</b></p>	<p>Single or small clusters of the medium scale turbines could relate to broader more open hill slopes where the scale of the landscape is increased, although scope to accommodate turbines towards the upper height band of this typology is very limited. Turbines of this size would dominate the smaller scale rolling drumlins, valleys and coastal features such as cliffs and promontories and the narrow southern tip of the Rhins.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could still dominate the smaller scale areas, such as interlocking rounded drumlins and the smaller valleys. Turbines sited on the upper rim of the coastal edge could dominate the vertical scale of the coastal landscapes and the narrow southern tip of the peninsula.</p> <p>Within broader landscapes with elongated ridgelines, the scale and openness is more likely to be able to accommodate this scale of development.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landform</b>			
<p>The rolling landform includes areas of small drumlins but is interspersed with occasional higher and broader upland areas. Cliff faces and steep hill slopes contain the western and southern coasts, with long rocky shelves reaching into the sea on the northern coast. A ridge and dip slope separates the NW coast from the rolling interior of the peninsula. The southern end of the peninsula rises to form longer hills and ridges extending to the dramatic cliffs of the Mull of Galloway. Small sandy bays are cut into the west coast with more extensive sandy beaches edging the gradual slopes of the east coast.</p>	<p>The complex drumlin pattern would be highly sensitive to this typology given the small scale of hills. This typology would also dominate the narrow elongated ridges of the southern Rhins and the rugged hills and cliffs along the south-western coast of the peninsula. It would detract from the diversity of coastal features, including the dramatic sculpted form of the Mull of Galloway. There are few, if any, remaining more extensive upland areas with a simple landform able to accommodate this typology.</p> <p><b>Sensitivity rating: High</b></p>	<p>The smaller scale and more complex form of drumlins and low ridges would also be sensitive to this typology. It would similarly dominate the narrow elongated ridges of the southern Rhins and the rugged hills and cliffs along the south-western coast of the peninsula. It would detract from the diversity of coastal features, including the dramatic sculpted form of the Mull of Galloway. There may be some scope to relate this typology to broader hill slopes with a simpler landform, although these are limited.</p> <p><b>Sensitivity rating High</b></p>	<p>The complex drumlin pattern could be highly sensitive to this typology which unless well located could detract from the interlocking, rounded shapes and complex but unified pattern of the drumlins. This typology could also detract from the narrow elongated ridges of the southern Rhins and the dramatic sculpted forms of the Mull of Galloway. The diversity of more complex areas of coastal topography, and the abrupt edges of the cliff tops and skylines overlooking the coast are also sensitive.</p> <p>However, it could be accommodated on the broader hill slopes and long ridge lines, and the more open and elevated areas of landscape which alternate with the rounded hills.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Land cover and landmark features</b>			
<p>This is a generally open landscape with woodland restricted to narrow valleys inland from the coast and the more extensive areas of policies such as Dunskey and Logan. Wind-sculpted trees indicate the exposure of this landscape. Small lochans and occasional wetlands sit between rolling hills of smooth pasture often enclosed by stone dykes. Less cultivated and often more exposed hills and headlands are dominated by rough pasture and scattered gorse. The Mull of Galloway and occasional woodlands are landmark features.</p>	<p>Turbines of this scale would dominate policy woodlands if sited too close to the edge of valleys. They would also conflict with the small scale field pattern found in areas of lower hills. They could also affect landmark features if located nearby although there is some limited scope to avoid these by associating development with the more open and elevated hill tops where enclosure pattern is absent or weak although the number of turbines would need to be restricted to fit with the limited scale of these areas.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>There is greater scope to accommodate the medium scale typology to avoid impacting on landscape pattern. This typology could still impact on landmark features if sited within or close to the more dramatic western, northern and southern coasts and wooded policies.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could dominate policy woodlands if sited too close to the edge of these wooded valleys and the small scale field pattern found in areas of lower hills. They could also affect landmark features such as the Mull of Galloway if located within their immediate setting. There is nevertheless scope to accommodate this typology without significantly dominating landscape pattern in many parts of the Rhins.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Settlement and Archaeology</b>			
<p>This landscape is settled with dispersed farms and individual houses located along narrow roads (some elevated) but generally set back from more exposed coasts. Tight-knit settlements are located in bays along the coast, and lighthouses form landmark features. There are numerous archaeological features, such as forts around the coast, and other sites, such as standing stones and chapels, indicating the long history of occupation of this fertile peninsula.</p>	<p>This typology would dominate the more extensively settled eastern coastal edge. It could also overwhelm small settlements and affect their setting as well as impact on the setting and prominence of archaeological and historic features. The settled character of much of the Rhins severely limits scope for accommodating this typology without incurring significant impacts on individual dwellings and settlements.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would dominate individual buildings, settlements and archaeological features if located close to them. Although there is slightly increased scope to locate this typology to avoid contrasts in scale and impacts on the setting of these features, the settled character of much of the Rhins severely limits scope to accommodate turbines of this size.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would dominate individual buildings, settlements and archaeological features if located close to them. There is increased scope to locate turbines towards the lower height band (&lt;35m) of this typology to avoid contrasts in scale and impacts on the setting of these features although the setting of archaeological sites remains sensitive.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape context</b>			
<p><b>The Rhins peninsula is isolated from other character types although it forms part of the wider seascape where the Machars, Irish coast and Isle of Man also feature.</b></p>	<p>The isolation of the Rhins reduces sensitivity although large typologies sited on more prominent landform visible from the Machars and Luce Bay (in particular, the Mull of Galloway) could affect wider seascape character.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>Medium typologies are less likely to be visually prominent from surrounding land areas which are a considerable distance from the Rhins.</p> <p><b>Sensitivity rating: Low</b></p>	<p>The geographical isolation of the Rhins reduces sensitivity of potential effects of this typology on adjacent character types</p> <p><b>Sensitivity rating: Low</b></p>
<b>Perceptual qualities</b>			
<p><b>The northern, western and southern coastal edge of the Rhins has strongly elemental qualities with little development. Difficulties in accessing this coast increase the sense of remoteness experienced.</b></p>	<p>Wildland characteristics would be significantly diminished by the introduction of large scale turbines and ancillary features visible from the coastal edge and in wider views to the sea. Turbines located within parts of the interior of the Rhins may be able to avoid these impacts although scope is very limited.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Wildland characteristics associated with the coast would be significantly diminished by the introduction of this typology. There is slightly greater scope to locate this typology to avoid intrusion on the more sensitive coastal areas.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Wildland characteristics would be significantly diminished by the introduction of turbines immediately overlooking the coastal edge, but there is scope to site this typology to avoid these impacts.</p> <p><b>Sensitivity rating: Medium-low</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Views and visibility</b>			
<p>Views from roads on the Rhins are often restricted by rolling landform. The east coast of the Rhins and Luce Bay are visible from settled coastal fringes and the A716. Views of the west coast are generally limited to occasional glimpsed views of the sea framed by shallow valleys. At the southern end of the peninsula elevated roads offer dramatic views of the coast and across the southern Rhins as well as to and from the Mull of Galloway and the wider seascape to the Isle of Man. The coast of Northern Ireland features in open views from the west coast while the distinct conical form of Ailsa Craig provides a key focus in views from the north.</p> <p>In terms of views to this landscape unit, The Rhins peninsula is seen as an elongated, generally low-lying gently undulating plateau in distant views from the Machars, the Stranraer area and from elevated roads within the Plateau Moorland (17). The North Rhins windfarm is a prominent feature in many of these more distant views.</p>	<p>While the rolling landform of the interior of the peninsula offers opportunities to limit visibility of wind farm development, this typology would need to occupy extensive areas of open ground which generally coincides with more elevated and visible areas. This typology could significantly intrude on key views particularly to and from the Mull of Galloway and along the coast from localised viewpoints as well as on open views of the wider seascape and distant land.</p> <p>In terms of views to this landscape unit, any further development would need to be carefully designed to avoid cumulative impacts with the existing North Rhins wind farm. This typology could affect the long low profile of the Rhins seen outside from east/north where tall turbines would be visible on the skyline and would contrast with the general horizontality of the peninsula.</p> <p><b>Sensitivity rating: High</b></p>	<p>The rolling landform of the interior of the peninsula reduces visual sensitivity with greater scope for this typology to be located so as to avoid impact on views from roads and settlement. There could be scope to also minimise visibility of lower turbines within this band (around 50m) by avoiding impact on prominent skylines.</p> <p>This typology could still impact on key foci if located within or close to the more sensitive coasts. Any further development would need to be carefully designed to avoid cumulative impacts with the existing North Rhins wind farm.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>The rolling landform of the interior of the peninsula is likely to limit extensive visibility of this typology except from more elevated roads and viewpoints</p> <p>Nevertheless, this typology could significantly intrude on views to open skylines from key viewpoints such as the Mull of Galloway and views to landmark features. In addition, there are visual sensitivities along the coast from localised viewpoints, including the glimpsed views of the sea from coastal roads, as well as expansive open views of the wider seascape and distant land.</p> <p>Any development would need to be carefully designed to avoid cumulative visual impacts with the existing North Rhins wind farm and other small farm turbines.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape values</b>			
<p>The Rhins Coast RSA comprises the rocky coastline from the Wig, the narrow southern peninsula and the Mull of Galloway. The Inventory listed designed landscapes of Logan Botanic Gardens, Logan House and Ardwell House are located on the Rhins. Cultural heritage features and the value of the Rhins for recreation additionally increase the value associated with parts of the Rhins landscape.</p>	<p>The RSA focuses on the coastal areas and southern tip of the peninsula. The description in Technical Paper 6 acknowledges the inaccessibility of the coastline and its limited visibility inland (excepting the Mull of Galloway). This typology could impact on the character of the RSA, on the setting of designed landscapes and on other values which are principally associated with the coast.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>There is possibly greater scope for the lower band of this typology to be sited so as to avoid impact on the RSA coastal area and on the Inventory listed designed landscapes.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The RSA focuses on the coastal areas and southern tip of the peninsula. The description in Technical Paper 6 acknowledges the inaccessibility of the coastline and its limited visibility inland (excepting the Mull of Galloway). There is some scope for this typology to be sited so as to avoid impacts on the coastal interests.</p> <p><b>Sensitivity rating: Medium</b></p>



The more complex small scale drumlin landforms are highly sensitive to all typologies.



The Irish Sea is only occasionally seen in narrow slot views from the interior of the Rhins



The rugged west coast has a strong sense of wildness and many archaeological features



More extensive areas within the higher interior are rare and already feature wind farm development



Sandy bays attract visitors particularly on the more easily accessible and settled east coast



Views to the landmark feature of the Mull of Galloway are highly sensitive to intrusion by turbines

## 4.3 Machars area (1)

### 4.3.1 Description and summary of sensitivity

The Machars area has a predominantly gently undulating landform and open character. It is however settled and largely farmed and this, together with the lack of geographically extensive areas with a large scale and absence of landscape pattern, results in a predominantly small to medium landscape scale. More complex coastal landscapes and their immediate hinterland, the presence of extensive policy woodlands and the frequent occurrence of archaeological features and historic landscapes also increase sensitivity. The openness of this landscape allows wide views from roads and settlements apart from sections of the west coast where the raised beach restricts views inland. Distant views to the Machars are possible from across Wigtown and Luce Bays.

The southern part of this landscape has a close visual relationship to the adjacent Peninsula with Gorse Knolls (1a) while inter-visibility with the Moss and Forest Lowland (11) and Plateau Moorland with Lochs (17b) character types occurs in the north-west.

The landscape of the Machars has a **High** sensitivity to the large typology (80-130m) and a **High-medium** sensitivity to the medium typology (turbines 50-80m). There would be a **Medium** sensitivity to the small-medium typology (turbines 30-50m).

In terms of landscape values the score is **Medium** for the large, **Medium-low** for the medium typology, **Medium-low** for the small/medium typology and **Low** for the small typology, evaluated principally in terms of coastal sensitivities which form the key focus of the Machars Coast RSA designation.

### 4.3.2 Cumulative issues

The operational Barlockhart wind farm and its consented extension are located close to the north-western boundary of this landscape unit. The operational Artfield Fell, Balmurrie Fell, Carscreugh and Glenchamber wind farms, sited in other close-by landscape character types, are also visible from the north-western part of the Machars Peninsula (1) and in combination these developments present a visually confusing image in views from roads and settlement because of their different siting, layout and turbine sizes.

A number of operational small (15-20m) high turbines are associated with farms in the southern Machars area. There are some localised cumulative effects associated with smaller wind turbines which are generally <20m high. However, the generally consistent pattern, size and number of farm turbines and the screening provided by gently rolling landform, result in these not being significant. Some small turbines are defunct and potential cumulative effects could be minimised by removing these.

Key potential cumulative effects that could arise include:

- Additional wind energy developments located in the north-western part of this landscape would be likely to exacerbate the visual clutter already associated with operational wind farms sited in adjacent landscapes and experienced from the A75, A747, settlement and footpaths.
- Variations in the type and scale of single and small groups of turbines. The regularity of farmsteads dotted across the Machars and the openness of the landscape (particularly in the south) could rapidly lead to it appearing cluttered if single or groups of turbines were associated with the majority of land holdings. In this scenario, turbines could form a dominant feature detracting from other landscape attributes such as distinctive field walls, buildings, small hills and mosses.
- Potential cumulative impacts could arise in association with any offshore development. These could affect key views from coastal roads, paths and settlements but also affect the character of the wider seascape and contrast between land and sea.
- Sequential visual impacts experienced when travelling on coast roads or coastal paths.



### 4.3.3 Key constraints

- More complex areas of rolling landform, rugged coast and key hills which form a backdrop to the raised beach of the west coast of this unit.
- The long profile and narrow width of the raised beach along the west coast of this unit, which is sensitive even to the siting of small turbines.
- The presence of designed landscapes with extensive wooded policies at Glasserton, Galloway and Monreith.
- The setting of historic settlements such as Whithorn and Garlieston and archaeological and historic features, and cultural sensitivities associated with St Ninian and the 'Whithorn Peninsula'.
- The historic landscapes around Elrig and Mochrum, including the tiny field patterns and extensive areas of multi-layered archaeological interest, within the Archaeologically Sensitive Area of Changue Fell.
- The proximity and close visual relationship of this landscape with the adjacent Peninsula with Gorse Knolls (1a) character type increasing sensitivity to larger turbines which could dominate the often intimate scale and rugged wildland coastal character of this sub-type.
- The proximity of this landscape to the small scale, more complex topography associated with the Drumlin Pastures (13) to the north

- Potential effects on the setting of landmark features such as Knock Fell and the Mochrum Lochs within adjacent character areas of (17b) and (11).
- The perceptual qualities associated with more remote coastal areas such as Sinniness Bluff and St Ninian's Cave area.
- Cumulative effects with the visually confusing array of large turbines within wind farms sited to the north-west of this landscape.

### 4.3.4 Opportunities

The simple undulating landform found in parts of this area which could relate to smaller turbines.

### 4.3.5 Guidance for development

There is **no scope** for larger typologies (turbines >50m) to be located within this landscape without incurring significant adverse landscape and visual impacts across a number of key sensitivities.

Single and small clusters of small-medium turbines (30-50m) could be accommodated in the more settled farmland within the southern part of the Machars peninsula and broader, less distinctive hills and upland moorland to the west. These should be sited in less diverse areas of forestry and pasture avoiding impact on policy landscapes, lowland mosses, archaeological features, historic landscapes, landmark hills, distinctive field dykes and the setting of settlements. Development should also not intrude on sensitive coasts, where their scale would dominate scarp edges and

backdrop hills or adversely affect the sense of remoteness or naturalness. This typology could be sited to relate to the subtle ridges which are aligned in a distinct south-west/north-east grain in the southern part of this area. This open landscape would be likely to be quickly dominated by turbines of this size however, particularly in areas where land holdings are relatively small thus potentially concentrating development. Turbines towards the lower height band of this typology will generally have fewer visual and cumulative impacts. On-going monitoring of cumulative landscape and visual effects will be necessary.

Small turbines (<20m high) are more readily visually screened by woodland and landform, which is likely to limit their cumulative visual impact. Small turbines should be sited where they can be clearly associated with existing development, farms or other settlement. They will be easier to accommodate if sited on natural low terraces, changes in gradient or on the slopes of ridges or elongated hills. All turbines should avoid intrusion on key views from coastal roads, and into the backdrop and setting of small settlements or archaeological features and landscapes of historic interest.

The introduction of additional overhead lines and the construction of new access tracks should also be avoided in this open landscape. Supplementary Guidance is provided on the siting and design of smaller turbines <50m high.

**Character Type 1: Peninsula - Machars**

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Scale and openness</b>			
<p>The Machars has a gently undulating landform where rounded low hills rising to around 90m are interspersed with areas of flatter mosses. Higher hills rising to 138m and areas of elevated moorland back the west coast of this unit. While forestry plantations provide some enclosure, tree cover is generally sparse and the landscape has an open character, especially towards the south and east.</p>	<p>Areas of moorland and lowland mosses have a larger scale and open character but are not geographically extensive and this limits the number of turbines that could be accommodated. Turbines of this height would also dominate the scale of these areas. The higher hills have confined rounded tops also limiting the number of turbines that could be accommodated. Turbines of this height would dominate the scale of backdrop hills or raised beach cliff if sited on or near them on the west coast.</p> <p><b>Sensitivity rating: High</b></p>	<p>While this typology could relate to the larger scale and openness of lowland mosses/forest plantations in the south and moorland and broader hill slopes to the west, single and small clusters of turbines towards the lower height band would have a better relationship to the scale of these areas. Where woodlands and more complex landform reduce scale, turbines of this size would be overly dominant.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>The more open and flatter landscapes, including the mosses, away from the coastal edge, offer some potential to accommodate this typology, especially where the turbines do not overwhelm the scale of individual landscape features. However, the coast, the more complex areas of landform, shallow valleys and areas where the landscape is dominated by small scale and more intricate landscape features would be sensitive to this typology. There is likely to be more scope for accommodating turbines of less than 35m in height, as this size is less likely to dominate individual features in this lowland landscape.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landform</b>			
<p>The predominantly undulating landform of low, elongated ridges and occasional flatter mosses/forest and moorland areas has a simple character although more complex rolling hills occur against the west coast. The coastal edge is also very diverse with the strongly contained raised beach of the western coastal edge and bold rugged cliffs and hills between Stairhaven and the Mull of Sinniness contrasting with the rocky bays and subtle promontories of the generally more gently sloping eastern coastal edge.</p>	<p>While turbines could relate to the predominant simplicity of the landform, they would detract from the more diverse and rugged coastal edges if sited close-by. This typology would also detract from the distinctive form of the more pronounced hills which provide a backdrop to the western coastal edge.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could also relate to the predominant simplicity of the landform but would similarly detract from diverse coastal features and more distinctive hills.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The longer, most open ridges and flatter areas of land offer some potential to accommodate this typology, but more complex landforms are more sensitive to this typology. Especially sensitive are the more rounded hill forms, the long low raised beaches and the cliffs in the west, as well as more prominent hills.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Land cover and landmark features</b>			
<p>This is a generally open landscape with occasional geometric coniferous plantations planted on lowland mosses, and long shelterbelts. Policy woodlands associated with the Glasserton, Monreith and Galloway estates are landmark features. Fields are often large and in places are enclosed by distinctive 'white' stone walls, although smaller rolling pastures occur close to the west coast, especially, for example, near Elrig and Mochrum. Areas of scrub-fringed lowland moss are diverse, contrasting with surrounding pastures.</p>	<p>Diverse policy woodlands would be highly sensitive to this typology. Development sited on areas of lowland moss would diminish the contrast these areas provide with farmland, although plantation forestry would be less sensitive. The integrity of distinctive field enclosure patterns and the setting of landmark features could be affected by this large typology.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>There is some limited scope to accommodate single and small clusters of turbines towards the lower height band of this typology to avoid impacting on the distinctive field pattern and the often diverse pattern of lowland mosses. This typology could still impact on landmark features if sited within or close to policy landscapes.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Where the landscape is relatively open and there are few landmark features against which to assess the size of this typology, there is potential to accommodate this typology.</p> <p>The areas of more diverse and intricate patterns of fields and small woods are more sensitive to development, as are the more complex and diverse policy woodland areas.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Settlement and Archaeology</b>			
<p>This landscape is settled with dispersed farms and the settlements of Whithorn sited inland and Port William and Garlieston on the coast. There are numerous archaeological features and more extensive historic landscapes, such as at Elrig. Many of the roads are narrow and sinuous, especially in the west.</p>	<p>The settled character of the Machars severely limits scope for accommodating this typology without incurring significant impacts on individual dwellings, settlements and archaeological and historic features.</p> <p><b>Sensitivity rating: High</b></p>	<p>Turbines 50-80m high could dominate individual buildings, settlements and archaeological features if located close to them. There is slightly increased scope to locate this typology to avoid contrasts in scale and impacts on the setting of these features but only in very limited areas where the pattern of settlement is sparse. These areas however often tend to be characterised by archaeological features thus increasing sensitivity.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could overwhelm small farms, individual houses and small settlements, affecting their setting and the scale of the built development if poorly sited.</p> <p>This typology could also impact on the setting and prominence of archaeological or land mark historic features or more extensive historic landscapes.</p> <p>However in more sparsely settled areas there may be opportunities for this typology.</p> <p><b>Sensitivity rating: High-Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape context</b>			
<p><b>This landscape is closely related to character type 1a which produces a particularly rugged coastal edge to the south and west. There is a gradual transition between the north-western part of this type and the Plateau Moorland with Lochs (17b), Moss and Forest Lowland (11) around Gargrie Moor and Knock Fell and the Drumlin Pastures (13). Landmark hills on the west coast, such as Mochrum Fell are important in forming a backdrop to 17b.</b></p>	<p>Large typologies could impact on the adjacent small scale Peninsulas with Gorse Knolls (1a). This typology could also impact on landmark features such as the Mochrum lochs within adjacent character types if sited on moorland or landmark hills backing the west coast of this unit. Cumulative impacts could also arise in the north-west with the consented Barlockhart windfarm. It may also be visible as part of the wider seascape of Luce and Wigtown Bays. Cumulative impacts could arise with any offshore development within these bays.</p> <p><b>Sensitivity rating: High</b></p>	<p>There is greater scope to minimise intrusion of the lower height band of this typology on adjacent landscapes and to avoid significant cumulative effects with any offshore wind farm development.</p> <p><b>Sensitivity rating: High-Medium</b></p>	<p>This typology is unlikely to extend significantly into wider views and is therefore unlikely to have significant effects on surrounding character types, except if located close to the small scale drumlin landscapes of type 13, or the prominent hills, more complex landforms and coastal areas associated with 1a.</p> <p>This typology is unlikely to have significant cumulative effects with offshore windfarm development.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Perceptual qualities</b>			
<p><b>There are few 'wildland' qualities associated with this largely farmed landscape apart from the more remote parts of the coast at Sinniness Bluff, Cruggleton Point and St Ninian's Cave. Some lowland mosses have a semi-natural character. Cultural associations with St Ninian give a strong sense of history.</b></p>	<p>Multiple large turbines and associated infrastructure would impact on coastal areas and mosses with a wilder character although there is scope to avoid these.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Multiple large turbines and associated infrastructure would impact on coastal areas and mosses with a wilder character although there is scope to avoid these</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Where the landscape is settled and generally managed, this typology will have limited impact on any sense of wildness. However, the sense of wildness associated with the coast and cultural associations around the Whithorn area may be adversely affected by poorly sited turbines.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Views and visibility</b>			
<p>The southern and eastern parts of the Machars peninsula are open and widely visible from roads and settlement. The east coast and Wigtown Bay are visible from the B7063, with Cairnmore of Fleet and Cairnharrow Hill providing a distant focus. Long views occur along the western coast from the A747 and coastal settlement, contained by the scarp slope and backdrop of hills.</p> <p>There is strong inter-visibility between moorland in the north-west of this unit with the adjacent Knock Fell and Gargrie Moor and lochs in adjacent character types. Low hills and ridges often form the visual backdrop/setting to villages and historic features of interest, while occasional landmark hills or more intricate and scenic stretches of coastline form visual foci in the wider landscape. The Machars peninsula is visible from the Rhins, uplands and coastal peninsulas to the east.</p>	<p>This typology would be highly visible if sited in the particularly open and settled landscape of the southern peninsula or if sited on the top of the scarp and backdrop hills seen from the western coastal edge. Large turbines would detract from key foci and the setting of settlements and archaeological features if poorly sited.</p> <p>This typology could be highly visible from the adjacent character types of (17b) and (11) although forestry may limit visibility.</p> <p>This typology would be more likely to be seen from the Rhins and upland/coastal landscapes to the north-east and east where turbines of this height would be visible on the skyline of the low Machars peninsula. Cumulative visual impacts may occur with any offshore developments within Wigtown and Luce Bays.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would be highly visible if sited in the open and settled landscape of the southern peninsula or if sited on the top of scarp and backdrop hills within the western coast.</p> <p>This typology would be highly visible from the adjacent character types of (17b) and (11) although forestry may limit visibility (dependant on future felling).</p> <p>Development may be visible in distant views from the Rhins and upland/coastal landscapes to the east, although there is greater scope to minimise the visual impact of turbines towards the lower height band of this typology on skylines. Cumulative visual impacts may occur with any offshore developments within Wigtown and Luce Bays.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>The openness and low relief of the terrain, as well as the lack of trees in some parts of this type would result in widespread visibility of this typology.</p> <p>If poorly sited, this typology could detract from the visual focus of existing natural and historic features located on the tops of hills and ridges, or from the setting of villages tucked in beneath gentle hill slopes or set on the coastal edge.</p> <p>This typology could also detract from the visual focus of bays, long views along the coast or key views from historic monuments and archaeological sites.</p> <p>This typology would be unlikely to have a significant impact on views from the wider area outside the Machars.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape values</b>			
<p>The Machars Coast RSA covers the rocky coastal fringes of this landscape unit but excludes the raised beach north-west of Monreith. The adjacent 1a character type is included in the RSA. Inventory and Non-Inventory designed landscapes increase sensitivity in some parts of this landscape and the distinct pattern of walled fields is additionally a distinctive feature of the Machars.</p>	<p>Large typologies sited in this area could impact on the rugged coastal edge which is covered by the RSA. There is some scope to avoid impact on the special qualities of this RSA although distinctive field pattern and designed landscapes would be sensitive.</p> <p>Sensitivity rating: Medium</p>	<p>There is greater scope for the lower band of this typology to be sited so as to avoid impact on coastal interests and other valued features.</p> <p>Sensitivity rating: Medium-low</p>	<p>Small-medium typologies sited in this area could impact on the rugged coastal edge which is covered by the RSA. There is some scope to avoid impact on the special qualities of this RSA.</p> <p>Sensitivity rating: Medium-low</p>



The raised beach of the western coast where the top of the scarp is visually sensitive



The more rolling landform of the west coast above the raised beach



Flatter areas of moss and scrub have a strongly natural character



Extensive views across Wigtown Bay from the east coast feature a striking backdrop of hills



Small scale field pattern and a rich archaeology feature in the Elrig area



The dense and regular pattern of small farms increase potential for cumulative effects

## 4.4 Dundrennan area

### 4.4.1 Description and summary of sensitivity

This landscape comprises rolling coastal hills with areas of more complex knolly landform occurring around the Buckland Burn. Some more open, simple and expansive hill slopes occur inland at the transition with the Coastal Granite Hills (20). The coastal edge is predominantly rugged with cliffs and small bays and the sheltered gently sloping western and eastern coasts of the peninsula feature wooded policies and contribute to the scenic composition of Kirkcudbright and Auchencairn Bays. MOD built infrastructure is present in the western part of this landscape. Although views to this landscape from the surrounding area are not widespread, hill paths in the adjacent Coastal Granite Hills (20) offer elevated views. The rolling landform tends to limit views from roads and settlement within this character area.

The landscape of the Dundrennan peninsula has an overall **High** sensitivity to the large typology, a **High-medium** sensitivity to the medium typology, **Medium** sensitivity to the small-medium typology and Low sensitivity to the small typology.

In terms of landscape values the score is **High-medium** for the large and **Medium** for both the medium and small-medium and **Medium-Low** for the small typologies, evaluated principally in terms of coastal sensitivities which form the key

focus of the Solway Coast RSA designation. The East Stewartry Coast NSA designation increases sensitivity to the east.

### 4.4.2 Cumulative issues

There are no wind farms within the Dundrennan peninsula. The relative isolation of this peninsula and containment of widespread views by the adjacent Coastal Granite Hills (20) are factors likely to limit widespread cumulative impacts. Potential cumulative impacts could arise in association with the existing Robin Rigg windfarm within the Solway Firth which is clearly seen from footpaths along the coastal edge and from occasional open and usually more elevated views inland.

Key potential cumulative effects that could arise include:

- Views from popular coastal footpaths where developments, visible both on land and sea, could have significant impacts on character and views, and on the experience of walking along this coast which has elemental qualities and a strong sense of naturalness and seclusion.
- Variations in the type and scale of smaller wind turbines with the landscape likely to appear cluttered if turbines were associated with the majority of land holdings.
- Sequential visual impacts experienced when travelling on the A711 where there are some open views to Robin Rigg offshore wind farm.

### 4.4.3 Key constraints

- More complex and intimately scaled areas of knolly landform around the valley of the Buckland Burn.
- The sheltered gently sloping western and eastern coasts of the peninsula which feature wooded policies and contribute to the scenic composition of Kirkcudbright and Auchencairn Bays.
- The rugged and remote coast and its backdrop of distinct conical hills ringed by crags and gorse giving them a ruggedness belying their relatively lowly height (around 100m). These hills often feature hill forts and other archaeology which further increase sensitivity.
- Newlaw Hill with its long knolly ridge, prominent location and rich archaeology.
- The settled nature of this area where buildings, and also hill-top trees and woodlands, provide ready scale indicators.
- Settlement tucked in between rounded hills, which could easily become overwhelmed by turbines located within their immediate setting.
- Existing off-shore development within the Solway Firth which would limit additional development along the coastal edge where cumulative effects could occur from roads, footpaths and settlement.



#### 4.4.4 Opportunities

- Broader hill slopes, areas of gently undulating plateau-like grass moorland at the transition with the adjacent Coastal Granite Hills (20) character type and lower lying moss, pasture and forestry with a simple landform and land cover.

#### 4.4.5 Guidance for development

There is no scope for the large typology (turbines 80-130m) to be located within this landscape without incurring significant adverse landscape and visual impacts across a number of key sensitivities.

There is some limited scope for turbines towards the lower height band of the medium typology (turbines 50-80m) to be associated with areas of simpler landform and the more open, expansive scale that occurs at the transition with the Coastal Granite Uplands (20) to the east although potential effects on these sensitive uplands and the East Stewartry NSA should be carefully assessed from key viewpoints including Bengairn and Screeel Hills, the monument at Barstobrick and coastal locations in the NSA.

The small-medium typology (turbines 30-50m) could also be located on gently sloping ground at the transition with the Coastal Granite Upland (20) but also on broader hill slopes and ridges away from the coast. This open landscape would be likely to be quickly dominated by multiple developments of the small-medium typology,

particularly in areas where land holdings are relatively small thus potentially concentrating development. Turbines of less than 35m in height will be likely to have fewer visual and cumulative impacts. On-going monitoring of cumulative landscape and visual effects will be necessary.

Small turbines (<20m high) should be sited where they can be clearly associated with existing development, farms or other settlement. They will be easier to accommodate if sited on natural low terraces, changes in gradient or on the slopes of ridges or elongated hills. Supplementary Guidance is provided on the siting and design of turbines <50m high.

All turbines should avoid intrusion on key views from coastal roads, and into the backdrop and setting of small settlements or archaeological features and landscapes of historic interest. The more sensitive coastal areas, including the richly scenic Kirkcudbright and Auchencairn Bays, and areas of more complex landform should be avoided. The juxtaposition of turbines with existing telecommunication structures, MOD developments and overhead electricity lines could exacerbate the existing clutter of disparate vertical structures. It is recommended that existing overhead lines and any new electricity connection should be undergrounded to mitigate potential impacts should any development occur in this area.

**Character Type 1 - Peninsula - Dundrennan**

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Scale and openness</b>			
<p>The interlocking coastal hills, which rise to around 162m, have a medium scale which is reduced within valleys, particularly where these are well wooded. The complex knolly landform in and around the valley of the Buckland Burn has an intimate scale. There are few expansive open areas of larger scale in this landscape; these occurring mainly inland toward Barclay Hill at the transition with character type (20).</p>	<p>There are few extensive areas of open land which could relate to this large typology. The higher hills have confined rounded tops or form narrow ridges limiting the number of turbines that could be accommodated. Turbines of 80-150m height would dominate the relatively lowly scale of hills if sited on or near them. They would also dominate the scale of sea cliffs if sited close to the coast.</p> <p><b>Sensitivity rating: High</b></p>	<p>Small groups of medium scale turbines could relate to broader more open slopes of inland hills and some areas of larger scale flatter ground in the east. Where woodlands and more complex landform reduce scale, the upper band of this typology would be overly dominant although single and small clusters of turbines towards the lower height band would have a better relation to scale.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>The broader scale landscapes, including the long ridges and more open, flatter land in the northern part of this unit offer some potential to accommodate this typology, especially where the turbines do not overwhelm the scale of individual landscape features. However, the coast, the more complex areas of landform, the more intimate valleys and areas where the landscape is dominated by small scale and more intricate landscape features and vegetation patterns will be sensitive to this typology.</p> <p>There is likely to be more scope for accommodating turbines of less than 35m in height, as this size is less likely to dominate individual features in this lowland landscape.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landform</b>			
<p>A coastal promontory bounded by the deeply indented inlets, rocky peninsulas and islands of Auchencairn and Kirkcudbright Bays. A generally rolling landform of often well-defined hills cut by narrow valleys but with a broader upland 'platform' towards the transition with Coastal Granite Uplands (20). The valley of the Buckland Burn is deeply incised and complex with small scale knolls and dips. The rocky coastal edge falls steeply and features cliffs and raised beaches.</p>	<p>This typology would detract from the diversity of the more dramatic landforms of the coast, the well-defined conically shaped coastal hills and the complex landform associated with the Buckland Burn. While areas of simpler landform occur to the north-east and east, these are relatively limited in area thus reducing scope to accommodate this typology.</p> <p><b>Sensitivity rating: High-Medium</b></p>	<p>This typology would also detract from the diverse coastal edge, coastal hills and complex landform associated with the Buckland Burn. It could however relate to the broader scale and simpler shape of less pronounced inland hills, plateau-like transitional upland areas to the north-east and low-lying landform to the east.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The longer, more open ridges and flatter areas of land offer some potential to accommodate this typology, but more complex landforms would be sensitive to this typology. Especially sensitive are the more rounded hill forms, the raised beaches and the cliffs and rocky promontories as well as more prominent hills and narrow or contained valleys.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Land cover and landmark features</b>			
<p>This landscape is often well-wooded with parkland and policy plantings characteristic of the sheltered inlets of Kirkcudbright and Auchencairn Bays. Hill tops are often marked by mature tree clumps. MOD installations, including masts sited on hill tops, are a prominent feature within the south-western hills of this area which abut the coast. The rugged coastal edge, distinctive conical coastal hills and Newlaw Hill, with its long undulating knolly ridge, are landmark features.</p>	<p>This typology would detract from the diverse pattern of policy plantings. Hill top woodlands provide a ready scale indicator and turbines of this size would overwhelm these features if sited close-by. This typology would add further large scale structures to this landscape, potentially exacerbating the clutter of built elements which are detractive features in this landscape.</p> <p><b>Sensitivity rating: High</b></p>	<p>There is increased scope to accommodate this typology to avoid impacting on landscape pattern, although turbines should be sited well away from existing MOD structures to minimise the clutter of disparate elements on sensitive rolling coastal hills. This typology could still impact on landmark features if sited within or close to policy landscapes, coastal features and Newlaw Hill and would also overwhelm the scale of nearby trees and woodlands.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>The areas of more diverse and intricate patterns of fields and small woods are more sensitive to this typology, as are the more complex and diverse policy woodland areas, the rugged coastal edge and prominent landmark hills such as Newlaw.</p> <p>However, where there are gentle hill slopes, or where topography levels out into longer, more even ridges, flatter plains and even shallow concave basins, there are opportunities to site this typology</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Settlement and Archaeology</b>			
<p>This landscape is settled with dispersed farms and small settlements sited within contained valleys. Iron Age fort sites are located on prominent hill tops close to the coast and inlets and there are a number of landmark features, such as the abbey at Dundrennan, as well as with more widespread archaeological interests around key hills such as Newlaw and at Dromore.</p>	<p>The settled character of this landscape limits scope for accommodating this typology without incurring significant impacts on individual dwellings and settlements. The presence of archaeological features could also limit scope to site this typology.</p> <p><b>Sensitivity rating: High</b></p>	<p>Turbines 50-80m high could dominate individual buildings, settlements and archaeological features if located close to them. There is slightly increased scope to locate this typology to avoid contrasts in scale and impacts on the setting of these features.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could overwhelm small farms, individual houses and small settlements, affecting their setting and the scale of the built development if poorly sited.</p> <p>This typology could also impact on the setting and prominence of archaeological or land mark historic features. More sparsely settled areas offer some limited scope.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Landscape context</b>			
<p>The Dundrennan promontory is backed by the steep slopes of Barclay Hill within character type (20). It also forms an edge to Auchencairn Bay to the east and Kirkcudbright Bay to the west.</p>	<p>Large scale typologies could appear to diminish the scale of the adjacent Coastal Granite Hills (20) which although rugged in form are relatively low in height. They would also dominate the intricate pattern of islands, peninsulas and inlets of Kirkcudbright and Auchencairn Bays.</p> <p><b>Sensitivity rating: High</b></p>	<p>The higher turbines within the height band of this typology could also appear to diminish the scale of the adjacent 'Coastal Granite Hills' (20) although there is more scope for the lower height band to minimise impacts on these hills and the adjacent Kirkcudbright and Auchencairn Bays.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology is unlikely to extend significantly into wider views and is therefore unlikely to have significant effects on surrounding character types, except possibly if sited adjacent to Auchencairn Bay, where the turbines might detract from the setting and scale of the intricate coastline in Type 20.</p> <p><b>Sensitivity rating: Medium-low</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Perceptual qualities</b>			
<p>The rugged coast away from the more settled inlets of Kirkcudbright and Auchencairn Bays has a strong sense of seclusion and naturalness. The MOD presence affects tranquillity to the west to some degree.</p>	<p>This typology could adversely affect the perceived wildland character of the more remote coastal edge although there is scope to locate this typology inland to avoid intrusion.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>There may be greater scope to locate this typology so as to avoid impact on the more sensitive coastal edge.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>Where the landscape is settled and generally managed, this typology will have limited impact on any sense of wildness.</p> <p><b>Sensitivity rating: Low</b></p>
<b>Views and visibility</b>			
<p>The A711 offers occasional elevated views of this landscape although the rolling landform and woodland restricts views to the coast. Visibility from the coast is generally restricted by steep slopes and cliffs although elevated views are possible from coastal hill tops. The northern part of this unit is seen from the B727.</p> <p>The elongated knolly ridge of Newlaw hill forms a focus seen from the A711. MOD installations are also highly visible from this road. Views from settlements such as Dundrennan are contained by tight-knit hills. Views from the gentle wooded slopes at the eastern and western ends of this peninsula focus on the highly scenic seascapes of promontories, islands and tidal inlets of Auchencairn and Kirkcudbright Bays.</p>	<p>This typology would be highly visible from the A711 if sited on the gentler western and eastern coastal edge and on coastal hills. There is scope to minimise views from within this landscape if development were sited at the transition with (20), where the Coastal Granite Hills would provide a degree of shielding from the wider area although this large typology would significantly impact on views from popularly access summits such as Bengairn Hills, the monument at Barstobrick and from the B727.</p>	<p>This typology would be highly visible from the A711 if sited on the gentler western and eastern coastal edge although there may be some scope to locate single and small clusters of smaller turbines towards the lower height band of this typology on lower slopes of coastal hills to minimise visibility.</p> <p>There is scope to minimise views from within this landscape if development were sited at the transition with (20), where the Coastal Granite Hills would provide a degree of shielding. Turbines towards the lower height band of this typology would be likely to minimise impacts on views from Bengairn Hill, the monument at Bartobrick and the B727.</p>	<p>Views across this landscape are limited by the rolling topography and tree cover which will limit visibility of this size of typology except in the most open and more expansive areas. Prominent landmark hills, and the setting of the settlements, key historic or archaeological features as well as dramatic and scenic coastlines all contribute to visual amenity, and are sensitive to this typology.</p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Views and visibility (Contd.)</b>			
Views to this area are limited by its relative isolation and the screening provided by the Coastal Granite Uplands (20). There are elevated views over this area from Bengairn Hill and from the monument at Barstobrick, although the landform of the Drumlin Pastures (13) provides some intermediate screening from settlement and roads to the north.	Sensitivity rating: High	Sensitivity rating: High-medium	Sensitivity rating: Medium
<b>Landscape values</b>			
<p>The Solway Coast RSA covers the rocky shore, coastal hills and more settled wooded edges to Kirkcudbright and Auchencairn Bays.</p> <p>The Stewartry NSA covers a small part of this landscape unit adjacent to Auchencairn Bay.</p>	Large typologies sited in the coastal area could impact on the noted diverse and attractive coastal edge of the RSA which features cliffs, raised beaches and isolated coves. They could also impact on the intimate scale and highly scenic composition and setting of the diverse Auchencairn Bay which is a key special quality of the Stewartry NSA.	Medium typologies would similarly impact on the designated coasts although there is greater scope for the lower band of this typology to be sited to avoid intrusion on these areas.	Turbines sited in the coastal area could impact on the noted diverse and attractive coastal edge of the RSA which features cliffs, raised beaches and isolated coves. They could also impact on the intimate scale and highly scenic composition and setting of the diverse Auchencairn Bay which is a key special quality of the Stewartry NSA.
	Sensitivity rating: High-medium	Sensitivity rating: Medium	Sensitivity rating: Medium



Wooded policies and parkland within the more sheltered Kirkcudbright Bay



More rolling knolly coastal hills are sensitive to development



Complex small scale landform and vegetation pattern around the Buckland Burn



The more exposed and rugged coastal edge has a strong sense of wildness



Coastal hills are sensitive to development as they commonly feature archaeological features and are highly visible from coastal paths



Long views to the Coastal Granite Uplands over rolling farmland

## 5. Peninsula With Gorse Knolls (1A)

### 5.1 Introduction

This character type is found in the following four coastal locations:

- Monreith
- Burrowhead
- Borgue
- Rockcliffe

There is a strong similarity of character across landscape units and the character type is therefore considered in a single sensitivity assessment.

#### 5.1.1 Operational/consented wind farms

An existing single small wind turbine is located close to the Cream o' Galloway visitor centre within the Borgue landscape area. Onshore wind farm developments in other landscape character types have little influence on the Peninsula with Gorse Knolls (1a) although the offshore Robin Rigg wind farm is clearly visible from the Rockcliffe area.

#### 5.1.2 Cultural heritage overview

This landscape type is characterised by post-improvement (c19th-20th century) fields and farming with a few designed landscapes. There are numerous archaeological sites of outstanding significance and distinctiveness, some of which are promoted for public benefit, particularly in relation to the Isle of Whithorn.

### 5.2 Description and summary of sensitivity

This character type has an exposed coastal character and a predominantly small scale complex rocky landform of linear rocky ridges, dips and knolls. The coarse texture of the landscape is accentuated by scrubby vegetation and wind-sculpted trees. There is a distinctive pattern of small walled pastures in places. The coastal edge is diverse and rugged with notable wildland qualities. Visibility from roads and settlement is generally restricted by rolling landform although even small elevations allow more extensive views over the relatively low ridges and knolls of this landscape.

There is a **High** sensitivity to both the large and medium typologies, **High-medium** for small-medium typologies and **Medium-low** for small typologies.

In terms of landscape values the score ranges from **High** for the large, medium and small-medium typologies where the NSA and RSA designations coincide within the Rockcliffe area to **High-medium** where the RSA designation only applies. The small typology would have less of an effect on designated landscapes with a **Low** sensitivity in terms of values.

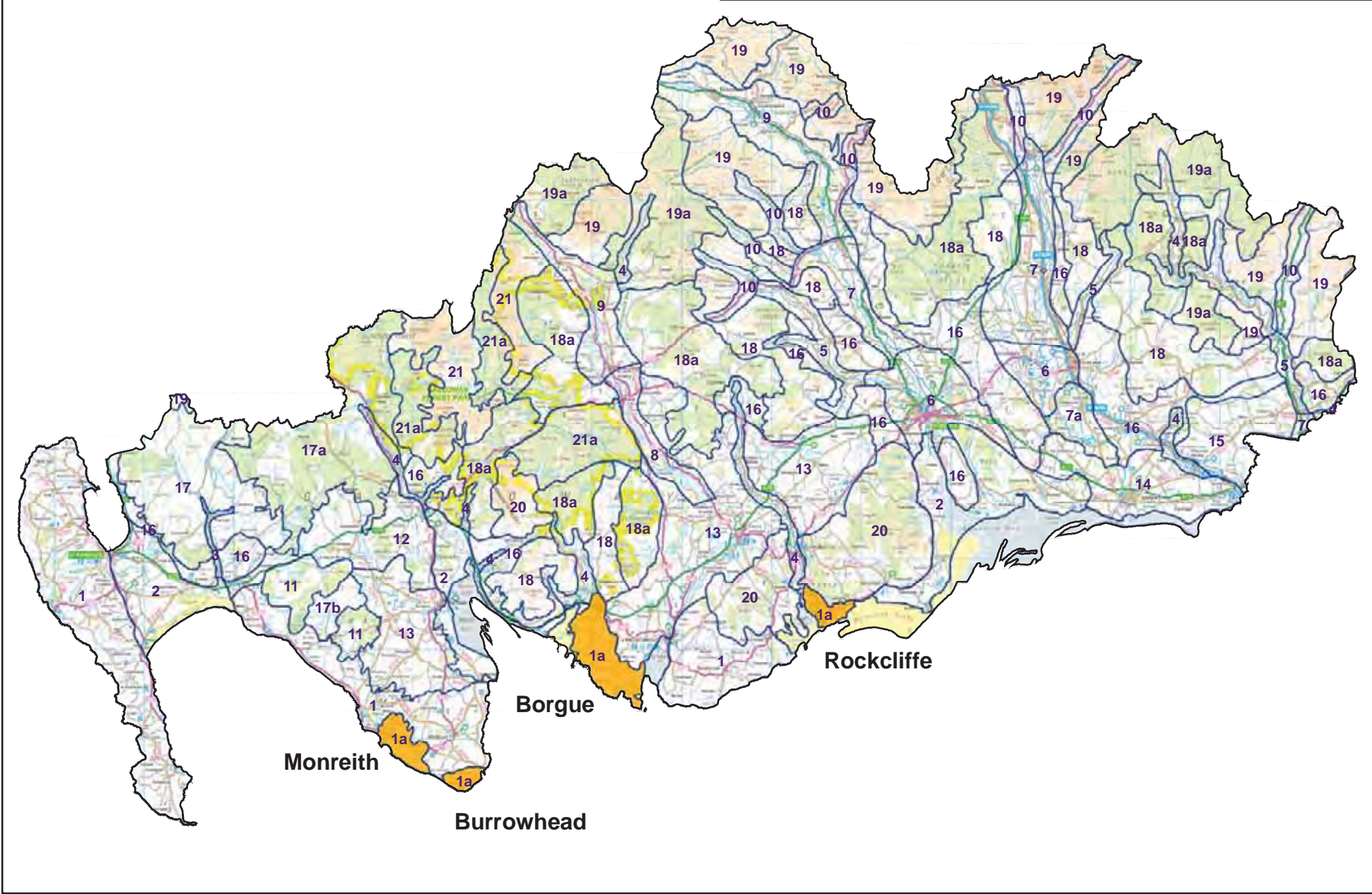
#### 5.2.1 Cumulative issues

A single turbine at Cream o' Galloway visitor centre is located within the Borgue landscape unit.

There would be cumulative landscape and visual impacts associated with the existing Robin Rigg off shore wind farm and any onshore development located within the Rockcliffe landscape area. Cumulative visual effects could occur from coastal footpaths where developments, visible both on land and at sea, could have significant impacts on landscape character and views, and on the experience of walking along this coast which has elemental qualities and a strong sense of naturalness and seclusion.

Variations in the type and scale of single and small groups of small-medium and small turbines associated with farms could create cumulative landscape and visual impacts. The landscape could appear cluttered if single or groups of turbines were associated with the majority of land holdings. In this scenario, turbines could form a dominant feature detracting from other landscape attributes such as distinctive field patterns, buildings and localised small hills. Small turbines are likely to be more readily visually screened by topography, which is likely to limit their cumulative visual impact.

Character Type Key Map - 1a. Peninsula with Gorsey Knolls





### 5.2.2 Key constraints

- The very complex landform of linear rocky ridges and dips and knolls which together with scrubby vegetation and occasional wind-sculpted trees creates an intimate scale and highly distinctive character.
- The rugged elemental qualities and the lack of development of the Burrowhead and Monreith sections of the coast, which contribute to the strong wildland character of these seascapes.
- The rocky fragmented coasts of the Borgue and Rockcliffe areas and their role in the wider scenic composition of the seascapes of the Fleet and Rough Firth estuaries.
- The areas of relatively regular, sometimes linear, field pattern, particularly in the Monreith area, have an integrity which makes a particular contribution to the Sense of Place.
- Archaeological and historic features, including those which are particularly prominent around the coast, and small scale wooded policy landscapes, for example at Glasserton.

### 5.2.3 Opportunities

Broader, less rugged hill slopes at the transition with the Drumlin Pastures (13) landscape character type within the Borgue landscape unit.

### 5.2.4 Guidance for development

There is no scope for larger scale typologies (turbines >50m) to be accommodated within this character type without significant adverse landscape and visual impacts occurring on a number of key sensitivity criteria.

Limited scope may exist for single or small clusters of the small-medium typology (30-50m) to be located within areas with a simpler landform more characteristic of the Peninsula (1) landscape character type. This generally occurs within the Borgue landscape area away from the coast and close to the transition with the Drumlin Pastures (13) landscape character type. Turbines of less than 35m in height will have a reduced visual and cumulative impact. On-going monitoring of cumulative landscape and visual effects will be necessary.

Small turbines <20m high should be sited where they can be clearly associated with existing development, farms or other settlement. They should avoid areas with perceived 'wild land' qualities. They will be easier to accommodate if sited on natural low terraces or where there are natural changes in gradient. All turbines should avoid intrusion on key views from coastal footpaths, and into the backdrop and setting of

small settlements or archaeological features and landscapes of historic interest. Supplementary Guidance is provided on the siting and design of smaller turbines <50m high.

The introduction of additional overhead lines and the construction of new access tracks should also be avoided in this open and highly sensitive coastal landscape.

**Character Type 1A - Peninsula With Gorse Knolls**

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Scale and openness</b>			
<p><b>Although rocky knolls, ridges and dips provide strong containment and create an intimate scale in places this landscape also has an open and exposed character, particularly close to the coast.</b></p>	<p>This typology would dominate the relatively lowly height of small hills, appearing top-heavy if sited on them as these rarely exceed 90m.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would also dominate the scale of this landscape.</p> <p><b>Sensitivity rating: High</b></p>	<p>The larger sizes of this typology could dominate the relatively lowly height of small hills and would also detract from the small scale complexity of landform features, the intricate form of some of the coastlines and the low relief of the dramatic raised beaches.</p> <p>However, there is likely to be scope for this typology in limited areas where the landscape is flatter and more expansive</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Landform</b>			
<p><b>Rocky knolls, ridges and dips, some of these accommodating small lochans, have a distinctive ruggedness and the coastal edge often forms dramatic cliffs cut by inlets and raised beaches, particularly in the Monreith area. A fragmented shoreline of rocky promontories and islands is a feature close to Fleet Bay. The landform is less craggy and complex in the south-east part of the Borgue area at the transition with type (13) where broader smoother ridges occur.</b></p>	<p>The complex rocky landform of this character type inhibits scope to accommodate multiple turbines of this typology without incurring major physical modification to accommodate roads and footings. This typology would detract from the small scale complexity of landform features and the ruggedness and intricate form of the coast.</p> <p><b>Sensitivity rating: High</b></p>	<p>While single or small numbers of turbines could fit within small areas of less complex landform found in the south-east of the 'Borgue' unit, this typology would still detract from the small scale complexity of landform features over the majority of the character type.</p> <p><b>Sensitivity rating: High</b></p>	<p>The longer ridges, which are smoother and less intricate and rugged in their shape, could accommodate this typology.</p> <p>Prominent hills, more rugged ridges, and complex, interlocking land forms with rocky outcrops, as well as raised beaches and irregular coastlines or cliffs, are all likely to be more sensitive to this typology.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Land cover and landmark features</b>			
<p>A repeated and highly distinctive coarse textured pattern of rocky outcrops with stone walls, enclosing small often linear pastures, appearing to merge with these. Policy woodlands and clumps of stunted trees and gorse pattern punctuate the landscape. Islands, distinct coastal hills, for example Meikle Ross at the entrance to Kirkcudbright Bay, White Hill near Rockcliffe or the Fell of Barhullion near Monreith, rare sandy bays at Graplin and Carrick and dramatic cliffs at Burrowhead and Monreith form landmark features.</p>	<p>This typology would disrupt the distinctive and consistent pattern of this landscape. It would dominate small pastures and the often pronounced enclosure pattern and small woodlands. Large typologies would additionally detract from landmark features such as rare sandy bays and coastal hills if sited on/close to them.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would also disrupt the distinctive and consistent pattern of this landscape where this is particularly complex. While single or small clusters of turbines of the lower height band (50m) would have less of an effect on simpler landscapes found in the south/east Borgue area, they could still detract from key landmark features which are found near the coast.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology is likely to detract from the consistency and integrity of often pronounced, regular field enclosure pattern in some areas, notably Monreith.</p> <p>Large sizes of this typology would additionally detract from landmark features such as rare sandy bays and coastal hills if sited on or close to them. Elsewhere, in areas of more uniform land cover with fewer distinct features, this typology could more readily be accommodated.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Settlement and Archaeology</b>			
<p>Compact farms are often sited on knolls or ridges. The coastal settlements of Rockcliffe and Isle of Whithorn are located in this character type. Occasional caravan parks and golf courses are sited close to the coast. Archaeological and historic features exist across the type, some of which mark more pronounced hills. Today, there are some less settled areas particularly along the more exposed coasts.</p>	<p>This typology would dominate the small scale of existing buildings and could affect the setting of small tightly clustered settlements. The setting of archaeological and historic features could also be affected.</p> <p><b>Sensitivity rating: High</b></p>	<p>While there is greater scope to locate single and small clusters of turbines towards the smaller height band of this typology to avoid impacts on settlement within the less populated Burrowhead, Monreith and Borgue areas, the setting of archaeological sites remains sensitive. This typology would have significant adverse effects on the more densely populated Rockcliffe area where the scale contrast between domestic buildings and turbines would be more easily appreciated.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could overwhelm small farms, individual houses and small settlements, affecting their setting and the scale of the built development if poorly sited.</p> <p>This typology could also impact on the setting and prominence of archaeological and historic features, including those along the coast.</p> <p>However in more sparsely settled areas there may be opportunities for this typology to be accommodated but the setting of archaeological sites remains sensitive.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape context</b>			
<p><b>The Burrowhead and Monreith areas abut the Machars peninsula (1) with strong inter-visibility occurring between the two. The Borgue unit merges gradually with the Drumlin Pastures type (13) while the Rockcliffe area is strongly contained by the steeper slopes of the Coastal Granite Hills (20).</b></p>	<p>This typology sited in the Burrowhead and Monreith area could impact on sensitive landmark hills such as the Fell of Barhullion which forms a backdrop to (1). While the rolling drumlins of (13) may limit visibility to some extent from roads and settlement, this typology would overwhelm the scale of these landscapes. Development sited within the Rockcliffe area could impact on highly scenic views to and from the Coastal Granite Hills (20).</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would have similar impacts to the large typology on adjacent landscape types.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology, if sited at the transition between this type and the Drumlin Pastures (13) and more complex and smaller scaled landscapes of the Peninsula type (1), for example at Glasserton, could dominate or detract from these adjacent small scale landforms.</p> <p>The relative openness of the adjacent Peninsula type (1), will result in widespread visibility of the larger turbines within this typology.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Perceptual qualities</b>			
<p><b>The coastal edge of Burrowhead and Monreith areas have strong wildland characteristics. Other areas are less remote and more populated although all instil the same perception of naturalness, accentuated by the distinct ruggedness of the coastline.</b></p>	<p>The geographically small extent of the Monreith, Burrowhead and Rockcliffe areas severely limits scope to site this typology without incurring impacts on the wildland qualities of the coast.</p> <p><b>Sensitivity rating: High</b></p>	<p>There may be increased scope to site turbines towards the lower height band of this typology so as to avoid intruding on areas which have a pronounced wildland character.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology is likely to have effects on the perceived wild land qualities of the more remote and less accessible coasts, especially where there is little or no existing development visible from the coastal edge.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Views and visibility</b>			
<p>The Rockcliffe area is small and relatively well-populated/visited thus increasing visual sensitivity. The Solway Firth is also popular for sailing. Visibility can be limited from roads and settlement within the Borgue area by landform although the coast is more open and views extend across the Fleet Bay and Solway. The A747 offers elevated views over the Monreith area although views are more restricted towards the less accessible coast of this and the Burrowhead area.</p>	<p>While small scale knolls would limit visibility in places, the presence of settlement and the high recreational use of these coastal areas increase visual sensitivity. This typology would be likely to be visible from sections of the A75 (Borgue) and from the A747 (Monreith) and the A710 (Rockcliffe). There would also be elevated views from hill summits in the adjoining Coastal Granite Uplands (20).</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would be similarly visible from more open and elevated roads and recreation areas.</p> <p><b>Sensitivity rating: High</b></p>	<p>The larger forms of this typology are likely to be relatively easy to see across these relatively open landscape areas, which are also small in extent. Occasional prominent landmark hills, the setting of the settlements, key historic or archaeological features as well as dramatic and scenic coastlines all contribute to visual amenity, and are sensitive to this typology.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Landscape values</b>			
<p>The Stewartry Coast NSA covers the majority of the 'Rockcliffe' unit. The special qualities of this NSA include the complex coastline with rocky coasts and cliffs and rich texture of gorse knolls.</p> <p>The Solway Coast RSA also covers the 'Rockcliffe' unit and the majority of the 'Borgue' unit. The Machars Coast RSA covers the 'Monreith' and 'Burrowhead' units. This landscape type contributes to the 'diverse and attractive' coast of the Solway and Machars Coast RSAs. The inaccessibility of the Machars coast is specifically noted in Technical Paper 6</p>	<p>The Rockcliffe area would have a high sensitivity to this typology. Sensitivity would be slightly reduced within the other landscape units which are covered by an RSA designation only.</p> <p><b>Sensitivity rating: High to High-medium</b></p>	<p>The Rockcliffe area would have a high sensitivity to this typology. Sensitivity would be slightly reduced within the other landscape units which are covered by an RSA designation only.</p> <p><b>Sensitivity rating: High to High-medium</b></p>	<p>The Rockcliffe area would have a high sensitivity to this typology. Sensitivity would be slightly reduced within the other landscape units which are covered by an RSA designation only.</p> <p><b>Sensitivity rating: High to High-medium</b></p>



The diverse fragmented coastline of knolly islands and bays within the 'Rockcliffe' landscape unit



The 'Monreith' coast has a rugged elemental character



The rocky fragmented coastal edge of the 'Borgue' unit features extensive views over Wigtown Bay



Broader low hills inland from the coast in the 'Borgue' landscape unit



Small-medium turbine within the 'Borgue' unit



Complex gorse knolls are highly sensitive to wind turbine development

## 6. Coastal Flats (2)

### 6.1 Introduction

This character type lies adjacent to estuaries and between Luce Bay and Loch Ryan. The following landscape character areas are defined:

- Stranraer Basin
- Wigtown
- Cree/Fleet Fringe
- Nith Coastal Fringe

The Wigtown, Cree/Fleet Fringe, the Nith Coastal Fringe are considered together in the sensitivity assessment with the Stranraer Basin area assessed separately.

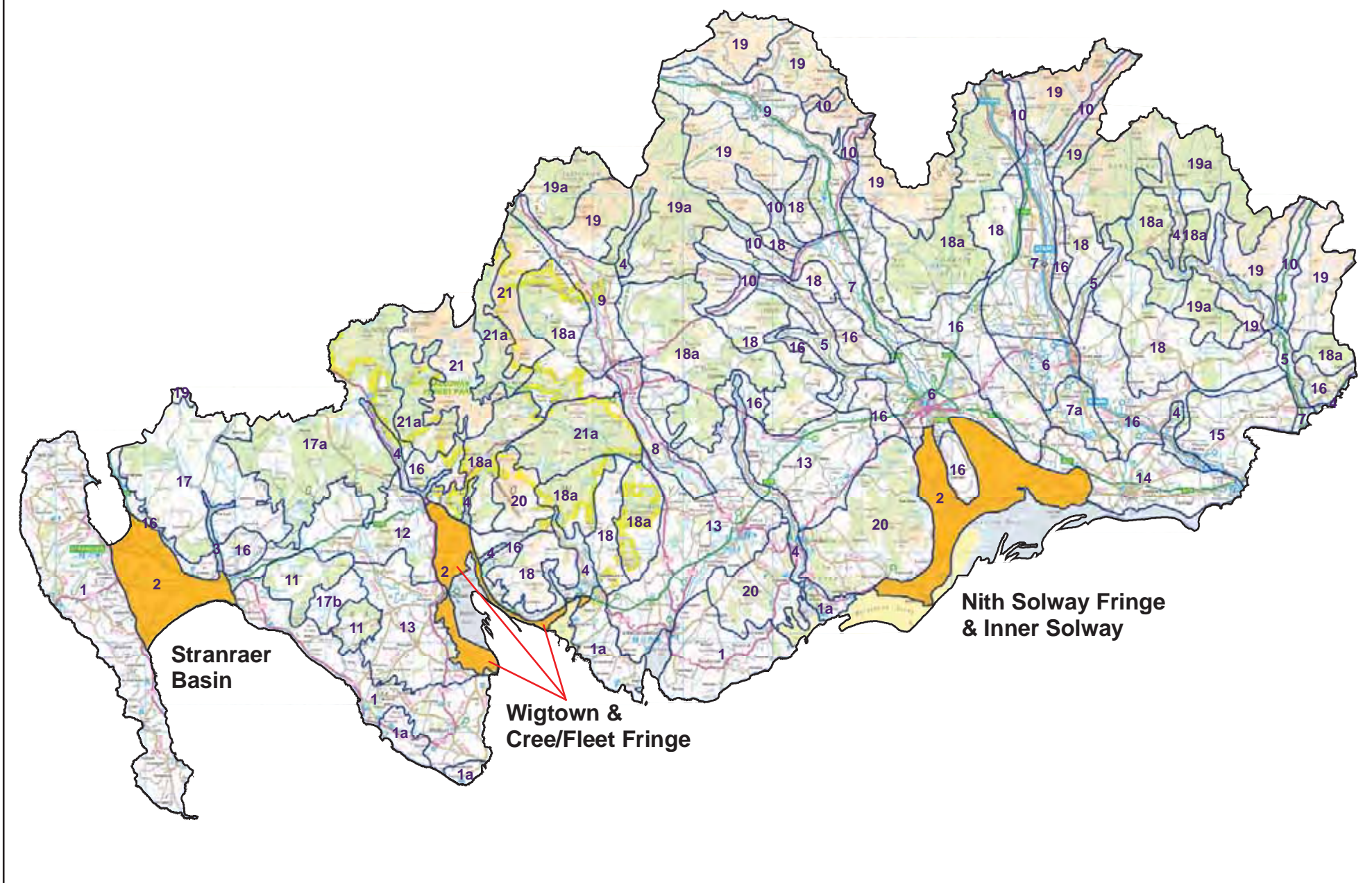
#### 6.1.1 Cultural heritage overview

This landscape type is characterised by post-improvement (c19th-20th) fields and farming as well as small 20th century farms, with a number of designed landscapes, patches of forestry/ woodland and rough grazing, as well as a scatter of relict land-uses. Some parts retain evidence of pre-medieval land-use as well as areas of pre-improvement remains, particularly in the Stranraer Basin (part of which is an Archaeologically Sensitive Area), north of Garlieston (Wigtown) and south-east of Dumfries (Inner Solway). The Stranraer Basin and Inner Solway units have a number of outstandingly significant and distinctive archaeological sites, a few of which are promoted for public benefit.

#### 6.1.2 Operational and consented wind energy development

There is no operational wind farm development within this character type. The operational offshore Robin Rigg windfarm is sited within the Solway Firth adjacent to the Nith Coastal Fringe.

Character Type Key Map - 2. Coastal Flats



**Stranraer Basin**

**Wigtown & Cree/Fleet Fringe**

**Nith Solway Fringe & Inner Solway**



## 6.2 Wigtown, Cree/Fleet Fringe, Nith Coastal Fringe and Inner Solway

### 6.2.1 Description and summary of sensitivity

The narrowness of these Coastal Flats, the distinctly natural qualities of the merse, tidal mudflats and estuarine wetlands, the often rich pattern of historic features and settlements and the proximity to landmark hills and containing ridges limits scope to accommodate all development typologies. These open coastal areas are highly visible from roads and settlement which are often elevated above them.

There is an overall **High** sensitivity to the large and medium typologies (turbines >50m). Sensitivity would be **High-medium** to the small-medium typology (turbines 30-50m).

In terms of landscape values the score is **High** for both the large, medium and small-medium typologies where the NSA and RSA designations coincide within the Cree/Fleet Fringe' the Nith Coastal Fringe and the western part of the Inner Solway areas. The majority of the Wigtown area, covered by the RSA designation only, would be of **High-medium** sensitivity to these typologies.

### 6.2.1 Cumulative issues

There are no wind energy developments located in these landscape areas. The operational offshore Robin Rigg wind farm influences character and views in the Nith Coastal Fringe although other

landscape areas are largely unaffected by wind farm development sited in other landscape character types. Cumulative effects would occur if additional wind turbines (and particularly larger typologies) were located in the Nith Coastal Fringe and would principally affect the perception of naturalness and views from coast paths and roads.

Variations in the type and size of single and small groups of small-medium and small turbines (turbines <50m) associated with farms could create cumulative landscape and visual impacts with this often sparse and simple landscape, quickly appearing cluttered. Turbines could form a dominant feature detracting from the pattern and low, 'tucked-in' form of other landscape features such as small, windswept trees, wind sculpted policy woodland and low buildings.

### 6.2.3 Key constraints

- The steep-sided landmark hills of Criffel, Cairnharrow and Cairnsmore of Fleet, which provide a distinctive backdrop to these coastal flats and contribute to the highly scenic wider landscape composition of sea, coast and uplands.
- The Torthorwald and Ward Law Ridges which contain the inland mosses and would be sensitive to larger typologies that may impact on their vertical scale and perceived prominence.
- The narrowness of these Coastal Flats where the scale of larger, or even small-medium, typologies would dominate their extent.

- The natural and diverse character of areas of wetlands and their interface with dynamic tidal estuaries, mudflats and/or extensive sandy beaches.
- The small size and wind pruned shape of trees, as well as sometimes low building forms in the most exposed areas, which make the landscape appear sparse and uncluttered with a strong Sense of Place.
- The openness and high visibility of these areas close to settlements and roads and their popularity for recreation which increases visual sensitivity.
- Focal views from the coastal flats across the Solway Firth to the distant Cumbrian Fells.
- The setting of key archaeological features and historic settlements including those which are particularly prominent around the coast.

### 6.2.4 Opportunities

The simple landform and modified character of forested inland mosses which are sparsely settled and may offer some limited opportunities to accommodate development.

### 6.3 Guidance on development

There is no scope for siting larger development typologies (turbines >50m) within this character type without incurring significant adverse landscape and visual impacts on a number of key sensitivity criteria.

The small-medium scale typology (turbines 30-50m) would have similar adverse effects over much of these landscape areas although some limited scope for development may be associated with the forested inland moorlands of the Nith to the south-east of Dumfries. This area has a simple landform and more modified land-cover and is also less settled in character thus reducing sensitivity to a degree. Any development located in this area would be highly visible from parts of Dumfries and from elevated roads, settlements and recreation routes in the nearby Torthorwald Ridge and from Criffel and Mabie Forest. This typology would however be less likely than larger typologies to impact on views to the landmark hill of Criffel and on the relatively lowly containing ridges of Ward Law and Torthorwald. Any future restructuring plans for forested areas should be carefully considered as rehabilitation of more natural habitats would be likely to increase sensitivity to wind farm development in these areas. Turbines of less than 35m in height would be likely to have fewer visual and cumulative impacts. On-going monitoring of cumulative landscape and visual effects will be necessary.

Small turbines (<20m high) should be sited where they can be clearly associated with existing built development, farms or other settlement. They should avoid areas with perceived 'wildland' qualities, such as sensitive coastal fringes. They will be easier to accommodate if sited on slightly rises or folds in the landscape or where there are natural changes in gradient. All turbines should avoid intrusion on key views from settlement, roads and coastal footpaths, and into the backdrop and setting of small settlements, archaeological features and landscapes of historic interest. The introduction of additional overhead lines and the juxtaposition of turbines with existing telecommunication structures and overhead lines should be avoided in these sensitive open coastal landscapes.

**Character Type 2 - Coastal Flats - Wigtown,  
Cree/Fleet, Nith, Inner Solway**

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Scale and openness</b>			
<p>These coastal flats form a relatively narrow strip of land often strongly contained inland by steep hill slopes which limits their scale although the presence of the Solway Firth increases openness in a wider context. They are particularly open in areas where extensive flat unenclosed pastures and marsh occur although a more undulating landform, woodland and field enclosure reduce scale and openness further inland and particularly to the west of the Nith Estuary.</p>	<p>Although wind farm development could relate to the expansiveness of the wider seascape, this typology would dominate the scale of these coastal flats which are narrow and often strongly contained by steep hill slopes.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Although wind farm development could relate to the expansiveness of the wider seascape and also the scale of broader inland forested basins and mosses in the Nith Estuary, this typology would dominate the scale of these coastal flats which are narrow and often strongly contained by steep hill slopes.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>In the more open and seaward areas, these flat and gently undulating landscapes offer opportunities for this typology, especially where the field pattern is large or the vegetation type extensive and uniform.</p> <p>In the narrower inner firths and inland reaches, the sense of expanse is limited by the enclosure of surrounding higher topography.</p> <p>The smaller scale of more complex areas of topography and vegetation pattern, such as around New Abbey, are sensitive to this typology.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landform</b>			
<p>Marsh and estuarine sands along the coastal edge are interspersed with more undulating landform, for example near New Abbey and west of Cummertrees. The coastal edge comprises a combination of broad sandy beaches and ragged-edged muddy flats and inlets.</p>	<p>This typology could relate to the simple flat landform of pastures, mosses and marsh although built infrastructure of this scale could incur significant ground disturbance on the more fragile coastal habitats and would conflict with the more intricate coastal edge.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>There is greater scope to locate this typology, which is more likely to comprise single and small groups of turbines, so as to avoid more sensitive coastal areas.</p> <p><b>Sensitivity rating Medium</b></p>	<p>The more complex areas of topography, including the more intricately patterned coastal fringe, are likely to be sensitive to this typology, although there is scope to accommodate single and small groups of turbines to avoid impacting on more sensitive coastal areas.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Land cover and landmark features</b>			
<p>There is a simple pattern of large fields and few trees in the Southernness area. A more diverse pattern of woodlands, field trees and walls is associated with the sheltered Nith estuary which also features a number of designed landscapes. Salt marsh and estuarine sands are highly natural and often have a complex pattern, texture and colour. Some areas of coniferous forest occur, these planted on inland mosses. Clumps of wind-stunted trees often mark farmsteads.</p>	<p>Although turbines could relate to the often simple pattern of large fenced pastures and occasional coniferous plantations (planted on mosses) which occur in some parts of this landscape, they would disrupt the integrity of more natural land cover such as marsh and the more distinct pattern and rich diversity of woodlands, policies and field enclosures characteristic of the more sheltered estuaries. This typology would overwhelm the scale of wind-stunted trees in more exposed areas.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would have similar effects if located on sensitive coastal habitats and within or close to the more diverse and patterned Nith Coastal Fringe. There is slightly increased scope for this typology, which is more likely to comprise single and small groups of turbines, to relate to areas with a less patterned land-cover such as coniferous forest and more extensive and open coastal pastures. This typology would also overwhelm the scale of wind-stunted trees in more exposed areas.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Wet coastal habitats likely to be sensitive to disruption from infrastructure as well as locations within or close to the more diverse and patterned Nith Coastal Fringe are likely to be sensitive to this typology. There is increased scope for this typology, which is likely to comprise single and very small groups of turbines, to relate to areas with a less complex land-cover such as coniferous forest and more extensive and open coastal pastures.</p> <p>This typology would also overwhelm the scale of wind-stunted trees in more exposed areas.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Settlement and Archaeology</b>			
<p>Dispersed farms are located away from the marshy coastal edge. Inland forested former mosses are less settled. There are a range of archaeological sites and areas with the historic settlements of New Abbey and Wigtown and Caerlaverock Castle comprising key landmark features.</p>	<p>This typology would dominate the scale of small settlements and dispersed houses/ farms which are a key characteristic of this landscape. It could also impact on the setting of archaeological and historic sites and areas as well as notable historic settlements and landmark buildings.</p> <p><b>Sensitivity rating: High</b></p>	<p>There is slightly increased scope for turbines towards the lower height band of this typology to be accommodated within less settled or archaeologically rich areas so as to avoid impacts on scale and setting in relation to settlement and cultural heritage.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could overwhelm small farms, individual houses and small settlements, affecting their setting and the scale of the built development if poorly sited.</p> <p>This typology could also impact on the setting and the prominence of archaeological or land mark historic features or more extensive historic landscapes although there may be opportunities in more sparsely settled areas.</p> <p><b>Sensitivity rating: High-Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape context</b>			
<p>The steep-sided hills of Criffel, Cairnharrow and Cairnmore of Fleet, provide a distinctive backdrop to these Coastal Flats and contribute to the often highly scenic wider landscape composition. The Solway Firth also forms part of the wider seascape character. The existing offshore Robin Rigg windfarm is visible from the Nith Fringe and Inner Solway landscape units. The Ward Law and Torthorwald Ridges which lie within the Upland Fringe (16) also contain and contrast with the inland mosses to the south-east of Dumfries.</p>	<p>The scenic contrast and drama provided by backdrop hills and containing ridges to the coastal flats would be diminished by large turbines. This typology could also interrupt the characteristic merging of water and land with the adjacent Solway Firth if sited on the coastal fringes.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would have similar effects on the scenic contrast and drama provided by backdrop hills and containing ridges and on the interface of land and sea.</p> <p><b>Sensitivity rating: High</b></p>	<p>The transition between the low lying flats and the higher surrounding character types can be abrupt and dramatic and therefore sensitive to development, including this typology.</p> <p>Character types with adjacent smaller scale more complex landforms, such as the drumlins of LCT 12 and 13, or some of the smaller hills associated with LCT 20 and the Ward Law Ridge (16) are also sensitive to this typology.</p> <p>However, where back-dropped against larger and more sweeping land forms associated with neighbouring character types, this typology could be more readily accommodated.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Perceptual qualities</b>			
<p>The merse and estuarine sands of this coastal landscape (and wider seascape) instil a strong sense of naturalness, heightened by the transitional nature of tides and flocks of birds. These coastal areas are well-visited although a degree of seclusion can be experienced on more isolated beaches.</p>	<p>This typology would significantly detract from the strong sense of naturalness experienced within these largely unmodified coastal landscapes. While more modified areas, for example, former mosses planted with conifers are less sensitive, the proximity of some of these to more natural coastal areas (for example the Moss of Cree) and the greater visual influence of this scale of development increase sensitivity.</p> <p><b>Sensitivity rating: High</b></p>	<p>The reduced scale (spread and height) of this typology may offer greater scope to site turbines so as to avoid impacts on the strongly natural parts of this character type although opportunities are very limited.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>The sense of naturalness, dynamism and elemental qualities associated with the merse and tidal mud flats could be easily compromised and diminished by any development, including this typology although there may be some scope to site these smaller turbines in more modified inland areas set back from the coast.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<p><b>Views and visibility</b></p> <p>The openness of this landscape allows extensive views from settlement and a number of well-used roads, which tend to be elevated above the flat coastal edge. There are notably striking views over the coastal merse and sands from the B725 and the A710. The A75 and other roads on the Machars provide views across the Wigtown Flats. The coastal moorlands south-east of Dumfries are also highly visible from the B724 and the A75. Elevated views are also possible from hills such as Criffel which border these coastal flats. Long views across the Nith Coastal Fringe and Inner Solway focus on the Solway Firth and Cumbrian hills.</p>	<p>This typology would be highly visible from many roads and from settlement which tends to be slightly elevated thus allowing extensive views across the flatter coastal areas. It could intrude on key foci such as long views across the Solway Firth to the Lake District Fells and on views to hills such as Criffel and Cairnsharrow.</p> <p>Sensitivity rating: High</p>	<p>This typology would also be highly visible from many roads and from settlement which tends to be slightly elevated thus allowing extensive views across the flatter coastal areas. It could intrude on key foci such as long views across the Solway Firth to the Lake District Fells and on views to hills such as Criffel and Cairnsharrow.</p> <p>Sensitivity rating: High</p>	<p>This typology would be very visible across the largely level landscapes of the coastal flats, and from surrounding areas. The visual setting to, as well as views to and from, key natural and historic features, such as Criffel, the Martyr's stake at Wigtown and Sweetheart Abbey, settlements such as New Abbey and adjacent Wigtown, and coastal views from key viewpoints are likely to most sensitive to this typology.</p> <p>Sensitivity rating: High-medium</p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
Landscape values			
<p>The Nith Estuary NSA covers much of the Nith Coastal Fringe and Inner Solway units. The East Stewartry Coast NSA covers the western part of the Nith Coastal Fringe. The dynamism and diversity of the Coastal Flats lying within the two NSAs are cited as key special qualities as is their contrast with adjoining landscapes such as Criffel, New Abbey and the Ward Law ridge. Panoramic views across the Solway Firth to Cumbria are particularly noted in relation to this NSA.</p> <p>The Solway Coast RSA extends to cover all of the Nith Coastal Fringe and western part of the Inner Solway. The Galloway Hills RSA extends over part of the Wigtown Coastal Flats. Within the Solway Coast RSA it is noted that..“the uplands are dramatically juxtaposed with the flat, exposed landscapes of the coastal flats around the Nith Estuary”. The citation for the Galloway Hills RSA notes that the boundaries have been drawn to include ...“the contrasting flat landscapes of the upper Cree estuary... because of their scenic juxtaposition with the uplands”. There are Inventory listed designed landscapes at Arbigland and Kinmount.</p>	<p>This typology would have significant effects on these special qualities of the NSAs and RSAs if sited within or close-by them.</p> <p>Inventory listed designed landscapes could also be affected if development intruded on their setting.</p> <p>Sensitivity rating: High to High-medium</p>	<p>This typology would have significant effects on these special qualities of the NSAs and RSAs if sited within or close-by them.</p> <p>Inventory listed designed landscapes could also be affected if development intruded on their setting.</p> <p>Sensitivity rating: High to High-medium</p>	<p>This typology would have significant effects on these special qualities of the NSAs and RSAs if sited within or close-by designated areas.</p> <p>Inventory listed designed landscapes could also be affected if development intruded on their setting.</p> <p>Sensitivity rating: High to High-medium</p>



Merse and extensive sandy beaches fringe the Solway Firth and have a strongly natural character



The setting to policy landscapes, historic settlements and archaeological features is sensitive



Steep-sided hills of Cairnmore and Cairnharrow back the extensive flats of inner Wigtown Bay



Wind-stunted trees and small scale buildings on the more exposed coastal edge



The landmark hill of Criffel forms a backdrop to the Nith Estuary



More extensive moss inland from the coastal edge is contained by distinctive ridges and hills



## 6.4 Coastal Flats (2) - Stranraer Basin

### 6.4.1 Description and summary of sensitivity

This landscape forms a broad and low-lying isthmus contained by the ridge of the Rhins peninsula to the west and the plateau moorlands to the east. Landform is predominantly simple, comprising a flat to gently undulating coastal plain although some more complex rolling ground occurs in the north. While the southern part of this landscape comprises broad open farmland divided into large fields, a more diverse pattern of policy woodlands and lochans is found in the north. This is a relatively well-settled landscape accommodating the port town of Stranraer and a regular pattern of farms. Some MOD infrastructure is present in the immediate hinterland to Luce Bay. The Stranraer Basin is highly visible from roads and settlement which are often elevated above them, although trees limit views in places.

There is a **High** landscape sensitivity to the large and medium typologies (turbines <50m and a **High-medium** sensitivity to the small-medium typology.

No scenic designations apply to the Stranraer Basin although the Inventory listed designed landscape of Castle Kennedy is located within this character area. The score for landscape values is accordingly judged to be **Medium-low** for the large, medium and small-medium typologies, and **Low** for small typologies.

### 6.4.2 Cumulative issues

The operational Barlockhart wind farm and its consented extension are located close to the eastern boundary of this landscape area. The operational Artfield Fell, Balmurrie Fell, Carscreugh and Glenchamber wind farms, sited in other close-by landscape character types lying to the east and north-east, are also clearly visible from the Stranraer Basin. These developments present a visually confusing image because of their different siting, layout and turbine sizes in views from parts of the Stranraer Basin. The North Rhins wind farm is also visible on the skyline of the Rhins peninsula to the west of the Stranraer Basin.

Potential cumulative effects that could arise include:

- Exacerbation of the visual confusion and clutter which already exists between operational wind farm developments sited close-by this landscape area if additional large scale wind turbines were sited in the Stranraer Basin.
- A weakening of the generally established association of wind farms with correspondingly larger scale, less settled upland landscapes if larger wind turbines were also sited within this farmed and settled lowland landscape.
- Variations in the type and scale of single and small groups of turbines. The regularity of farmsteads dotted across the Stranraer Basin and the openness of the landscape (particularly in the south) could rapidly lead to it appearing cluttered if turbines were associated with the majority of land holdings.

### 6.4.3 Key constraints

- The extensive and notably important Inventory listed designed landscape of Castle Kennedy and policy features such as woodlands and shelterbelts in the north-east of this character type.
- The rolling landform in the north-east of the basin and the small lochs which form occasional features within this generally farmed plain.
- The natural qualities of Luce Sands and the less modified hinterland of dunes and estuarine flats, which includes an Archaeologically Sensitive Area.
- The general openness and high visibility of this area close to settlements and major transport routes.
- Cumulative impacts with operational wind farm developments sited in nearby landscapes.

### 6.4.4 Opportunities

- Broader, flatter and more open areas of farmland and forestry and larger scale buildings where development could potentially be associated.

## 6.5 Guidance on development

There is no scope for siting the large and medium typologies (turbines >50m) within this landscape without significant adverse impacts occurring on a number of key characteristics including cumulative effects with other operational and consented wind farms.

There is some limited scope to accommodate the small-medium typology (turbines 20-50m) in the broader scale and flatter landscapes within this landscape area, where they could be sited away from more complex rolling landform which is present in the north and the setting of landmark features. Development should be sited to avoid impacting on views to, and from, the designed landscape of Castle Kennedy and on the less modified and complex coastal features around Luce Sands, which is also an Archaeologically Sensitive Area. Turbines of less than 35m in height would be likely to have fewer cumulative impacts with operational and consented wind farms sited in nearby landscapes. On-going monitoring of cumulative landscape and visual effects will be necessary.

Small turbines (<20m high) should be sited where they can be clearly associated with existing development, farms or other settlement. They will be easier to accommodate if sited on natural low terraces and changes in gradient or to fit with existing field patterns if sited within flatter farmland.

All turbines should avoid intrusion on key views from coastal roads, and into the backdrop and setting of settlements or archaeological features and landscapes of historic interest. The introduction of additional overhead lines and the juxtaposition of turbines with existing telecommunication structures and overhead lines should also be avoided. Supplementary Guidance is provided on the siting and design of smaller wind turbines under 50m high.

## Character Type 2 - Coastal Flats - Stranraer Basin

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Scale and openness</b>			
<p>These coastal flats extend from Loch Ryan to Luce Bay and form a relatively expansive plain which is generally more open to the south. Scale is reduced where a more undulating landform and woodland plantings provide containment in the north in the Castle Kennedy area.</p>	<p>Although the more open character evident in the southern part of this landscape is less sensitive, turbines of this size would dominate the scale of settlement, woodlands and other features which characterise this landscape. The smaller scale rolling and wooded landscape found in the north of this Coastal Plain would be overwhelmed by this typology.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>There is greater scope to accommodate this typology so as to avoid dominating the scale of this landscape. This typology would still overwhelm the smaller scale of the more undulating wooded landscapes found to the north.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The more open, broader scaled landscapes offer the potential to accommodate this size of typology, although there will be more limited scope in the more undulating and smaller scale landforms, and the more wooded and enclosed landscapes to the north of this area.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landform</b>			
<p>The Stranraer Basin forms a low-lying isthmus between the Rhins and the plateau moorlands of Galloway. The landform is generally flat although becomes more rolling in the north towards Castle Kennedy and Stranraer with small knolls and dips occasionally filled with lochans. Low grassy dunes provide the hinterland to the expansive sandy beach and estuarine flats of Luce Bay.</p>	<p>This typology could relate to the predominant simple, flat to gently undulating landform of this landscape unit. Turbines and access tracks would physically damage and conflict with more fragile dynamic and complex coastal landforms such as dunes and estuarine sands backing Luce Bay and the more rolling landform characteristic in the north of this unit.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could relate to the predominant simple, flat to gently undulating landform of this landscape unit. Turbines and access tracks could however physically damage more fragile coastal landforms and would conflict with the more rolling landform in the north. There is greater scope to site this smaller typology to avoid impacts on more complex coastal landforms.</p> <p><b>Sensitivity rating Medium</b></p>	<p>The flatter landscapes offer the potential to accommodate this typology. This size of turbine could interrupt the rhythm and interlocking complexity of the more rounded landforms found in the north and the dunes close to Luce Bay however.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Land cover and landmark features</b>			
<p><b>Large fields cover the southern part of the Stranraer Basin and these are bounded by wire fences and intermittent hedges dominated by gorse. Airfields, conifer plantations and gravel workings interrupt this field pattern in the south in places. A strong pattern of shelterbelts and policy plantings occurs to the north and occasional lochs also feature in this area; these tucked between rounded hills and often fringed by woodland. The policy woodlands, parkland plantings and boundary walls of Castle Kennedy are landmark features in the north-east.</b></p>	<p>This typology could relate to the less strongly patterned southern parts of this landscape although the number of turbines would need to be limited to fit with existing field and woodland pattern. It would conflict with the strong pattern of shelterbelts, lochs and designed landscape features found to the north.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>There is greater scope for this smaller typology to relate to the less strongly patterned southern parts of this landscape, it would however still conflict with the strong pattern of shelterbelts, lochs and designed landscape features found to the north.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Where the landscape is relatively open and there are few landmark features against which to assess the size of this typology, there is potential to accommodate this typology.</p> <p>The areas of more diverse fields, scattered small woodlands and shelterbelts, as well as the lochans and wetland in the north of this unit, are more sensitive to development, as are the more complex and diverse policy woodland areas.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Settlement and Archaeology</b>			
<p><b>Small settlements are located on the slightly elevated fringes of the basin. Farms are dispersed across the plain and many feature large sheds. Stranraer is partially located within this character type. Key landmark features include the MOD installations and gravel workings close to Luce Bay. There is a range of archaeological features, as well as historic sites associated with Castle Kennedy.</b></p>	<p>This typology would dominate the scale of settlements and farmsteads. Further development of large scale structures could also add to the clutter of disparate built elements in this landscape. While wind farms sited close-by existing large scale buildings would concentrate rather than disperse large scale built development thus reducing effects on the integrity of farmland, turbines would still be significantly larger than existing MOD structures. This typology could significantly impact on archaeology and designed landscape features.</p> <p><b>Sensitivity rating: High</b></p>	<p>While this typology could also dominate the scale of settlements and farms there is some limited opportunity for turbines to be sited far enough away to minimise effects. This smaller typology sited close-by existing large scale buildings would concentrate rather than disperse built development thus reducing adverse effects on the integrity of undeveloped farmland. This typology could significantly impact on archaeology and designed landscape features.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>While this typology could overwhelm small farms, individual houses, small settlements and archaeological features, affecting their setting and the scale of the built development if poorly sited, many of the farms are large and have tall out buildings, set within more open and expansive landscapes with large fields, therefore there is potential scope to accommodate this typology.</p> <p>In addition, in more sparsely settled areas, and areas where the MOD buildings and airfield already create a larger scale context, there may be opportunities for this typology although the ASA of Luce Bay is a particular sensitivity.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape context</b>			
<p>This landscape unit is contained by the steeply rising ground of the Upland Fringe (16) and Plateau Moorland (17) to the north and the Rhins Peninsula (1) to the south-west.</p>	<p>This typology could detract from the often smaller scale woodland, field pattern, settlements and archaeological features on the Upland Fringe (16) if located close to the edges of the Coastal Plain. Tall turbines could also potentially visually intrude on parts of the eastern coast of the Rhins Peninsula (1).</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could detract from the often smaller scale woodland, field pattern, settlements and archaeological features on the Upland Fringe (16) if located close to the edges of the Coastal Plain. Tall turbines could also potentially visually intrude on parts of the eastern coast of the Rhins Peninsula (1).</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology is unlikely to have significant effects on neighbouring character types, largely because visibility of the Coastal Plain is limited to the edges of the higher character types which frame this low lying plain.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Perceptual qualities</b>			
<p>The expansive tidal sands and dunes of Luce Bay have a strong sense of naturalness and can also feel secluded although MOD structures, caravan sites, forestry and quarrying diminish these perceptual qualities to the east. The majority of this area is intensively farmed and settled.</p>	<p>This typology would significantly detract from the strong sense of naturalness experienced within the more unmodified coast of Luce Bay although there is scope to avoid impact on the more sensitive south-western coastal area.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The reduced scale (spread and height) of this typology may offer greater scope to site turbines so as to avoid impacts on the less modified coastal areas of this character type.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>This typology would detract from the strong sense of naturalness experienced within the more unmodified coast of Luce Bay. However, for the majority of this area, the settled and managed character of this landscape would be less sensitive to this typology.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Views and visibility</b>			
<p>The openness and low lying nature of this landscape enables extensive views only curtailed by woodlands in the north-east. Luce Sands are well-used for recreation and the area is also bordered and crossed by a number of key roads including the A75 and the railway. Settlement located on the eastern edge of the Rhins has elevated views over the Stranraer Basin.</p>	<p>This typology would be highly visible from many major roads and from settlement which tends to be slightly elevated thus allowing extensive views across the flatter coastal areas. Turbines could intrude on views to Luce Bay and Loch Ryan. This typology would extend above woodland in the north-east of this landscape and could impact on views from within the designed landscape of Castle Kennedy or from Soulseat Loch if sited in the northern part of the Basin.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would be highly visible from many major roads and from settlement which tends to be slightly elevated thus allowing extensive views across the flatter coastal areas. Turbines could intrude on views to Luce Bay and Loch Ryan. This typology would extend above woodland in the north-east of this landscape and could impact on views from within the designed landscape of Castle Kennedy or from Soulseat Loch if sited in the northern part of the Basin.</p> <p><b>Sensitivity rating: High</b></p>	<p>While in the most open areas views of this size of turbine will be readily visible, the tree lined roads and undulating topography are likely to limit views which will be intermittent. Key sensitivities are likely to include the visual setting and backdrop to Castle Kennedy and Stranraer as well as smaller settlements.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape values</b>			
<p><b>No scenic landscape designations are associated with this landscape. The Inventory listed designed landscape of Castle Kennedy occupies the north-eastern part of this landscape unit. This designed landscape is rated outstanding against all criteria in the Inventory. Policy woodlands limit views to and from the designed landscape and the wider landscape</b></p>	<p>This typology could impact on the designed landscape of Castle Kennedy if sited in the north-east of this landscape unit although there may be scope to site development to avoid effects on setting.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>This typology could impact on the designed landscape of Castle Kennedy if sited in the north-east of this landscape unit although there may be scope to site development to avoid such impacts.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>This typology could impact on the designed landscape of Castle Kennedy if sited in the north-east of this landscape unit although there may be scope to site development to avoid such impacts.</p> <p><b>Sensitivity rating: Medium-low</b></p>



The designed landscape of Castle Kennedy and its wider policies are highly sensitive to development



Extensive views across the Stranraer Basin from settlement on the edge of the Rhins



Broader, more open farmland with large buildings forms the hinterland to Luce Bay



A more rolling landform with policy woodlands and occasional lochans feature in the north-east

## 7. Shallow Flat-Bottomed Valley/Narrow Wooded Valley (3/4)

### 7.1 Introduction

The Shallow Flat Bottomed Valley has only one landscape area, the Water of Luce. The Narrow Wooded River Valleys can be found throughout the whole of Dumfries and Galloway and comprise the Cree, Palnure, Moneypool, Fleet, Ken, Urr, Kirtle, Eskdale and Liddle valleys. A single sensitivity assessment has been undertaken for these two landscape character types due to their similar small scale and strongly contained character.

The assessment and guidance on development section focuses on smaller typologies (turbines <50m), with a brief outline of key constraints relating to larger typologies included in the summary of sensitivity.

#### 7.1.1 Cultural heritage overview

This landscape type is characterised by a mix of post-improvement (c19th-20th century) fields, farming, woodlands and rough grazing as well as a few designed landscapes, with evidence for relict land-uses being largely restricted to the Eskdale unit. Eskdale in particular retains areas of pre-improvement (pre19thc) remains as well those of earlier periods. This is reflected in the fact that there are various Archaeologically Sensitive Areas in Eskdale as well as numerous outstandingly significant and distinctive archaeological sites some of which are promoted for public benefit.

#### 7.1.2 Operational and consented wind energy development

No wind farm development has occurred within these landscape character types. The wind farm of Craig, located within the adjacent West Langholm unit of the Southern Uplands (19), is visible from the valley floor over a short section of the Eskdale valley.

The Water of Luce valley is/will be affected by operational and under-construction wind farms located in the adjoining landscapes Plateau Moorlands (17) and Plateau Moorlands with Forest (17a) character types. There may also be some visibility of consented wind farm development located in the Stroan area of the Foothills with Forest (18a) from the Urr valley.

### 7.2 Description and summary of sensitivity

These valleys are generally sinuous and nearly all long enough to individually wind through a range of different landscape character types, from enclosing and forested uplands to more open plateau and lowland character types. They include shallow valleys contained by well-defined terraces or barely enclosed by low profiled moorland to narrow incised valleys further enclosed by broadleaved woodland and medium scaled valleys, surrounded by the steep slopes of rounded hills or undulating ridgelines. They are further varied in land cover and settlement pattern, embracing extensive conifer woodlands and arable fields, sparsely populated and secluded upper reaches or well settled landscapes, narrow single track roads or even motorways.

There are several sensitive viewpoints in these valleys, including those to and from historic sites. Views tend however, to be intermittent and in places curtailed by the land form and the tree cover.

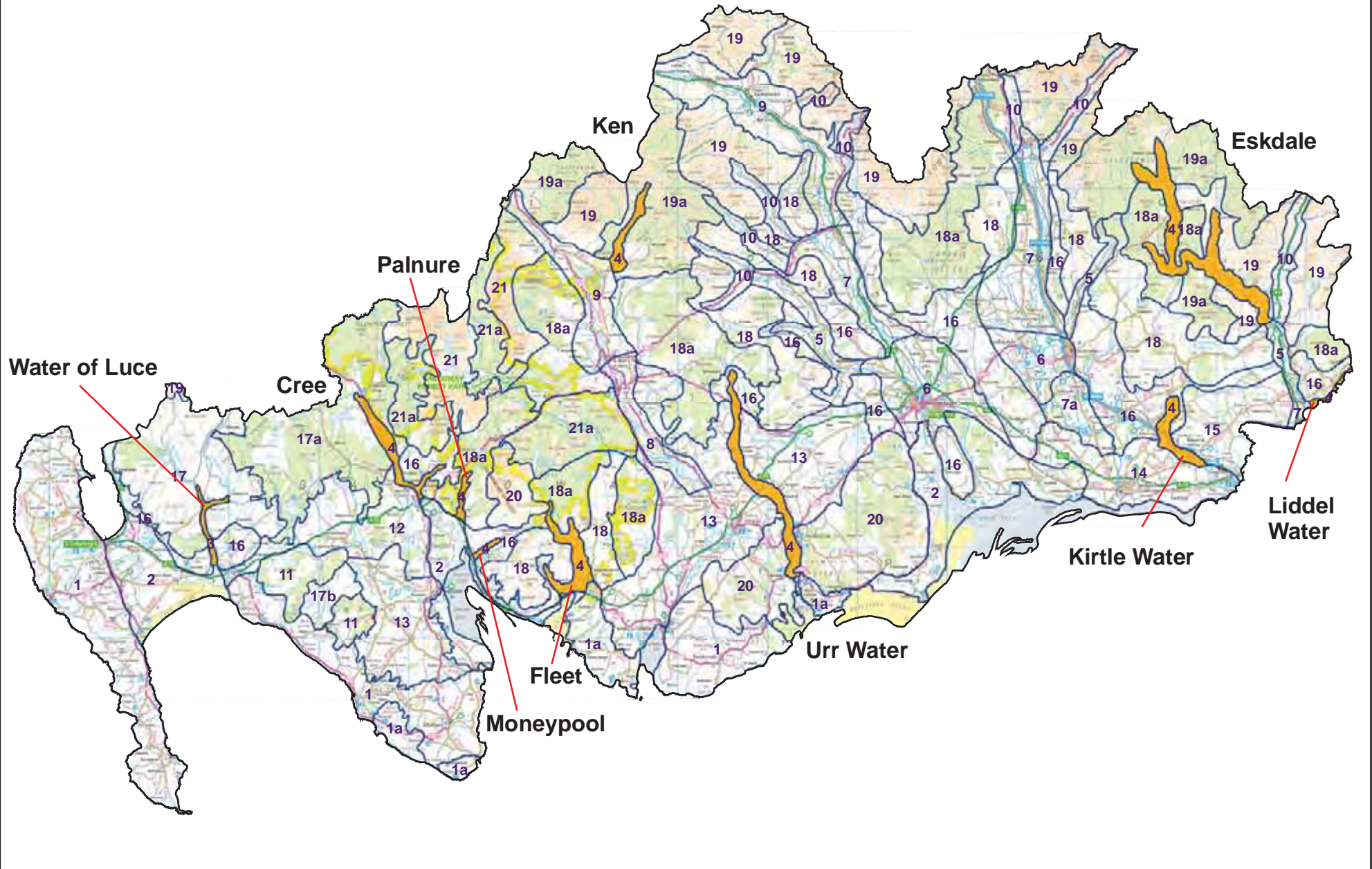
The often small scale of the valleys, their narrowness and low relief, together with the diverse patterns of the vegetation and settlement, severely limits scope for larger wind farm typologies. The landscape of the Narrow Wooded River Valleys and Shallow Flat Bottomed Valleys



therefore has an overall **High** sensitivity to both the large and medium typologies. There would be a **High-medium** sensitivity to the small/medium typology, but a **Low** sensitivity to small wind turbines.

Landscape designations apply to some of these valleys. The Fleet valley is covered by both an NSA and RSA while the lower Urr valley and the southern part of Eskdale are covered by RSAs. There are several Archaeologically Sensitive Areas in Eskdale. Sensitivity in terms of landscape values therefore ranges from **High-low** for the large, medium and small/medium typologies but would be **Low** for the small typology taking account of likely impacts on special landscape qualities.

Character Type Key Map - 3. Shallow Flat Bottomed Valley  
Character Type Key Map - 4. Narrow Wooded River Valleys



### 7.2.1 Cumulative issues

There is some potential for small/medium turbines to be seen in conjunction with larger wind farms located on adjacent, surrounding hills or open moorland plateau in upland character areas. In some of the less contained upper valleys, this inter-visibility is likely to be sustained, but elsewhere, this inter-visibility is only likely to be intermittent. Care should be taken, however, when siting wind farms on surrounding upland character types, to avoid seeing larger wind farms at the upper reaches of all these valleys, or all the side valleys.

There may be cumulative impacts which arise if more than one, or small groups, of small/medium turbines appear within the valley and the relationship between proposals for this typology will need to be monitored closely. Cumulative effects are most likely to be increased visual clutter, diminishing the sense of anticipation of travelling into less settled and developed upper glens and multiple turbines visually detracting from more complex areas of landform if they become visually dominant.

### 7.2.2 Key constraints

- The smaller scale, narrower and more enclosed valleys are likely to be easily dominated, even by small turbines (<20m).
- The upper edge of the valleys, regardless of the shape of the ridgeline, is visually prominent against the sky when viewed from within the valleys and is sensitive to wind turbines of all sizes that might be perched along the horizon either sited in these valleys or adjacent uplands.
- Diverse woodlands, individual trees and policies and also, in places, a strong pattern of stone dykes enclosing pastures.
- Views to and from land mark features including views from promoted viewpoints for the Fleet NSA for example.
- The setting of settlements, archaeological sites, landmark historic and other built features and the Archaeological Sensitive Areas in Eskdale.
- Cumulative effects with operational and consented wind farms located in nearby upland areas and visible on the skyline of these valleys - the Water of Luce, Ken and Urr valleys are likely to be most affected by wind farms sited in other landscapes.

### 7.2.3 Opportunities

- Long, sweeping slopes, more gentle gradients and areas back-dropped by higher surrounding hills or more open plateaux or by adjacent uplands which have a simple profile and greater horizontal scale where smaller typologies could be more easily assimilated.
- The lower side slopes, where more gentle gradients, individual terraces and other landforms and small incisions associated with tributary watercourses offer opportunities where small turbines could be sited and associated with these other features in the landscape.
- The more developed landscapes, where the settlement pattern is denser and the infrastructure more obvious and where small turbines could relate to buildings.

### 7.3 Guidance on development

There is **no scope** for turbines >50m high to be accommodated within this character type without significant adverse impacts occurring on key landscape and visual sensitivities.

Small/medium sized turbines (20-50m) will be hard to accommodate in many of these small scale valleys. There may **be some very limited scope** to locate turbines of this size on long low ridgelines and concave folds in the landform, back-dropped by adjacent larger hills, moorland or plateaux. Careful consideration of the size of these turbines relative to the numerous built and natural features which are widespread in the more settled lower valleys (for example, exploring options around the 35m height) could create more opportunities for siting this size of development. Cumulative effects with wind farms sited in adjacent upland areas may be a constraint within some of these valleys.

There could be some opportunities to site small wind turbines (<20m) where they do not interrupt the skyline, visual focal points or key views, and the sinuous shape of the valleys and the presence of woodland frequently limits visibility. Small turbines should be located where they can reinforce the pattern of existing development, associated with farms and other small groups and single buildings which provide a framework of built development-related point features along the valleys. Turbines under 20m high are likely to provide a better fit with the small scale of

buildings and other features in these valleys. All turbines should also be placed to avoid intrusion on key views to and from important features, including distinctive buildings, archaeological and historic features and policy landscapes. Supplementary Guidance is provided on the siting and design of turbines <50m high.

Care should also be taken if siting large turbines on immediately adjacent upland character types, as if poorly sited, these could ‘perch above’ and easily dominate these valleys. The prominent skyline where the upper rim of the valley sides reaches the open sky is a sensitive visual focus and care should be taken to not place turbines on these skylines or in views up side valleys.

### Character Types 3 And 4 Shallow Flat Bottomed Valley and Narrow Wooded River Valley

Topics and summary description	Assessment: Small-medium turbines (20-50m)
<p><b>Scale and openness</b></p> <p>These valleys vary in terms of their narrowness, openness and degree of containment, ranging from shallow valleys which spill into the low relief of the surrounding uplands - for example, Corsock at the transition with 18a and in the upper reaches of Eskdalemuir, to more incised and enclosed valleys strongly contained by high hills and also flat valley floors well defined by steep sided wooded slopes. There are occasional side valleys and more expansive areas of valley floor, which form larger scaled stretches of valley as well as narrower, heavily wooded, more intimate spaces. The height of the valley sides is most pronounced when flanked by the Foothills (18a) and Southern Uplands (19 and 19a) character types, which can rise to about 350m.</p>	<p>This typology could easily dominate the narrower sections of the valleys and areas where the relief of the valleys sides is relatively low but still contained. Turbines sited along the upper rim of the valleys could appear out of scale with the depth of the valleys. Turbines located on the lower ridges and smaller landforms could also appear out of scale relative to the height of the topography. However, there are occasional areas of relative openness, wider valley floors and longer, gently graded side slopes, often associated with areas where the valleys are shallow and containment minimal, where this size of turbine could be accommodated. There is likely to be more scope for accommodating turbines of less than 35m in height.</p> <p><b>Sensitivity rating high-medium</b></p>
<p><b>Landform</b></p> <p>All the valleys are generally sinuous and varied in form. Key landform shapes include: flat bottomed valleys, low river terraces, steep sided but flat topped valley sides and occasional moundy deposits along the valley floors and lower side slopes; steep sided hills, undulating skylines, individual slightly rugged hills and more complex interlocking spurs; and long shallow side slopes which extend seamlessly into the low relief of undulating uplands.</p>	<p>The undulating topography along some of the lower slopes offers some opportunities for siting individual turbines related to topographical features, although the small size of some of these features may limit opportunities for turbines above 35m in height. The rhythm of the undulating ridges, interlocking spurs or individual summits, or alternatively the simplicity of the level terraces which form the valley skylines could be easily disrupted by turbines sitting along the rims of the valleys. Where there are longer, smoother hill flanks, long low ridges and slacker gradients which create a more horizontal alignment in the landform, there are more likely to be opportunities to accommodate this typology, particularly where they are backed by the more expansive scale of adjacent upland character types.</p> <p><b>Sensitivity rating high-medium</b></p>

Topics and summary description	Assessment: Small-medium turbines (20-50m)
<p><b>Land cover and landmark features</b></p> <p>Overall, land cover pattern within these valleys varies from extensive conifer woodland combined with abandoned fields on the side slopes and with wetland along the valley floor (e.g., the Ken) to widely cultivated valleys of arable/improved grassland fields defined by hedges and broadleaved woodland (e.g., the Kirtle). Many of the longer valleys combine a range of different land cover patterns from simpler rough grazing, combined with unimproved fields defined by dykes and the semi-natural woodland of the upper reaches to more cultivated lowlands. Woodland features in all the valleys. Mature single trees, clumps of trees and small broadleaved woodlands, trees associated with settlement, both linear and more extensive and enclosing riparian woodland, numerous and varied shelterbelts as well as extensive conifer woods form diverse and often extensive woodland cover. There are also policy woodland and features associated with individual estates, generally in the lower reaches.</p>	<p>While the small size of individual features - from single, landmark trees to small woodlands and fields - could be easily dominated by this typology, there is potential to site single turbines of this size in areas where they can relate to the broader scale and simpler pattern of open rough grazing land and more extensive conifer woodland. The areas of more diverse and intricate patterns of fields and small woods are more sensitive to development, as are the more complex and diverse policy woodland areas.</p> <p><b>Sensitivity rating high-medium</b></p>
<p><b>Settlement and archaeology</b></p> <p>Settlement pattern varies widely, from sparsely settled and relatively secluded upland valleys (e.g., the Ken) to much more settled landscapes of scattered farms, small settlements located at bridging points and large estate houses in prominent positions. Dispersed farms are frequently rhythmically associated with side valleys, and can be located part way up hillsides, always avoiding any floodplains.</p> <p>Relatively narrow roads wind through these valleys (the major exception is the M74, which passes through the Kirtle). There are historic features which are identifiable as landmarks within the valleys, including Luce Abbey, the Motte of Urr and sites such as stone circles in Eskdale, as well as extensive historic and prehistoric settlement areas on the upper slopes.</p>	<p>This typology could overwhelm small farms, individual houses and small settlements, affecting their setting and the scale of the built development if poorly sited. This typology could also impact on the setting and the prominence of archaeological, historic or land mark features. However, in more sparsely settled areas there may be opportunities for this typology, but the setting of archaeological sites remains sensitive.</p> <p><b>Sensitivity rating high-medium</b></p>
<p><b>Landscape context</b></p> <p>These valleys pass through a wide variety of different character types. They are most inter-visible, however, with some of the forested upland types, notably the Southern Uplands with Forest (19a), Foothills with Forest (18a) and Plateau with Forest (17a). Lower reaches extend through more pastoral landscapes, which reinforce containment along the valley sides, but are not extensively visible.</p>	<p>Where there is extensive inter-visibility with surrounding higher ground the more expansive setting, higher relief and overall larger scale helps to accommodate this typology. Elsewhere, where the valleys pass through more diverse and smaller scale landscape character types, such as the Drumlin Pastures (13), there is less ability to accommodate this typology without adversely affecting the adjacent character types.</p> <p><b>Sensitivity rating high-medium</b></p>

Topics and summary description	Assessment: Small-medium turbines (20-50m)
<b>Perceptual qualities</b>	
<p>These valleys vary between well settled and easily accessible to much more secluded, verging on the remote.</p>	<p>Where the landscape is settled and generally well cultivated and managed, this typology will have limited impact on any sense of wildness. Even where the valleys are more secluded, they often contain extensive conifer woodland which limits the sense of wildness.</p> <p><b>Sensitivity rating medium</b></p>
<b>Visual amenity</b>	
<p>The sinuous shape of the valleys often limits long views, which are further contained or interrupted by woodland. Views therefore tend to be relatively short and intermittent. The varied rims, or containing horizons of the valleys seen in profile against the sky, are visually prominent.</p> <p>Key viewpoints include occasional accessible upland features such as hill forts and key summits, some of which are on adjacent upland character types overlooking the valleys.</p> <p>Views to important and landmark historic features are also sensitive.</p>	<p>The ridges are sensitive to development perched along the prominent skyline. The focal point of views up the side glens are especially sensitive, as are views from key viewpoints.</p> <p>More diverse and complex landscapes are highly scenic, for example the Fleet valley, and therefore more sensitive. Although views tend to be intermittent and obscured by woodlands, close views of this typology would be possible from roads and settlement from within the valleys.</p> <p><b>Sensitivity rating high-medium</b></p>
<b>Landscape values</b>	
<p>The Fleet valley is designated an NSA and is also included together with the Cree, Money pool and Palnure valleys within the Galloway Hills RSA. The key special qualities of the Fleet Valley include its strong containment by higher hills, woodlands including policy plantings and hedgerow trees, its intimate scale, historic buildings, settlements and ancient remains.</p> <p>The lower valley of the Urr lies within the Solway Coast RSA and is described in Technical Paper 6 as wide flat valley with enclosing inland cliffs which reflects the estuary to the south.</p> <p>The southern part of Eskdale lies within the Langholm Hills RSA. No specific special qualities are noted in Technical Paper 6.</p>	<p>The taller turbines of this typology would overtop trees and woodlands and adversely affect the strong containment they provide and the contribution they make to the character of the Fleet valley. This typology could also overwhelm the scale and affect the setting of settlement and historic/archaeological features.</p> <p>The broader scale of the flat cultivated floor of the lower Urr valley would be less affected by this typology, although taller turbines could diminish the containment provided by the steep wooded slopes of the Coastal Granite Uplands (20).</p> <p><b>Sensitivity rating High to Low</b></p>



Narrow valleys are often strongly contained by steep slopes and have a small scale



Occasional more pronounced steep-sided hills are sensitive to all typologies



Landmark archaeological features, like this stone circle, feature within these valleys



Broader hill slopes, back-dropped by higher ground, offer opportunities to accommodate smaller turbines



Policy woodlands increase the diversity and intimate scale of these valleys



The richly patterned character of the Fleet Valley NSA



## 8. Intimate Pastoral Valley (5)

### 8.1 Introduction

The Intimate Pastoral Valleys extend along the lower reaches of rivers generally within the Foothills and Upland Fringe character types in Dumfriesshire. They comprise the character areas of Cairn, Old Water, Dryfe and Pastoral Eskdale. A single sensitivity assessment has been undertaken of these valleys. The assessment and guidance on development section focuses on smaller typologies (turbines <50m) with a brief outline of key constraints relating to larger typologies included in the summary of sensitivity.

#### 8.1.1 Cultural heritage overview

This landscape type is characterised by post-improvement (c19th-20th century) fields and farming with scattered small plantations and a number of designed landscapes. Sundaywell and Glenkiln in Cairn and Old Water include areas of medieval and prehistoric land use. There are archaeological sites of outstanding significance and distinctiveness in all of the landscape units.

#### 8.1.2 Operational and consented wind energy development

No wind farm development has occurred within this landscape character type and they are also largely unaffected by wind farm development sited in other landscapes.

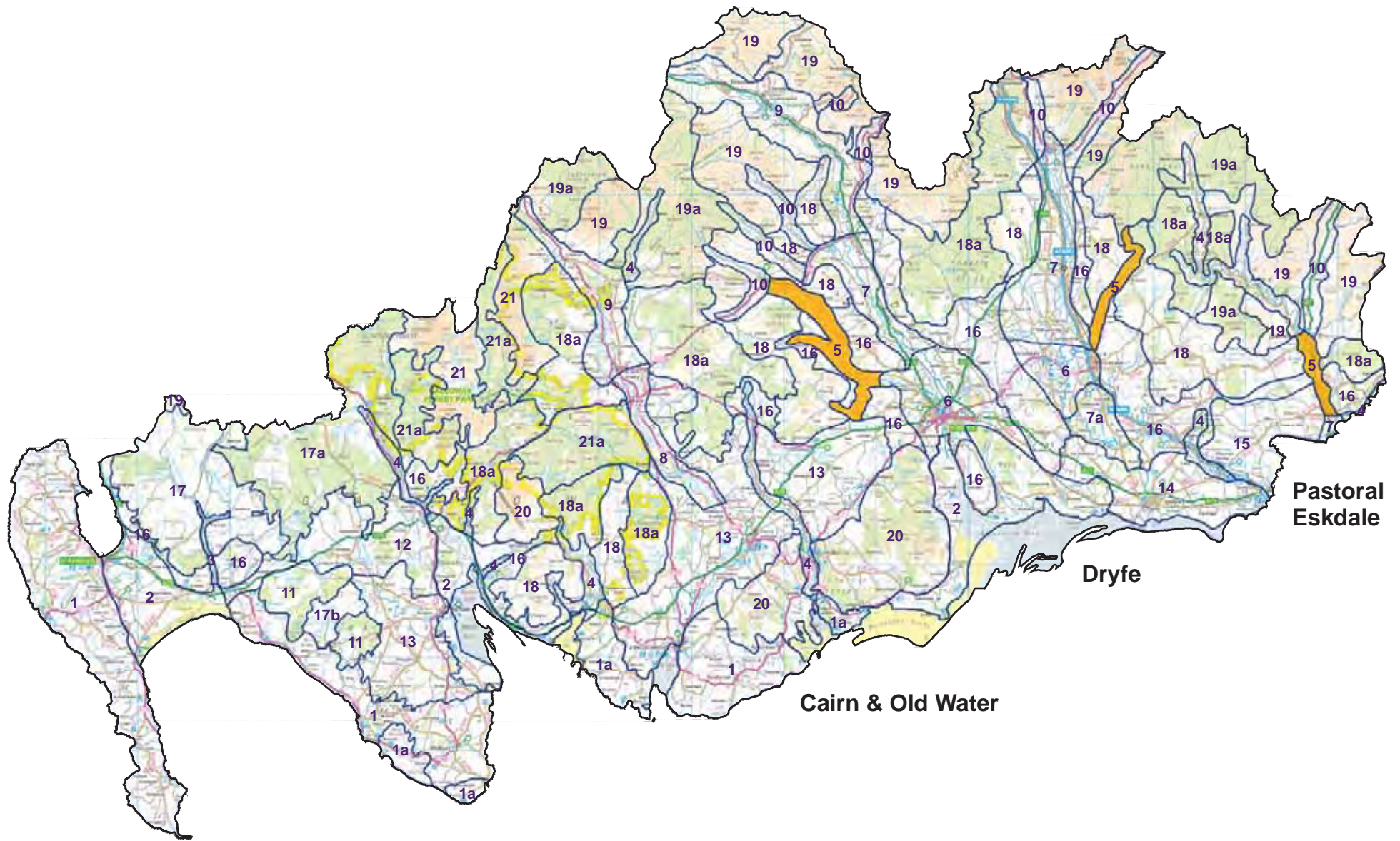
### 8.2 Description and summary of sensitivity

The Intimate Pastoral Valleys are relatively wide, contained by low ridges with occasional more prominent hills. Gently sinuous, they have occasional pinch points where they narrow between steeper slopes, but generally the scale of the valleys is broad, fragmented more by vegetation than complex topography. Roads are often narrow and settlement is frequent, dispersed and varied, including elevated small villages and numerous farms along the side slopes as well as the valley floor.

The modest scale of the valleys and the diverse patterns of vegetation and settlement would be dominated by larger scale typologies. The Intimate Pastoral Valleys have a **High** sensitivity to both the large and medium typologies (turbines >50m). There would be a **High-medium** sensitivity to the small-medium typology (turbines 20-50m) and a **Low** sensitivity to small wind turbines (turbines <20m).

RSA designations apply to some of these valleys. Sensitivity in terms of landscape values would therefore range from **High-medium** to **Low** for large, medium and small-medium typologies and **Low** overall for the small typology.

Character Type Key Map - 5. Intimate Pastoral Valley



Pastoral  
Eskdale

Dryfe

Cairn & Old Water

### 8.2.1 Cumulative impacts

There is potential for smaller turbines (<50m) to be seen in conjunction with larger wind farms located on adjacent, surrounding hills in more upland character areas. However this inter-visibility is only likely to be intermittent. There may be cumulative impacts which arise if more than one, or small groups, of smaller turbines appear within the valley, including along the hill slopes, and the relationship with operational/consented wind farms will need to be monitored closely.

These valleys will be more able to accommodate larger numbers of the small typology (turbines <20m) even if planned as occasional small clusters.

### 8.2.2 Key constraints

- Occasional narrower 'pinch points' where steeper slopes either come together to form a 'pass' within the valley or constrict to form a narrower upper valley reducing scale and increasing sensitivity to even small wind turbines (>30m).
- The diverse landscape and settlement pattern of the valleys limits scope for larger typologies and could quickly be dominated by poorly sited development.
- The eye-catching pattern of regular, small fields of pasture marked out by dry stone dykes, which are a particular feature of some of the lower side slopes.

- The diversity of field enclosure, individual field trees, policy-type woodlands and settlements generally associated with the upper Cairn valley and Pastoral Eskdale valley landscape within the RSAs.
- The upper edge of the valleys, where the smooth, undulating ridgeline is visually prominent against the sky when viewed from within the valleys. These valleys are sensitive to wind farm development sited in adjacent uplands and seen on immediately containing skylines.
- Views from elevated roads, settlements and other key features within these valleys.
- Archaeological features and broader historic landscapes, often associated with the unimproved grassland on the upper side slopes and ridges

### 8.2.3 Opportunities

Long, sweeping slopes, more gentle gradients and areas back-dropped by more extensive upland areas where the small/medium typology (30-50m) could be more easily assimilated.

The pattern of settlement (which is relatively dispersed and widespread) provides a framework of 'point' features with which small turbines (<30m) could be visually associated.

## 8.3 Guidance on development

There is no scope for large and medium scale typologies (turbines >50m) to be accommodated within this character type without significant adverse impacts occurring on key landscape and visual sensitivities.

Small/medium sized turbines (20-50m) would be difficult to sensitively accommodate within most parts of these valleys. They should focus on being located where they can be related to landform of an appropriate scale, including long low ridgelines and concave folds in the landform, back-dropped by adjacent larger hills, moorland or plateaux. Careful consideration of the size of these turbines relative to the numerous built and natural features which are widespread in the more settled lower valleys (for example, exploring options around the 35m height) could create more opportunities for siting this size of development.

Small turbines (<20m) should be located where they can reinforce the pattern of existing development, visually associated with farms and other small groups and single buildings which provide a framework of built development-related point features along the valleys.

Turbines should avoid intrusion on key views to and from important features, including distinctive buildings, archaeological features and policy landscapes. Care should also be taken to not place turbines in the focal point of views up side valleys or close to 'pinch-points' along the valley

where scale is reduced. Supplementary Guidance is provided on the siting and design of turbines <50m high.

Care should also be taken if siting large turbines and wind farms on immediately adjacent upland character types (within the Foothills (18) or Upland Fringe (16) for example) as poorly sited these could 'perch above' and easily dominate these small scale valleys. These valleys are sensitive to wind farms sited in adjacent uplands including LCTs 17, 17a, 18, 18a, 19 and 19a. Large turbines sited on the edges of these upland areas could dominate immediate skylines to these valleys. The heads of these valleys are particularly sensitive to wind farm development and multiple or extensive developments seen on skylines could affect character and views within these valleys.

## Landscape Character Type 5 Intimate Pastoral Valley

Topics and summary description	Assessment: Small-medium turbines (20-50m)
<p><b>Scale and openness</b></p> <p>These relatively wide, often shallow and gently sinuous valleys are contained by low hills which form long undulating ridges with occasional higher and more pronounced summits along the edges of the valleys.</p> <p>There are occasional narrower 'pinch points' where steeper slopes either come together to form a 'pass' within the valley or constrict to form a narrower upper valley. The height of the valley sides is most pronounced when flanked by the Foothills character type, which can rise to about 350m.</p>	<p>This typology could easily dominate the occasional narrower sections of the upper valleys, or where there are 'pinch points' along the length of the valley. Turbines sited along the upper rim of the valleys could also appear out of scale with the depth of the valleys. Turbines located on the lower ridges and smaller landforms could also appear out of scale with the topographical complexity.</p> <p>However, there are areas of relative openness, wider valley floors and longer, gently graded side slopes where this size of turbine could be accommodated. There is likely to be more scope for accommodating turbines of less than 35m in height.</p> <p><b>Sensitivity rating high-medium</b></p>
<p><b>Landform</b></p> <p>The valleys are relatively wide, described in the LCA as being similar to 'small dales'. While they often have flat valley floors, there can be moundy deposits along the lower side slopes which extend onto the floors of the valleys in places. The containing ridges are gently rolling, with very occasional more pronounced summits.</p>	<p>The more complex and undulating topography along the lower slopes offers some opportunities for siting individual turbines related to topographical features, although the small size of some of these features may limit opportunities for turbines above 35m in height. The rhythm of the undulating ridges could be easily disrupted by turbines sitting along the rim of the valley. Where there are longer, smoother hill flanks, distinct low hills and slacker gradients which create a more horizontal alignment in the landform, there are opportunities to accommodate this typology</p> <p><b>Sensitivity rating medium</b></p>
<p><b>Land cover and landmark features</b></p> <p>Generally widely cultivated. Grassland and occasional arable as well as improved pasture fields. Sometimes hedged, but often enclosed in walls to create striking patterns, the fields extend across the valley floor and up onto the more fertile lower slopes. Within more upland areas, rough grassland and bracken moor extend over the ridges, often above a head dyke. Mature single trees, small broadleaved woodlands, trees associated with settlement, linear riparian woodland and shelterbelts as well as occasional conifer woods on the higher slopes form diverse but modest woodland cover. There are also occasional policy woodland and features associated with individual estates</p>	<p>While the small size of individual features - from single, landmark trees to small woodlands and fields - could be easily dominated by this typology, there is potential to site single turbines and small groups (&lt;5) of this typology in areas where it can relate to the scale of the larger landforms, bigger fields and more extensive woodland. Where more extensive and less visually diverse vegetation pattern occurs, there is also likely to be more scope for this typology. The areas of striking, repeated pattern of walled, improved pasture fields are more sensitive to development, as are the more complex and diverse policy woodland areas.</p> <p><b>Sensitivity rating high-medium</b></p>

Topics and summary description	Assessment: Small-medium turbines (20-50m)
<p><b>Settlement and archaeology</b></p> <p>Well settled with occasional small settlements located along the sides of the valleys often associated with river crossing points. Frequent scattered farms and individual houses, including larger estate houses, many with designed landscapes, as well as archaeological sites, are located elevated above the river flood plain and along the lower flanks of the hills. Occasional A class, but more often B-class roads, from which fork smaller, narrower roads, extend along these valleys.</p>	<p>This typology could overwhelm small farms, individual houses and small settlements, affecting their setting and the scale of the built development if poorly sited. This typology could also impact on the setting and the prominence of archaeological and historic features.</p> <p><b>Sensitivity rating high-medium</b></p>
<p><b>Landscape context</b></p> <p>These relatively wide valleys often permit views into the Foothills (18) and Upland Fringe (16) character types which frequently form the containing ridges, upper slopes or backdrop to these valleys.</p>	<p>Where there is extensive inter-visibility with surrounding higher relief, this helps to accommodate this typology, especially if located where the larger scale landscape creates an expansive setting for development. Elsewhere, more enclosed stretches of the valleys limit the inter-visibility with surrounding larger scale landscapes, consequently limiting scope.</p> <p><b>Sensitivity rating medium</b></p>
<p><b>Perceptual qualities</b></p> <p>These valleys are well settled and easily accessible. Therefore, while they are relatively quiet and tranquil, they are neither remote nor secluded.</p>	<p>These valleys are settled and generally well cultivated and managed, therefore this typology will have limited impact on any sense of wildness although their often strongly rural character and tranquillity could be affected.</p> <p><b>Sensitivity rating medium</b></p>
<p><b>Visual amenity</b></p> <p>Views from roads focus both along the length and across the width of the valleys. The often smooth and undulating rim of the valleys, seen in profile against the sky, is visually prominent. Key viewpoints are likely to include occasional accessible upland features such as hill forts and key summits, some of which are on adjacent upland character types, elevated roads which cross the ridges and elevated settlements from where there are long views across the valleys. Low side light catching the strong pattern of dykes on some of the prominent side slopes creates some visual drama. Woodland frequently interrupts views.</p>	<p>The undulating ridges are sensitive to development perched along the prominent skyline. The focal point of views up the side valleys are especially sensitive, as are views from key viewpoints, including settlements</p> <p>Occasional more diverse and complex landscapes are relatively scenic and therefore more sensitive.</p> <p><b>Sensitivity rating high-medium</b></p>

Topics and summary description	Assessment: Small-medium turbines (20-50m)
<p><b>Landscape values</b></p> <p>The upper Cairn valley lies within the Thornhill Uplands RSA. The enclosed Esk valley north of Canonbie is included in the Langholm Hills RSA. Technical Paper 6 notes the stronger relief of the upper Cairn valley and its contrast with the enclosing Foothills in the context of the Thornhill Uplands RSA. Improved pastures enclosed by stone dykes are also noted. The intricate pattern of policy woodlands within the Esk Pastoral valley are described in the citation for the Langholm Hills RSA.</p>	<p>This typology could impact on the contrast between the upper Cairn valley and the enclosing Foothills and could overwhelm the scale and pattern of enclosed pastures. It would also impact on the distinctive pattern of policy influenced woodlands within the Esk Pastoral valley. There would be no effect in the undesignated parts of this landscape type.</p> <p><b>Sensitivity rating High-medium to Low</b></p>



Broader more open slopes back-dropped by hills provide opportunities for smaller typologies.



The setting to archaeological features and settlements is sensitive.



Intricate patterns of woodlands and settlement increases sensitivity to larger typologies



Natural terraces offer opportunities to accommodate small-medium typologies



Distinctive regular pattern of dry stone dykes enclosing lower hill slopes



The skyline of hills containing these valleys is highly sensitive, particularly to larger typologies sited in adjacent character types

Character Type 5: Intimate Pastoral Valleys



## 9. Lower Dale And Middle Dale (6/7)

### 9.1 Introduction

This assessment covers both the Lower Dales (6) and the Middle Dales (7) landscape character types covering Annandale and Nithsdale. The Lower Dales (6) are generally wide undulating plains straddled between the Upland Fringe (16) landscape character types in Dumfriesshire. The Middle Dales (7) are also generally located between the Upland Fringe character types in Dumfriesshire, although their upper reaches are contained by the Foothills character type.

#### 9.1.1 Cultural heritage overview

The Lower Dales are characterised by post-improvement (c19th-20th century) fields and farming as well as small 20th century farms, with a few small designed landscapes and a scatter of relict land-uses. The HLA records discrete areas with evidence for pre-medieval land-use and some pre-improvement remains. There are also archaeological sites of outstanding significance and distinctiveness, a number of which are promoted for public benefit.

The Middle Dales landscape type is characterised by post-improvement (c19th-20th century) fields and farming with some small designed landscapes but little evidence for relict land-uses (although Mid Nithsdale has not yet been assessed by the HLA process). There are archaeological sites of outstanding significance and distinctiveness in all of the landscape units.

#### 9.1.2 Operational and consented wind energy development

No operational wind farms are located within these landscape character types. Occasional single wind turbines are located on farmland within these character types. The operational wind farms of Harestanes, Dalswinton and Minsca and the under-construction Minnygap wind farm, located in the Foothills (18 +18a) landscapes, lie close to Nithsdale and Annandale.

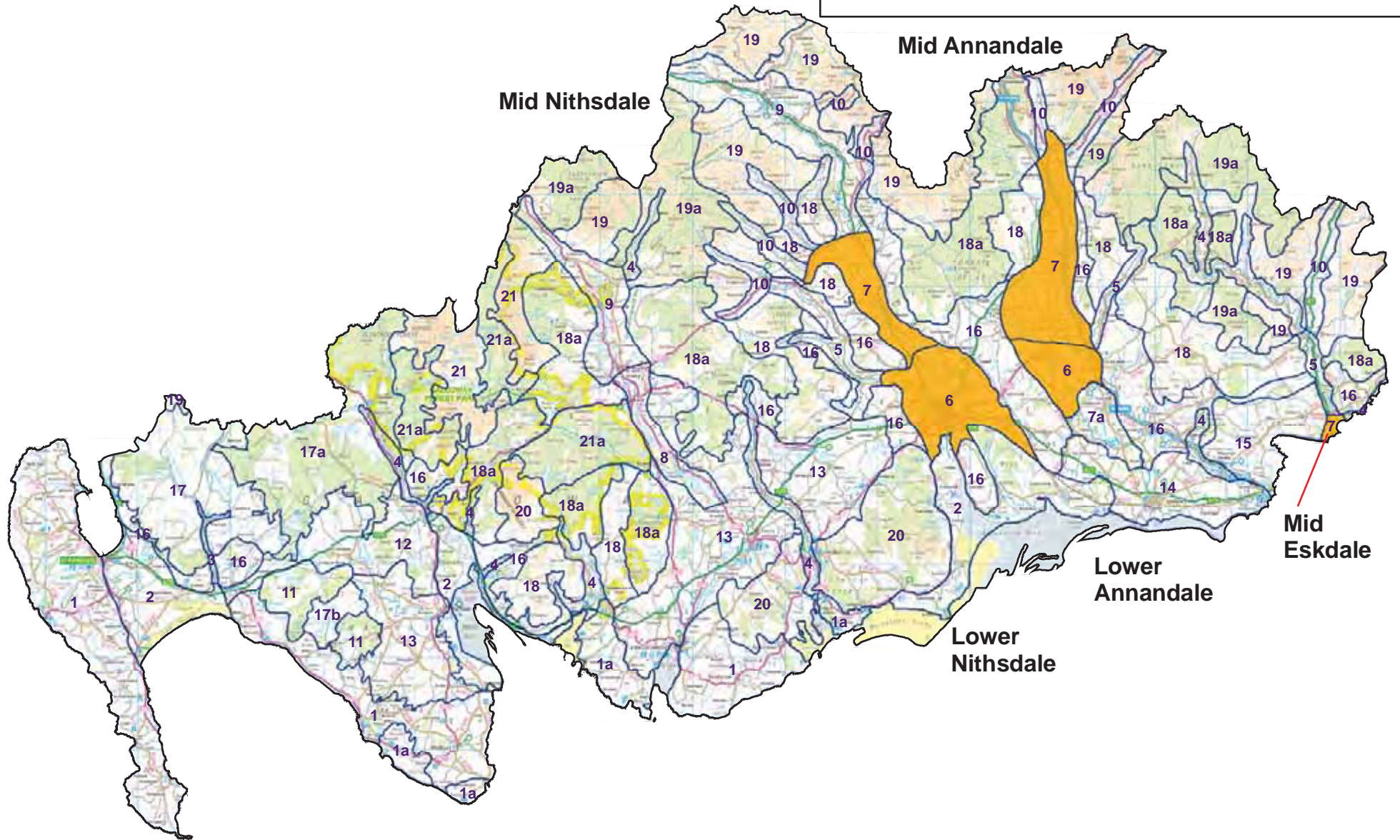
### 9.2 Description and summary of sensitivity

The Lower and Middle Dales vary in width and are contained by the low ridges of the Upland Fringe and Foothills character types. The gently undulating or flat topography is occasionally punctuated by more complex landform of interlocking low knolls formed by glacial deposits, especially at the edges of the dales. There are also extensive and more open floodplains where widely meandering rivers are occasionally contained by river terraces and embankments. Generally open in character, especially where there are large fields extending over gentle undulations, the landscape is one of medium scale. Diverse policy woodlands and field trees are a key feature in many parts of these dales. These landscapes are well settled, with an extensive network of roads linking the numerous farms, villages and major towns.

These dales have a **High** sensitivity to both the large and medium typologies (turbines >50m). However, the openness and more expansive scale of the broader parts of the dales, as well as those areas which are more industrial in character, offer some opportunity to site the small-medium typology (20-50m), and the Lower and Middle Dales are therefore of a **High-medium** sensitivity to the small-medium typology. Sensitivity would be **Low** to small wind turbines (<20m high) due principally to their greater ability to be screened by rolling landform and woodland.

RSA designations cover the northern parts of Mid Annandale and Mid Nithsdale with landscape values ranging from **High-medium** for the large, medium and small-medium typologies and **Medium** for the small typology to **Low** in areas where no designations apply.

Character Type Key Map - 6. Lower Dale (Valley)  
Character Type Key Map - 7. Middle Dale (Valley)



### 9.2.1 Cumulative issues

The operational Dalswinton wind farm development, located within the Ae area of the Foothills with Forest (18a), is widely visible across Nithsdale due to its prominent position on the outer edge of these foothills. The operational Harestanes wind farm is also located in the Ae Foothills with Forest (18a) although it has very limited visibility from Nithsdale and is only seen intermittently from Annandale, largely because of its location set well back into the interior of these foothills.

The existing Minsca wind farm sited in the Annandale Foothills (18) is seen more extensively over Lower Annandale and the consented Solwaybank wind farm, also located in these foothills, is likely to be visible from parts of Lower Annandale.

Any development of the larger typologies (>50m) sited within the Lower and Middle Dales would be likely to be inter-visible with turbines located within the nearby Foothills (18+18a) and potential cumulative effects are one of the key sensitivities inhibiting this scale of development in these dales. Inter-visibility between the small-medium typology (turbines 20-50m) and operational/consented development is likely to be more intermittent, but should be monitored closely, particularly if turbines were to be located on the outer, more elevated edges of the dales and would be likely to be seen in close proximity with operational and consented wind farms.

Key cumulative effects are likely to include:

- Visual clutter created by different models and sizes of wind turbine. These dales have greater scope to accommodate larger numbers of the small typology (turbines <20m), even if planned as occasional small clusters.
- Sequential effects on views from roads, including the M74, in Annandale where the Minsca, Solwaybank, and to a lesser degree the Harestanes and Minnygap, wind farms are seen with the extensive Clyde wind farm in South Lanarkshire. While these effects are minimised due to the wide spacing between developments and key routes, additional larger typologies sited in this character type could significantly contribute to cumulative effects.

### 9.2.2 Key Constraints

- The more complex areas of landform, especially along the sides of the dales or where this forms notable 'pinch-points' within the dales and where river terraces form a striking feature.
- The edges of the dales, where there is generally more complex landform, often higher viewpoints and the potential to impact on adjacent, sensitive landscape types especially the Upland Fringe (16).
- Key landscape features, including lochs and lochans as well as designed landscapes, mature field trees and the meanders of the rivers.

- Archaeological features and broader historic landscapes, particularly those of pre-19th century date.
- The strong pattern of hedgerows and woodlands associated with Mid Nithsdale which lies within the Thornhill Uplands RSA.
- The high visibility of these dales, which are criss-crossed by a dense network of roads and well settled.
- The potential inter-visibility between any turbines sited within the dales and operational/consented wind farms located within nearby Foothills (18+18a).
- The landscape setting these dales and the adjacent Upland Fringe (16) provides to settlements including Dumfries, Lochmaben and Thornhill and the density of dispersed buildings providing ready scale references

### 9.2.3 Opportunities

- The more open and expansive areas of low lying land, especially where there are larger fields and the scale of the vegetation pattern is more extensive
- Areas already the focus of industrial developments, including the edges of industrial estates and large buildings around the major towns.
- Areas where settlement is less dense and visibility is more limited by intervening ridges and woodland.

### 9.3 Guidance on development

There is **no scope** to locate larger typologies (turbines >50m) within the Lower and Middle Dales without incurring significant impacts across a wide spectrum of sensitivities, including cumulative landscape and visual effects with operational and consented wind farm development in adjacent landscapes with a more upland character.

There may be **some limited opportunities** for the small-medium typology (30-50m) to be sited within broader stretches of the dales where landscape pattern is less strong. Turbines should be sited to relate to concave folds in the land form, more open and simple areas of vegetation, gently graded side slopes and areas of more expansive scale. There may additionally be opportunities associated with more industrial areas adjacent to the larger towns. However, the location of developments would need to be carefully considered because of the potential for cumulative effects to arise with operational and consented wind farm developments within the adjacent Foothills (18 and 18a). There is likely to be scope for multiple developments of this small-medium typology within the broader sections of the Lower and Middle Dales, although cumulative effects will be a key limitation. It may be preferable to use turbines towards the lower height band of the small-medium typology in order to create a clear differential between wind turbine developments within landscapes with a more extensive upland character and the well-settled and strongly patterned Lower and Middle Dales which are more 'lowland' in character.

Small turbines (<20m) should be located where they can reinforce the pattern of existing development, visually associated with farms and other small groups and single buildings which provide a framework of built development-related spot features within the dales.

These dales are sensitive to wind farms sited on the outer edges of adjacent upland areas, in particular, the Foothills (18, 18a). Large turbines sited above steep valley sides are likely to be especially prominent and extended or multiple developments could significantly affect views from settlement and key transport routes and the setting of these often diverse dales.

All turbines should be sited to avoid impacts on the setting of settlements, on designed landscapes, archaeological features and key landmark features such as lochs, distinctive patterns of field trees in Annandale, hedgerows and woodlands in Nithsdale and areas of more complex landform. The introduction of additional overhead lines should be avoided and it is recommended that existing overhead lines and any new electricity connection should be under-grounded.

## Landscape Character Type 6, 7 - Lower And Middle Dales

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Scale and openness</b>			
<p><b>Broad, low-lying dales contained by higher character types which form a distinct 'rim' clearly defining the edges. Although gently undulating, these dales are expansive and relatively open, even more so along the wide floodplains and where large fields emphasise openness. Smaller scale landforms at the edge of the dales, where they meet the adjacent higher character types, and some more wooded areas increase enclosure and containment in places.</b></p>	<p>This typology would dominate the scale of these dales, which although generally broad along floodplains also feature many elements which contain and reduce scale such as more complex landform, woodlands, individual trees and field enclosures.</p> <p><b>Sensitivity rating: High</b></p>	<p>There may be some scope to relate this typology to some of the more expansive and open central areas of wide floodplain although where the dales are narrower, and at their edges where landform is smaller in scale, this typology will be harder to accommodate. The presence of woodlands, individual trees and field enclosures all reduce scale in many parts of these dales.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could be accommodated in some of the more open, central areas where the breadth of the landscape is at its most sweeping.</p> <p>However, where the dales are narrower, and at their edges where landform is smaller in scale, this typology will be harder to accommodate as it could easily overwhelm the small scale of these features. Additional sensitivities include where fields and woodland create a small scale landscape pattern, and where there is distinct and evident low relief, such as along well defined river terraces.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landform</b>			
<p><b>The dales have generally flat or undulating relief, with some more irregular and complex landforms associated with glacial deposits where they can create 'pinch-points', for example at Auldgirth in Nithsdale. Floodplains, at times very wide, are flat and sometimes contained by river terraces and embankments.</b></p> <p><b>Smaller, more complex landform and broad terraces are often associated with the edges of the dales.</b></p>	<p>While flatter ground would be less sensitive, more complex landforms associated with glacial deposits and at the edges of the dales and the simple lines of the river terraces would be highly sensitive to this typology sited both within it and close-by as it would disrupt and detract from the integrity of the landform.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>While flatter ground would be less sensitive, more complex landforms associated with glacial deposits and at the edges of the dales and the simple lines of the river terraces would be highly sensitive to this typology sited both within it and close-by as it would disrupt and detract from the integrity of the landform.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The generally low relief and horizontal profile of the wider and more extensive areas of flat or undulating landform offer some potential to accommodate this typology although more complex landform features would be sensitive.</p> <p><b>Sensitivity rating: Medium-low</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Land cover and landmark features</b>			
<p>The field pattern is emphasised by both arable and improved grassland crops extending across the floodplains, undulations and along well drained slopes. The dales are relatively well wooded, except along the floodplains and the occasional more open expanse of larger fields. Extensive bands of broadleaves, conifer woods, small woodlands and lines of single trees reinforce the field and settlement pattern. There are also occasional policy woodland and features associated with individual estates. Features include small lochs and the wide meanders of the rivers.</p>	<p>The small size of individual features - from single, landmark trees to small woodlands and lochs - would be dominated by this typology. Turbines of this height would detract from landmark features but also from the often diverse patterns of woodland, pastures and policies.</p> <p><b>Sensitivity rating: High</b></p>	<p>The small size of individual features - from single, landmark trees to small woodlands and lochs - would be dominated by this typology. Turbines of this height would detract from landmark features but also from the often diverse patterns of woodland, pastures and policies.</p> <p><b>Sensitivity rating: High</b></p>	<p>While the small size of individual features - from single, landmark trees to small woodlands and lochs - could be easily dominated by this typology - there is potential to site single turbines of this size where they can relate to the broad scale of the larger more open fields and areas of conifer forestry.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Settlement and Archaeology</b>			
<p>Well settled, with numerous farms and individual houses as well as villages and small towns and archaeological sites. In addition, larger towns, including Dumfries and Lockerbie and their associated industrial estates, lie within the dales. Criss-crossed by an extensive network of minor and B-class roads, these dales are also traversed by A roads linking the main towns.</p>	<p>This typology would dominate and detract from the numerous small farms, individual houses and small settlements, archaeological and historic features, affecting their setting and the scale of the built development, including larger industrial buildings, across these well-settled dales.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could readily overwhelm the numerous small farms, individual houses and small settlements, archaeological and historic features, affecting their setting and the scale of the built development if sited where they can dominate their visual setting. While there may be greater scope to associate this typology with larger industrial buildings the size of these turbines could affect the setting of nearby residential settlement.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could overwhelm the numerous small farms, individual houses and small settlements, affecting their setting and the scale of the built development if sited where they can dominate their visual setting. However, this size of turbines could fit with larger industrial buildings or be sited in less settled areas thus minimising effects.</p> <p><b>Sensitivity rating: High-Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape context</b>			
<p><b>These relatively wide and open dales permit extensive views to the Upland Fringe (16) and where present, the Foothills (18 and 18a) which often form the containing ridges. In addition, there are some views to the Southern Uplands (19) which lie beyond the Upland Fringe (16).</b></p> <p><b>The dales are widely visible from higher roads and settlement in surrounding types, especially from the Upland Fringe (16).</b></p>	<p>The relatively low profile and small/medium scale and often diverse character of parts of the Upland Fringe (16) creates a setting which limits scope for this typology, especially along the edges of the dales.</p> <p><b>Sensitivity rating: High</b></p>	<p>The relatively low profile and small/medium scale and often diverse character of parts of the Upland Fringe (16) creates a setting which limits scope for this typology, especially along the edges of the dales.</p> <p><b>Sensitivity rating: High</b></p>	<p>The relatively low profile and small/medium scale and often diverse character of parts of the Upland Fringe (16) creates a setting which limits scope for this typology, especially along the edges of the dales. Where the dales abut more expansive landscapes, with larger scale landform and forestry, there may be scope for this typology.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Perceptual qualities</b>			
<p><b>These dales are well settled, easily accessible and relatively busy. They are therefore neither remote nor secluded.</b></p>	<p>While there would be some impact on rural character, this typology would not affect the appreciation of wildland qualities.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>While there might be some impact on rural character, this typology would not affect the appreciation of wildland qualities.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>While there might be some impact on rural character, this typology would not affect the appreciation of wildland qualities.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Views and visibility</b>			
<p><b>The area is highly visible from the extensive road and rail network and from settlement although views can be interrupted by the undulating landform and woodland.</b></p>	<p>The well-settled nature of the dales, their accessibility and openness in places means that this typology would be readily visible over a wide area. Turbines located within the open floodplain would intrude on open views across the dales from roads and settlement. Turbines could also interrupt views to the often highly scenic Upland Fringe (16) for example the Terregles Ridge seen from Nithsdale or the Torthorwald Ridge seen from Annandale.</p> <p><b>Sensitivity rating: High</b></p>	<p>The well-settled nature of the dales, their accessibility and openness in places means that this typology would be readily visible over a wide area. Turbines located within the open floodplain would intrude on open views across the dales from roads and settlement. Turbines could also interrupt views to the often highly scenic Upland Fringe (16) for example the Terregles Ridge seen from Nithsdale or the Torthorwald Ridge seen from Annandale.</p> <p><b>Sensitivity rating: High</b></p>	<p>The relative openness and accessibility of these landscape types increases sensitivity although landform and woodland offer some scope for screening turbines towards the lower height band of this typology.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape values</b>			
<p><b>The Mid Nithsdale area of LCT 7 is covered by the Thornhill Uplands RSA. Technical Paper 6 notes the wide scenic pastoral valley centred on Thornhill with its hedgerows and woodlands.</b></p> <p><b>The far northern tip of ‘Mid Annandale’ is included in the Moffat Hills RSA. Its importance is in providing the setting to the unspoilt borders town of Moffat where it nestles at the junction of the upper glens of Annan and Moffat.</b></p>	<p>This typology would distract from the strong pattern of hedgerows and woodlands in the Thornhill area if sited in or close-by the RSA. It would also adversely affect the setting of Moffat if poorly sited.</p> <p>The prominence and landscape setting of the Torthorwald Ridge would be adversely affected by turbines of this size sited close-by.</p> <p><b>Sensitivity rating: High-medium to Low</b></p>	<p>This typology would distract from the strong pattern of hedgerows and woodlands in the Thornhill area if sited in or close-by the RSA. It would also adversely affect the setting of Moffat if poorly sited.</p> <p>The prominence and landscape setting of the Torthorwald Ridge would be adversely affected by turbines of this size sited close-by.</p> <p><b>Sensitivity rating: High-medium to Low</b></p>	<p>This typology could distract from the strong pattern of hedgerows and woodlands in the Thornhill Uplands RSA. It could also adversely affect the setting of Moffat if poorly sited.</p> <p><b>Sensitivity rating: High-medium to Low</b></p>





Rich pattern of woodlands in lower Eskdale



Large and more open farmland within Nithsdale, edged by the Terregles and Dunscore Ridges



Occasional industrial features occur close to Lockerbie and Dumfries



The Southern Uplands provide a striking backdrop to parts of Nithsdale



More complex landform constricts the broad valley floor of Nithsdale



Field trees and shelterbelts are distinctive within parts of Annandale

## 10. Dale With Hills (7A)

### 10.1 Introduction

The Dale with Hills comprises a small area within Annandale. The assessment and guidance on development section focuses on smaller typologies (turbines <50m) with a brief outline of key constraints relating to larger typologies included in the summary of sensitivity.

#### 10.1.1 Cultural heritage overview

This small character type is characterised by post-improvement (c19th-20th century) fields and farming with some small designed landscapes but little evidence for relict land-uses. There are a few archaeological sites of outstanding significance and distinctiveness.

#### 10.1.2 Operational and consented wind farm development

No wind farm development has occurred within this landscape character type. The operational wind farm of Minsca lies approximately 6km to the north-east within the Annandale Foothills (18) while the operational Harestanes wind farm is located over 15km to the north-west within the Ae Foothills with Forest (18a). These wind farms are visible only from rare more open and elevated parts of this strongly contained landscape.

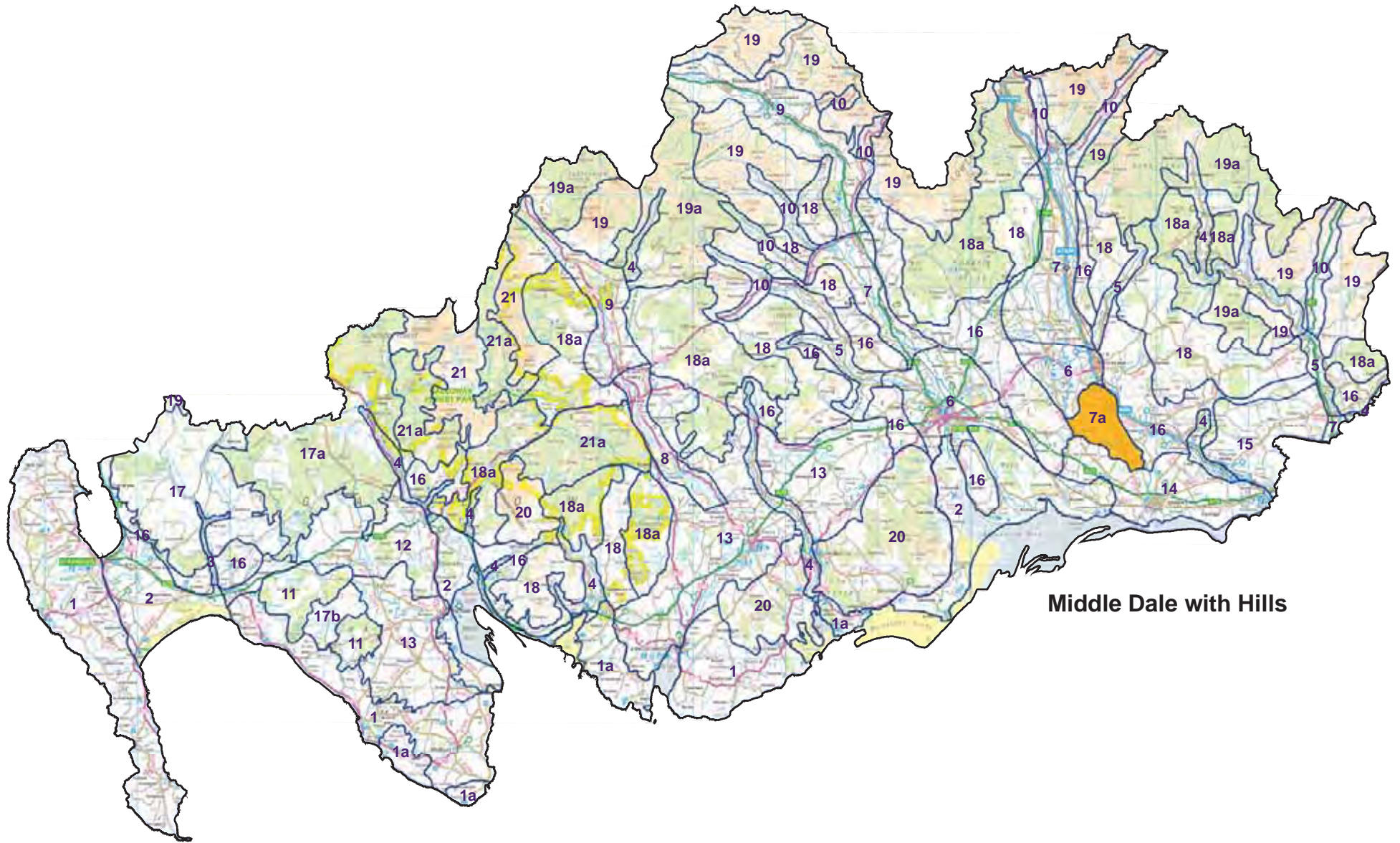
### 10.2 Description and summary of sensitivity

The Middle Dale with Hills is a complex landscape type, with low but well-defined hills cut by narrow sinuous river valleys, straddled between two areas of Upland Fringe (16) character type, and sitting above lower-lying Dales types (6+7). Strongly contained in nature, except where the edges abut much more expansive areas of the surrounding Dales types, this sense of enclosure is reinforced by the woodland, which includes conifer woods, frequent broadleaved belts and widespread policy woodland associated with the many historic estates which lie within this type. These are associated with wide bends on the meandering rivers. This area is well settled, with an extensive network of often tiny roads linking numerous farms. Woodland and some of the areas of higher relief limit the extent of views in many areas.

The landscape of the Middle Dale with Hills has an overall **High** sensitivity to the large, medium and small-medium typologies (turbines >20m) and an overall **Medium** sensitivity to small wind turbines (turbines <20m).

This landscape is not covered by any designations although the complexity of landform and richness of wooded policies give this landscape a distinctive quality and a strong 'sense of place'. Landscape values would be **Medium-low** for all typologies.

Character Type Key Map - 7a. Middle Dale with Hills



### 10.2.1 Cumulative issues

There is potential for any turbines sited on the edge of this type to be seen in conjunction with any turbines located within adjacent Dales (6+7) and the Coastal Plateau (14) character types. Larger wind farm development within the Annandale Foothills (18), including the operational and consented Minsca and Solwaybank wind farms are/will also be visible from open hill tops and monuments such as the Repentance Tower within this character type. The use of small turbines in this character type will be likely to avoid significant cumulative landscape and visual impacts. Although inter-visibility is only likely to be intermittent in this strongly contained landscape, turbine development should be monitored closely, especially at the transition between this type and the dales.

Additional cumulative impacts may arise if more than one, or small groups, of small turbines appear, and the relationship between proposals for this typology will need to be monitored closely. Cumulative effects are most likely to comprise increased visual clutter, which may be compounded by different turbine models, and the perception of turbines visually detracting from the rural character, sense of seclusion or historic integrity of this landscape.

### 10.2.2 Key constraints

- The more complex areas of landform, especially along the river bluffs, on top of the prominent hill tops and more interlocking ridgelines, or sinuous, steep sided, narrow river valleys with landform and extensive woodland combining to create an often intimate scale.
- The setting of key landscape features, including both built historic features, designed landscapes, and archaeological sites including those on hill tops.
- Visual foci, which includes vistas, views along the sinuous rivers and prominent hill top features.
- The strong 'sense of place' which derives from the consistent presence of historic and designed landscapes, and the secluded character of this distinctly contained landscape.
- Potential inter-visibility with operational and consented wind farms (which are associated with more extensive and simpler semi-upland foothill landscapes) from occasional open and elevated viewpoints.

### 10.2.3 Opportunities

- The more open and expansive areas of low-lying land at the edges of this type.
- Areas of more undulating landform which are less dramatic than the steep-sided river valleys.
- Areas where settlement is sparser and visibility is more limited by intervening ridges and woodland.

## 10.3 Guidance on development

There is no scope for the large, medium or small-medium typologies (turbines >50m) to be sited in this landscape due to the significant impacts that would occur across the majority of sensitivity criteria. Small turbines (<20m high) could be accommodated but should be located only where they can reinforce the pattern of existing development, associated with farms and other small groups and single buildings which provide a framework of built development related spot features within the dales. They should avoid impinging on the setting of historic buildings and their designed landscapes and on archaeological features. The introduction of additional overhead lines should be avoided and it is recommended that existing overhead lines and any new electricity connection should be under-grounded. Supplementary Guidance is provided on the siting and design of smaller wind turbines under 50m high.

## Landscape Character Type 7A Middle Dale With Hills

Topics and summary description	Assessment: Small-medium turbines (20-50m)
<b>Scale and openness</b>	
<p>Pronounced, often steep sided and sometimes interlocking hills stand proud of the more low-lying undulating valleys and occasional flat floodplain.</p> <p>The hills are small, rising only to 120m and are cut by narrow river valleys. The often small scale of the topography is emphasised by woodland which enhances the sense of containment.</p>	<p>The small to medium scale of this landscape, and low relief of the hills, severely limits opportunities to accommodate this typology. Even the areas of more level plain contained in this landscape provide the setting for the small hills, and so are sensitive to this typology.</p> <p><b>Sensitivity rating high</b></p>
<b>Landform</b>	
<p>Steep side slopes, or rocky bluffs, rise from narrow river valleys to elongated but interlocking ridges and small hills. Land form complexity is reinforced by the sinuous shape of the river valleys. The valleys are interspersed by wider, more undulating valley floors and occasional floodplains.</p>	<p>The complexity of the landform limits opportunities for this typology, which would easily detract from the vertical drama of the bluffs or the relationship between the hills and the surrounding more level land.</p> <p><b>Sensitivity rating high</b></p>
<b>Land cover and landmark features</b>	
<p>Extensively wooded, with conifer woodlands and broadleaved belts. There are several areas of extensive policy woodland and parkland associated with large estates. Small and medium sized fields of grass and some arable crops are surrounded by fences and hedges, with occasional lines of trees across gentler slopes and undulating valley floors.</p>	<p>The small size of individual features - from single, landmark trees to small woodlands, lines of trees and widespread policy woodland features would be easily dominated by this typology.</p> <p><b>Sensitivity rating high-medium</b></p>
<b>Settlement and archaeology</b>	
<p>Relatively well settled, with numerous farms and several individual large estates surrounding historic houses often located near sweeping bends in the rivers. There are frequent smaller built features, from bridges to gateposts, associated with these individual estates.</p> <p>Criss-crossed by an extensive network of minor and B-class roads, which also link small settlements tucked in between the hills, sometimes associated with river crossings.</p> <p>There are various prominent historic features within this area, as well as archaeological sites.</p>	<p>This typology could readily overwhelm small farms, small settlements, individual houses, historic sites and buildings and frequent archaeological features, affecting their setting and the scale of the built development if sited where they can dominate their visual setting.</p> <p>Hill top features are an additional sensitivity.</p> <p><b>Sensitivity rating high</b></p>

Topics and summary description	Assessment: Small-medium turbines (20-50m)
<b>Landscape context</b>	
<p>These hills stand proud of the surrounding dales (6 and 7), and lie adjacent to the Torthorwald unit of the Upland Fringe (16). The long ridge of Torthorwald forms a richly scenic backdrop to this landscape.</p>	<p>The relatively low profile and small/medium scale of the Upland Fringe creates a setting which further limits scope to accommodate this typology. Where the edges of this character type abut very much more expansive areas of the dales landscape types (6 and 7), there may be scope to accommodate smaller sizes of this typology without impacting on more complex elements of the dales landscapes.</p> <p><b>Sensitivity rating high-medium</b></p>
<b>Perceptual qualities</b>	
<p>This area is well settled, but is relatively tranquil and secluded, in places the sense of being 'hidden' from surrounding landscapes adds to an easily identifiable 'sense of place'. This is further enhanced by the consistency and quality of the designed landscapes and historic features.</p>	<p>This typology could readily impinge upon the sense of seclusion and of being 'set apart' which characterises this landscape. In addition, the integrity of the coherent sense of place created by the frequent historic features would be undermined by this typology.</p> <p><b>Sensitivity rating high-medium</b></p>
<b>Visual amenity</b>	
<p>The hills, narrow valleys and frequent ridges limit widespread visibility within this landscape. Views are further restricted by the woodland and tree cover, except in the wider valley floors which are more open. However, there are dramatic views down into the narrow valleys, and key visual sensitivities, including views along the rivers, and to and from key hill tops, vistas and monuments associated with the designed landscapes</p>	<p>Views of this typology are likely to be limited by topography and tree cover, so that visibility is intermittent. Nevertheless, the size of this typology could easily impinge upon more dramatic visual features and distract from the focus of key views.</p> <p><b>Sensitivity rating high-medium</b></p>
<b>Landscape values</b>	
<p>Although there are no designated landscapes within this character type, rich woodlands and policy features give a distinct 'sense of place'.</p>	<p><b>Sensitivity rating Medium-low</b></p>



A small scale rolling landform with dramatic bluffs above incised river valleys



The often intricate pattern of woodlands and individual trees associated with designed landscapes



A rich historical character with many features of interest.



Views to and from focal hills marked with landmark buildings and Torthorwald Ridge are important

## 11. Flooded Valley (8)

### 11.1 Introduction

There is only one Flooded Valley defined within Dumfries and Galloway, the Ken Valley. This landscape comprises a shallow valley with an artificially raised loch (Loch Ken) and a narrow floodplain around the River Dee. It lies between the steep sided Rugged Granite Uplands with Forest (21a) to the west and an area of Drumlin Pastures (13) to the east.

There are no detailed sensitivity tables provided for this landscape character type due to the low demand for wind energy development. The guidance on development section focuses on smaller typologies (turbines <50m) with a brief outline of key constraints relating to larger typologies included in the summary of sensitivity.

#### 11.1.1 Cultural heritage overview

This landscape type is characterised by post-improvement (c19th-20th century) fields and farming with some small designed landscapes but little evidence for relict land-uses. Nevertheless, there are archaeological sites of outstanding significance and distinctiveness.

#### 11.1.2 Operational/consented wind farm development

While there has been no wind farm development in this landscape character type, the under-construction and consented wind farms of Blackcraig and Mochrum Fell in the Stroan area of the Foothills with Forest (18a) may influence views from this landscape.

### 11.2 Description and summary of sensitivity

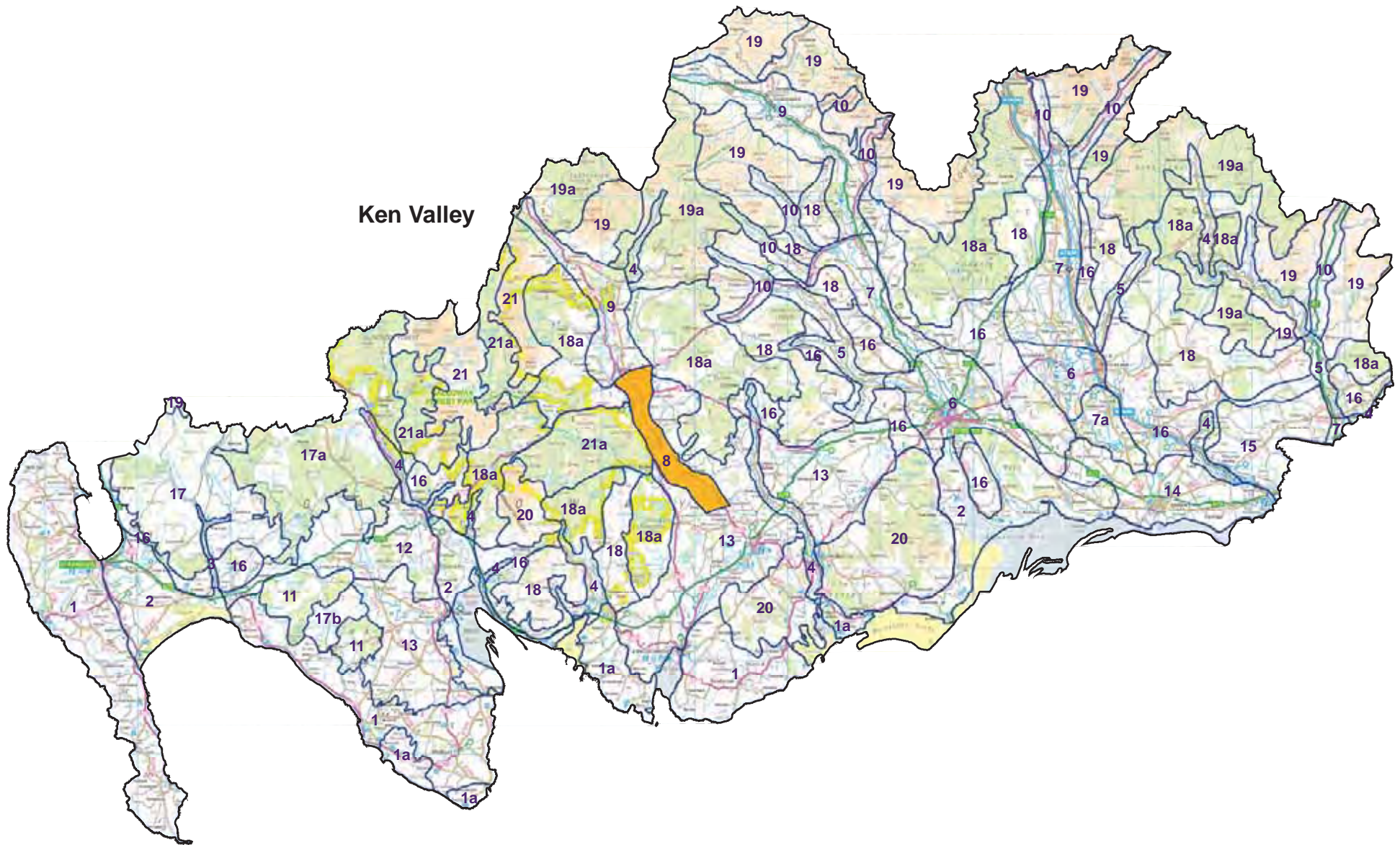
The Flooded Valley is identified as a unique character type within the Region. The linear loch, although raised artificially, is semi-natural in character, with intricately shaped margins edged with riparian woodland and wetland. There are many small scale features in this landscape, from the islands on the loch, to the low mounded landforms, rocky terraces, interlocking drumlins and small woodlands, individual trees narrow winding roads and diverse settlement pattern. The setting of the steep conifer-clad slopes of Cairn Edward and Bennan Hill provide a simple and dramatic contrast to this intricate landscape. Views tend to focus along the length of the loch wherever it is visible.

The small scale of this landform and loch, and the diverse patterns of vegetation and settlement result in a **High** sensitivity to both the large and medium typologies (turbines >50m). Sensitivity would be **High-medium** to the small-medium typology (turbines 20-50m) and **Medium-low** sensitivity to small wind turbines (turbines <20m).

This character type is largely covered by an RSA designation. There would be a **High-medium** sensitivity to the large, medium and small-medium typologies (turbines >20m) and a **Medium-low** sensitivity in terms of landscape values to the small typology (turbines <20m).



Character Type Key Map - 8. Flooded Valley



### 11.2.1 Cumulative issues

There is potential for turbines sited in this character type to be seen in conjunction with larger wind farms located in the nearby Stroan Foothills with Forest (18a). Large turbines in this landscape would be contrary to the established association of wind farms with more expansively scaled and simpler upland areas.

Cumulative effects are most likely to comprise increased visual clutter and the sense of turbines visually detracting from the complexity of the landform and the focus of Loch Ken where they become visually dominant.

### 11.2.2 Key constraints

- The visual focus of Loch Ken and its setting, its semi-natural, intricately-shaped margins and its reflective and tranquil qualities.
- The small scale and rounded, low relief of many of the landforms and their seamless transition with the adjacent Drumlin Pastures landscape character type.
- The diversity of the landscape, including the interlock of landform and tree cover, and the relationship between current and historic settlement and landform, which creates intricate landscape patterns.
- Views from roads, settlements and other key features, especially where they focus along the length of the valley or across the loch.

### 11.2.3 Opportunities

- Long, sweeping slopes, gentle gradients with a simpler pattern and area back-dropped by adjacent Foothills and higher ground which have a much simpler profile and greater scale and could provide opportunities to assimilate the small/medium typology (turbines 20-50m).
- The pattern of settlement, which is relatively dispersed and widespread, and provides a framework of point features with which small turbines could be associated without giving a cluttered appearance to the landscape.

## 11.3 Guidance on development

There is **no scope** to accommodate the large and medium scale typologies (turbines >50m) within this character type without significant adverse impacts occurring across key landscape and visual sensitivities.

There is **very limited** scope for the small/medium typology (turbines 20-50m). They should be located where they can be related to landform of an appropriate scale, including terraces or concave folds in the land form, preferably against a backdrop of larger scaled and more open landscapes which occurs in the north-eastern part of this character type. Careful consideration of the size of these turbines relative to the numerous built and natural features which are widespread in this landscape, for example exploring options around the 35m height, could create more opportunities for siting this size of development.

There is increased scope for the small typology (turbines <30m) to be located in this landscape. Turbines below 20m should be sited where they can reinforce the pattern of existing built development. All turbines should be sited to avoid particularly complex small scale landforms and highly sensitive loch edges. Turbines should avoid intrusion on key views to and from important features, including Loch Ken and its setting, distinctive buildings, archaeological features and policy landscapes.

Care should also be taken if siting large developments on immediately adjacent upland character types, as if poorly sited these could 'perch above' and easily dominate the Flooded Valley (8). Multiple wind farm developments located on Foothill landscapes either side of this valley could cumulatively result in a dominant corridor effect seen from key transport routes and areas used for recreation.



Loch Ken forms the key focus of this character type



The high recreational use of the loch increases sensitivity to development



Richly diverse wetland and scrub fringes the loch



Policy woodlands and rolling farmland merge with the adjacent Drumlin Pastures

## 12. Upper dales (9)

### 12.1 Introduction

The Upper Dales landscape character type comprises the upper valleys of the Rivers Nith and Ken. The two landscape units of Upper Nithsdale and the Upper Glenkens defined within this landscape character type are considered separately in the assessment because of differences in their geographic context and the degree of influence of recent wind farm development.

#### 12.1.1 Cultural heritage overview

This landscape type is characterised by post-improvement (c19th-20th century) fields and farming on the valley bottoms, with some designed landscapes. The valley sides include areas of medieval landuse and settlement, and pockets of industrial heritage. There are numerous archaeological sites of outstanding significance and distinctiveness, some of which are promoted for public benefit. In addition, there is the largest designed landscape in the region, Drumlanrig Castle in Nithsdale, as well as three Archaeologically Sensitive Areas in the Ken valley.

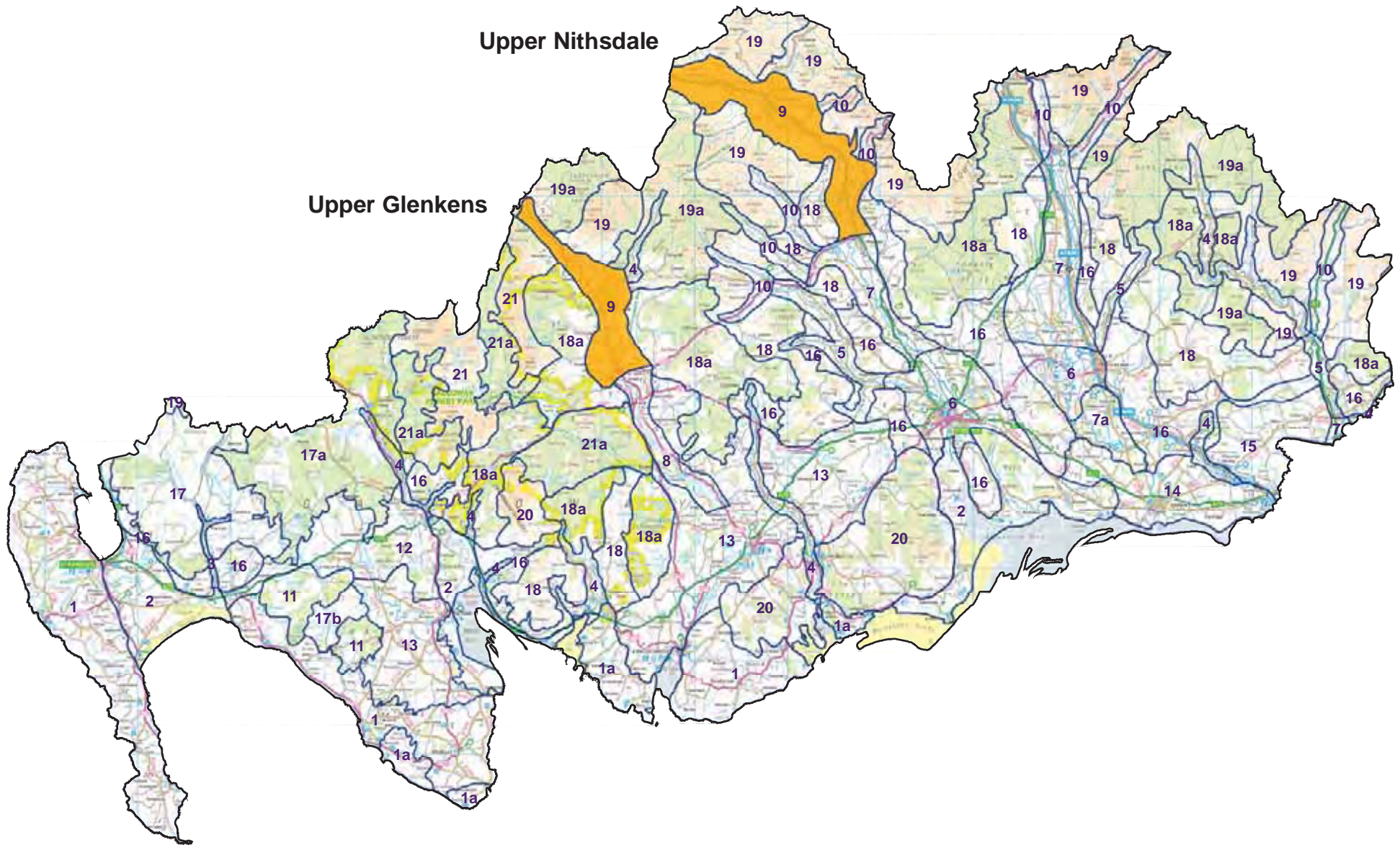
#### 12.1.2 Operational/consented wind farms

The operational Sunnyside turbines and consented Sandy Knowes wind farm are located in Upper Nithsdale (the latter development partially in this LCT and partially in the adjacent Nithsdale unit of the Southern Uplands (19)). The Upper Nithsdale

area is influenced in the north-west by the operational Hare Hill wind farm in adjoining East Ayrshire and there are views of the operational Dalswinton wind farm located in the Ae Foothills with Forest (18a) from parts of Nithsdale. The under-construction Whiteside wind farm and the consented Sanquhar, Glenmuckloch and Twenty Shilling wind farms located in the adjacent Southern Uplands (19) - Nithsdale unit will also be visible from Upper Nithsdale.

The consented Torrs Hill wind turbines are sited within the Rhinns of Kells unit of the Foothills with Forest (18a), adjacent to and visible from the Upper Glenkens. The under-construction wind farm of Blackcraig and the Mochrum Hill wind farm, sited in the Stroan unit of the Foothills with Forest (18a) will also be visible from the southern parts of the Upper Ken landscape unit.

Character Type Key Map - 9. Upper Dale (Valley)



## 12.2 Upper Nithsdale - Description and summary of sensitivity

The upper dale of Nithsdale comprises a predominantly broad valley contained by much higher hills, including the Southern Uplands and other upland character types. The gently undulating valley floor gives way to either uneven, but gently graded side slopes, or to more steep-sided and strongly enclosing slopes within the narrower gorge-like valley of the Nith in the south-east of the character unit. Outcrop hills form key pinch-points within the valley, marking the change between the narrower south-eastern extent of the valley and the broader and more open valley in the Sanquhar and Kirkconnel area. Enclosed pastures extend up to higher, more open rough grazing and bracken covered slopes in the broader section of the dale although the more confined southern area is densely wooded and features some semi-natural woodland and the policies of Drumlanrig Castle designed landscape. While the floor of the dale is well settled and linked by major roads, the upper slopes and side valleys are more sparsely settled. Former mining activity is evident in disturbed/reclaimed ground and coniferous plantations on lower hill slopes in the Sanquhar and Kirkconnel area.

Operational wind farms and large wind turbines influence the character of this landscape and this influence will significantly increase due to the number of consented developments located in this landscape unit, the adjacent Southern Uplands -

Nithsdale (19) landscape character type and within neighbouring East Ayrshire.

The assessment concluded that Upper Nithsdale has a **High** sensitivity to the large and medium typologies (turbines >50m). While the openness and more expansive scale of the broader parts of these upper dales offer some opportunities for smaller turbines, cumulative issues are a key constraint and sensitivity is **High-medium** for the small-medium typology (turbines 20-50m).

RSA designations and the Inventory-listed designed landscape of Drumlanrig Castle cover the southern part of Upper Nithsdale. There would be a **High-medium** sensitivity in terms of landscape values for the large, medium and small-medium typology. Landscape values are **Low** within undesignated parts of north-west Nithsdale.

### 12.2.1 Cumulative issues

The Sunnyside wind turbines and the recently consented Sandy Knowe wind farm will be closely inter-visible with other operational and consented wind farm development located within the adjacent Nithsdale unit of the Southern Uplands (19), the Ken unit of the Southern Uplands with Forest (19a) and in neighbouring East Ayrshire. Significant cumulative effects are likely to occur on views from roads, settlement and footpaths within the north-western part of Upper Nithsdale due principally to the combination of the operational Sunnyside turbines and Hare Hill wind farm and the consented Sandy Knowe and Glenmuckloch wind farms.

The Sandy Knowe wind farm will be contrary to the established pattern of wind farms associated with more extensively scaled upland landscapes because of its location on the lower hill slopes within the Nith valley. This development will blur the differences between the more settled and diverse Upper Dale (9) and the Southern Uplands (19)/Southern uplands with Forest (19a) and it may also emphasise the perceived negative aspects of landscape character associated with former mining activity in the Sanquhar and Kirkconnel area. The consented Glenmuckloch pumped storage scheme may contribute to cumulative effects in this area.

Further development of large turbines in Upper Nithsdale would be likely to incur the following cumulative effects:

- An increasing domination on views from settlement and on the setting provided by farmed and wooded slopes to settlements such as Sanquhar.
- Sustained simultaneous and sequential views of large turbines either side of the A76 (and extending into East Ayrshire) potentially creating an overwhelming effect for viewers.
- An accentuation of the negative aspects of landscape character associated with disturbed land in former mining areas, increasing visual clutter and confusion and affecting the perception of the rural landscape.

Inter-visibility between smaller turbines and operational/consented development is likely to be more intermittent, but should be monitored closely, especially as turbines located at the less sensitive upper edges of Upper Nithsdale are likely to be seen in close proximity with operational and consented wind farms.

### 12.2.2 Key constraints

- The narrower south-eastern section of this upper dale, especially where enclosure is emphasised by steeper slopes and woodland.
- The outcrop hills, for example north of Crairiepark Farm in Nithsdale and more complex knolly landform often found within the floors and lower slopes of these Upper Dales.
- Key landscape features, including the River Nith and the extensive designed landscape of Drumlanrig Castle.
- The high visibility of Nithsdale from the A76 and from settlement.
- The density, extent and inter-visibility of large wind farms and wind turbines sited both in this character type and within the nearby Southern Uplands (19) within Dumfries and Galloway and in neighbouring East Ayrshire, which inhibits scope for further development.

- The cumulative effects of multiple wind farms sited in the Southern Uplands (19) and Southern Uplands with Forest (19a) either side of this upper dale and seen on prominent skylines from roads and settlement.
- The RSA designation and Inventory listed designed landscape present in the south-eastern part of this landscape.

### 12.2.3 Opportunities

- The more open and expansive areas of the upper dales, where the vegetation pattern becomes more extensive and where there is a backdrop of larger hills and broad sweeping upland slopes which are not strongly influenced by operational and consented wind farm developments.

## 12.3 Guidance for development

There is **no scope** to locate larger typologies (turbines >50m) within the Upper Dale - Upper Nithsdale without incurring significant adverse impacts across a wide spectrum of sensitivities, including cumulative landscape and visual effects with operational and consented wind farm development located in this and adjacent landscape character types.

There may be **some very limited** opportunities for the small-medium typology (20-50m) to be sited within broader stretches of Upper Nithsdale and relating to concave folds in the land form, natural terraces, more open and simple areas of

vegetation, gently graded side slopes and areas of more expansive scale. However, the location of developments would need to be carefully considered because of the potential for cumulative effects to arise with existing, consented and proposed wind farm developments within the adjacent Nithsdale and NW Lowthers unit of the Southern Uplands (19). It may be preferable to use turbines towards the lower height band of the small-medium typology (closer to 30m) in order to minimise cumulative effects with much larger turbines.

Small turbines below 20m high should be located where they can reinforce the pattern of existing development, associated with farms and other small groups and single buildings which provide a framework of built development-related spot features within the dales. All turbines should be sited to avoid impacts on the setting of settlements and on designed landscapes. Areas of more complex landform and key outcrop hills should also be kept free of development.

This landscape is sensitive to wind farm development sited in the adjacent Foothills (18), Southern Uplands with Forest (19a) and Southern Uplands (19) particularly where the dale is narrow and turbines would form prominent features seen above steep containing slopes. Extended and multiple wind farm developments seen on skylines of the adjacent uplands from key transport routes and settlement could create a dominant corridor effect.

**Character Type 9 - Upper Dale - Upper Nithsdale**

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Scale and openness</b>			
<p>These broad valleys are contained by upland hills and are generally enclosed by sweeping but rounded, gentle slopes, which steepen in places to create more enclosure. There are also narrow 'pinch-points' reinforced by outcrop hills. At their most broad, and especially where more loosely contained by gently graded side slopes, these dales are open and of medium scale, but where they are more contained, enclosed by steeper slopes and where the valley floor is narrow, they are less open and more confined. This type also includes a small number of side valleys, which are more enclosed.</p>	<p>This typology would dominate the scale of these dales, which although broad in some sections, also feature many elements which contain and reduce scale such as more complex landform, woodlands, individual trees and field enclosures. Steep slopes and more confined sections of these dales and their side valleys would physically inhibit this typology.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would overwhelm more confined valleys and areas where the landform is smaller. There may be some scope to relate this smaller typology to broader sections of these dales where the upper reaches of more open gentler hill slopes merge seamlessly with the lower slopes of the surrounding uplands.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could be accommodated where the breadth of the landscape is at its most sweeping, especially at the upper reaches of the broader, gentler slopes which merge seamlessly with the lower slopes of the surrounding uplands. However, where the dales are narrower, slopes are steeper, at pinch-points and where landform is smaller in scale, this typology will be harder to accommodate as it could easily overwhelm the smaller scale of the narrower, more confined spaces. This typology will also be harder to accommodate in the side valleys, where the more enclosed space could be quickly overwhelmed</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landform</b>			
<p>The often relatively undulating valley floors extend to either gentle slopes with a rounded profile sometimes interrupted by broad terraces or more even steeply rising side slopes (usually, one side of the valley is steep, the other more gentle). Prominent outcrop hills sit part way up the dale. Smaller, more complex landforms, low ridges and knolls associated with glacial deposits, or narrower side valleys occur along the edges of these upper dales.</p>	<p>This typology would have significant impacts on more dramatic and complex landform including steep slopes within confined valleys, hummocky terrain and prominent outcrop hills although it could relate to smoother, gentler upper side slopes at the transition with the adjacent Southern Uplands (19).</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>The more extensive areas of gently undulating landform and long side slopes at the transition with the Southern Uplands (19) could potentially accommodate this typology although more complex landforms associated with glacial deposits steeper gradients and the prominent outcrop hills are areas where the landscape is more sensitive to this typology, which could distract from the integrity of the landform.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>The more extensive areas of undulating landform and gentle side slopes offer some potential to accommodate this typology. However, the more complex landforms associated with glacial deposits steeper gradients and the prominent outcrop hills are areas where the landscape is more sensitive to this typology, which could distract from the integrity of the landform.</p> <p><b>Sensitivity rating: Medium</b></p>



Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Land cover and landmark features</b>			
<p>A generally diverse landscape with fields of grazed improved pasture, wet grassland, more open rough grazing and bracken covered slopes. Both hedges and dykes feature, with the upper margin of the fields varying in elevation along the length of the dales. Woodland cover further emphasises this diversity, with single field trees to parkland and policies. Semi-natural woodlands are a key feature of the more confined south-eastern section of the valley as well as extensive policy woodlands associated with the Drumlanrig estate. Open cast coal mining and reclaimed land features are evident in the Sanquhar and Kirkconnel area.</p>	<p>This typology would significantly affect the diverse and intricate pattern of woodlands, designed landscape features and field enclosures. While it could relate to the simple land cover of rough grazing and forestry on upper side slopes at the transition with the Southern Uplands (19), these areas are not extensive and development would impact on adjacent areas with a more complex land cover pattern.</p> <p><b>Sensitivity rating: High</b></p>	<p>The small size of individual features - from single, landmark trees to small woodlands and lochs - would be dominated by this typology. Larger more open fields and areas of more upland character, where rough grassland and bracken dominate have a reduced sensitivity although turbines of this height would detract from landmark features but also from more diverse patterns of woodland, pastures and policies.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>While the small size of individual features - from single, landmark trees to small woodlands and lochs - could be easily dominated by this typology - there is potential to site single turbines of this size where it can relate to the broad scale of the larger more open fields and areas of more upland character, where rough grassland and bracken dominate.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Settlement and Archaeology</b>			
<p>Settlement too is variable with sparsely settled upper slopes contrasting with the more developed lower dale, where large villages are located along the valley floor adjacent to roads, while there is a range of archaeological and historic features across both the upper and lower slopes of this landscape type. Major A roads extend through the floor of the dale, while more narrow minor roads are elevated on the upper slopes. Industrial features associated with former coal mining are present in the north-western part of Nithsdale.</p>	<p>This typology would readily overwhelm the small farms, individual houses, settlements and archaeological sites and areas characteristic of these dales, affecting their setting and the scale of the built development.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could overwhelm the small farms, individual houses small settlements and archaeological features, affecting their setting and the scale of the built development if sited where they can dominate their visual setting. However, the less settled upper side slopes offer some potential to accommodate smaller turbines within the lower height band of this typology while minimising effects on scale and setting. However, the setting of archaeological/historic sites and areas remains sensitive.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could readily overwhelm the small farms, individual houses and small settlements, affecting their setting and the scale of the built development if sited where they can dominate their visual setting. However, the less settled areas offer some potential to accommodate this typology but the setting of archaeological/historic sites remains sensitive.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape context</b>			
<p><b>Upper Nithsdale lies between the Southern Uplands (19) and is strongly contained by these hills. There is often a seamless topographical transition between the more open upper slopes of the dale and this upland character type in the north-west. There is clear inter-visibility between the dale and these surrounding hills, and where the uplands are gently sloped, they provide a large scale context and visual backdrop to the upper dale. The Southern Uplands (19) are more steeply sloping and dramatic to the south-east.</b></p>	<p>The visual containment of this landscape unit limits potential widespread effects on other landscape character types. Large wind turbines sited within this landscape could impact on the more pronounced and dramatic hills of the Southern Uplands (19) which generally lie in the SE of this unit. While the expansiveness of the adjacent less sensitive parts of the Southern Uplands creates a wider setting for accommodating this typology, the presence of operational and consented wind farms in these upland areas increases sensitivity.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The visual containment of this landscape unit limits potential widespread effects on other landscape character types. Large wind turbines sited within this landscape could impact on the more pronounced and dramatic hills of the Southern Uplands (19) which generally lie in the SE of this unit. While the expansiveness of the adjacent less sensitive parts of the Southern Uplands creates a wider setting for accommodating this typology, the presence of operational and consented wind farms in these upland areas increases sensitivity</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This smaller typology, and particularly turbines towards the lower height band, would have less of an impact on the Southern Uplands (19) although the more dramatic hills and operational and consented wind farm developments remain sensitive.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Perceptual qualities</b>			
<p><b>Upper Nithsdale is well settled and easily accessible with a sense of seclusion only experienced within some of the smaller side valleys.</b></p>	<p>While there would be further erosion of the perception of rural character, this typology would not affect the appreciation of wildland qualities apart from in the side valleys, which are less well developed and more secluded.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>While there would be some further erosion of the perception of rural character, this typology would not affect the appreciation of wildland qualities apart from in the side valleys, which are less well developed and more secluded.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>This smaller typology, and particularly turbines towards the lower height band of this typology would have less of an impact on the perception of rural character and on wildland qualities in more secluded areas.</p> <p><b>Sensitivity rating: Low</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Views and visibility</b>			
<p>The area is highly visible from the A76 and from settlements and individual farms and houses often located at a relatively high level along the side slopes.</p> <p>Views can be interrupted by localised undulating landform and woodland and very confined within the narrower stretches of the valley. Key views extend along the valleys, and towards side valleys, the outcrop hills and the backdrop provided by the Southern Uplands (19).</p>	<p>The relative accessibility and openness of this landscape type means that tall structures associated with this typology have the potential to be readily visible over a wide area. Turbines located within the floor and lower slopes of the dales would intrude on presently open views across the dale from roads and settlement. Cumulative visual effects with operational and consented wind energy developments are a key sensitivity.</p> <p><b>Sensitivity rating: High</b></p>	<p>The relative accessibility and openness of this landscape type means that tall structures associated with this typology have the potential to be readily visible over a wide area. Turbines located within the floor and lower slopes of the dales would intrude on presently open views across the dale from roads and settlement. Cumulative visual effects with operational and consented wind energy developments are a key sensitivity.</p> <p><b>Sensitivity rating: High</b></p>	<p>Turbines of this size located within the floor and lower slopes of the dale would also intrude on presently open views from roads and settlement although they would be less visually dominant if sited on upper side slopes and back-dropped by rising ground within broader sections of the valley. Cumulative visual effects with operational and consented wind energy developments are a key sensitivity.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Landscape values</b>			
<p>The south-eastern part of the Upper Nithsdale unit falls within the Thornhill Uplands RSA. Technical Paper 6 defines the steep-sided narrow Drumlanrig Gorge and the interlocking pattern of policy woodlands as key special qualities. The Inventory listed designed landscape of Drumlanrig Castle</p>	<p>This typology would have a significant impact on the sensitive interlocking pattern of policy woodlands in the Drumlanrig area if sited within or close-by this part of the RSA. It could also detract from the strong containment and drama of the narrow gorge south of Mennock if visible on the skyline of containing hills.</p> <p>The setting of Drumlanrig Castle could be compromised by turbines sited in the SE of this unit.</p> <p><b>Sensitivity rating: High to Low</b></p>	<p>It would have a significant impact on the sensitive interlocking pattern of policy woodlands in the Drumlanrig area if sited within or close-by. It could also detract from the strong containment and drama of the narrow gorge south of Mennock if visible on the skyline.</p> <p>The setting of Drumlanrig Castle could be compromised by turbines sited in the SE of this unit.</p> <p><b>Sensitivity rating: High to Low</b></p>	<p>Even smaller turbines would have a significant impact on policy woodlands and the setting of the designed landscape of Drumlanrig and on the character of the Mennock gorge although there may be some opportunities to site turbines towards the lower height band of this typology to minimise effects in the more sensitive SE parts of this landscape unit.</p> <p><b>Sensitivity rating: High-medium to Low</b></p>

## 12.4 Upper Glenkens character area

### 12.4.1 Description and summary of sensitivity

The Upper Glenkens forms a broad valley, contained by high hills, including the Southern Uplands (19) character type. The gently undulating to flat valley floor gives way to either uneven, but gently graded side slopes, or to more steep-sided and enclosing slopes. While the valleys are generally wide and open, occasional outcrop hills create 'pinch points'. Enclosed pastures extend up to higher, more open rough grazing and bracken slopes. Woodlands are a key feature and these include semi-natural woodlands and the policies of designed landscapes. While the floor of the dale is well settled and linked by major roads, the upper slopes and side valleys are more sparsely settled.

There is a **High** sensitivity to the large typology (turbines 80-150m) and a **High-medium** sensitivity to the medium typology (turbines 50-80m). The openness and more expansive scale of the broader parts of these upper dales, however, offer some opportunities for smaller typologies and there would be a **Medium** sensitivity to the small-medium typology (turbines 20-50m) and a **Low** sensitivity to small wind turbines (<20m high).

RSA designations cover much of the Upper Glenkens area and there are a number of Archaeologically Sensitive Areas. There would be a **High-medium** sensitivity in terms of landscape values for the large, medium and small-medium typology and a **Medium** sensitivity for small turbines.

### 12.4.2 Cumulative issues

Operational wind farms located within the adjacent Southern Uplands (19) and Southern Uplands with Forest (19a) character types do not have a strong influence on this landscape. The consented developments of Torrs Hill, Blackcraig and Mochrum Hill sited in the Rhinns of Kells and Stroan areas of the Foothills with Forest (18a) will however be likely to be more visible from this landscape although the latter two developments will be seen at greater distances, thus reducing their impact.

If larger typologies (turbines >50m) were sited within the Upper Glenkens, they could be inter-visible with wind farms located on adjacent, surrounding hills in more upland character areas. Cumulative effects may particularly affect elevated and more open views, from hills such as Cairnsmore of Carphairn and the Rhinns of Kells and sequential views from the A713. The small-medium typology (turbines 20-50m), while more able to fit with other key characteristics of these landscapes, could also result in significant cumulative impacts with wind farm development sited in adjacent upland landscapes if poorly sited although there is scope to minimise inter-visibility between developments.

### 12.4.3 Key constraints

- The narrower sections of the Upper Glenkens, especially where enclosure is emphasised by steeper slopes and woodland.
- The outcrop hills, including Dundeugh Hill, and the more complex knolly landform often found within the floors and lower slopes of these Upper Dales.
- Key landscape features, including water bodies and often extensive designed landscapes such as Garroch.
- The Archaeologically Sensitive Areas in the Upper Glenkens.
- The high visibility of these dales, which are well settled along the valley floors as well as being highly visible from roads and more elevated farms.
- The potential inter-visibility of development within the Upper Glenkens with large wind farms on the nearby Southern Uplands (19) and Foothills with Forest (18a) character types which inhibits scope for larger typologies.
- Key views to the landmark hills of Cairnsmore of Carsphairn and the Rhinns of Kells.
- The RSA designations which covers much of this landscape.

#### 12.4.4 Opportunities

- More open and expansive areas, especially where there are larger fields, where the vegetation pattern becomes more extensive and where there is backdrop of larger hills and broad sweeping upland slopes (although cumulative effects with wind farms sited in adjacent upland areas may reduce opportunities in some of these areas).
- Areas where settlement is sparser, usually on upper side slopes at the transition with the Foothills with Forest (18a) and Southern Uplands (19) (although some of these areas are constrained by potential cumulative effects with under-construction and consented wind farm development in these adjoining character types).

### 12.5 Guidance on development

There is no scope to locate larger typologies (turbines >50m) within the Upper Glenkens without incurring significant impacts across a wide spectrum of sensitivities.

There may be some limited opportunities for the small-medium typology (turbines 30-50m) to be sited within broader stretches of the Upper Glenkens and relating to concave folds in the land form, natural terraces, more open and simple areas of vegetation, gently graded side slopes and areas of more expansive scale. However, the location of developments would need to be

carefully considered because of the potential for cumulative effects to arise with consented and any future proposed wind farm developments within adjacent upland areas. It may be preferable to use turbines towards the lower height band of the small-medium typology in order to create a clear differential between wind turbine developments within landscapes with a more extensive upland character and the more settled and patterned Upper Glenkens which has a more distinct 'Lowland' character.

Small turbines (<20m high) should be located where they can reinforce the pattern of existing development, associated with farms and other small groups and single buildings which provide a framework of built development-related spot features within the Upper Glenkens. Turbines should be sited to avoid impacts on the setting of settlements, on designed landscapes, archaeology and other features of importance, as well as key landmark features such as the water bodies within the Glenkens. Areas of more complex landform and key outcrop hills should be kept free of development.

This landscape would be sensitive to wind farm development sited in the adjacent Foothills with Forest (18a), Southern Uplands with Forest (19a) and Southern Uplands (19) particularly where the dale is narrow and turbines would form prominent features seen above steep containing slopes. Extended and multiple wind farm developments

seen on skylines of the adjacent uplands from key transport routes and settlement could create a dominant corridor effect.

Supplementary Guidance is provided on the siting and design of smaller wind turbines <50m high.

**Landscape Character Type 9 - Upper Glenkens**

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Scale and openness</b>			
<p>This broad dale is generally enclosed by the sweeping but rounded, gentle slopes of the Foothills (18a) and the Southern Uplands (19), which steepen in places to create more enclosure. There are also narrow 'pinch-points' reinforced by outcrop hills. At its most broad, and especially where more loosely contained by gently graded side slopes, this dale is open and of medium scale, but where more contained, enclosed by steeper slopes and where the valley floor is narrow, it is less open and more confined. This type also includes a small number of side valleys, which are more enclosed and smaller scale.</p>	<p>This typology would dominate the scale of this dale, which although broad in some sections, also features many elements which contain and reduce scale such as more complex landform, woodlands, individual trees and field enclosures. Steep slopes and more confined sections of these dales and their side valleys would physically inhibit this typology.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would overwhelm more confined valleys and areas where the landform is smaller. There may be some scope to relate this smaller typology to broader sections of these dales where the upper reaches of more open gentler hill slopes merge seamlessly with the lower slopes of the surrounding uplands.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could be accommodated where the breadth of the landscape is at its most sweeping, especially at the upper reaches of the broader, gentler slopes which merge seamlessly with the lower slopes of the surrounding uplands. However, where the dales are narrower, slopes are steeper, at pinch-points and where landform is smaller in scale, this typology will be harder to accommodate as it could easily overwhelm the smaller scale of the narrower, more confined spaces.</p> <p>This typology will also be harder to accommodate in the side valleys, where the more enclosed space could be quickly overwhelmed.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landform</b>			
<p>The often relatively undulating valley floors extend to either gentle slopes with a rounded profile sometimes interrupted by broad terraces or more even steeply rising side slopes (usually, one side of the valley is steep, the other more gentle). Prominent outcrop hills sit part way up both dales, splitting them into two narrower valleys which then converge either side of the hills. Smaller, more complex landforms, low ridges and knolls associated with glacial deposits, or narrower side valleys occur along the edges of these upper dales.</p>	<p>This typology would have significant impacts on more dramatic and complex landform including steep slopes within confined valleys, hummocky terrain and prominent outcrop hills although it could relate to smoother, gentler upper side slopes at the transition with adjacent Foothills (18a) and Southern Uplands (19).</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>The more extensive areas of gently undulating landform and long side slopes at the transition with the Foothills (18a) and Southern Uplands (19) could potentially accommodate this typology although more complex landforms associated with glacial deposits steeper gradients and the prominent outcrop hills are areas where the landscape is more sensitive to this typology, which could distract from the integrity of the landform.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>The more extensive areas of undulating landform and gentle side slopes offer some potential to accommodate this typology.</p> <p>However, the more complex landforms associated with glacial deposits steeper gradients and the prominent outcrop hills are areas where the landscape is more sensitive to this typology, which could distract from the integrity of the landform.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Land cover and landmark features</b>			
<p><b>A diverse land cover with fields of grazed improved pasture, wet grassland, more open rough grazing and bracken covered slopes. Both hedges and dykes feature, with the upper margin of the fields varying in elevation along the length of the dale.</b></p> <p><b>Woodland cover further emphasises this diversity and individual field trees. There are extensive areas of semi-natural woodland, often associated with waterbodies or within the side valleys, as well as conifer woodland. Additional features include the impounded lochs associated with hydro schemes in the Glenkens and planted features and policy woodlands associated with individual estates and designed landscapes.</b></p>	<p>This typology would significantly affect the diverse and intricate pattern of woodlands, designed landscape features and field enclosures. It would detract from landmark features such as the lochs in the Glenkens. While it could relate to the simple land cover of rough grazing and forestry on upper side slopes at the transition with LCTs (18a) and (19), these areas are not extensive and development would impact on adjacent areas with a more complex land cover pattern.</p>	<p>The small size of individual features - from single, landmark trees to small woodlands and lochs - would be dominated by this typology. There is potential to locate single turbines of this size where they can relate to the broad scale of the larger more open fields and areas of more upland character, where rough grassland and bracken dominate although turbines of this height would detract from landmark features but also from more diverse patterns of woodland, pastures and policies.</p>	<p>While the small size of individual features - from single, landmark trees to small woodlands and lochs - could be easily dominated by this typology - there is potential to site single turbines of this size where it can relate to the broad scale of the larger more open fields and areas of more upland character, where rough grassland and bracken dominate.</p>
Sensitivity rating: Medium	Sensitivity rating: High	Sensitivity rating: High-medium	Sensitivity rating: Medium
<p><b>Sparsely settled upper slopes contrast with more developed lower dales, where small settlements are tucked along the valley floor adjacent to roads, while there is a range of archaeological and historic features across both the upper and lower slopes of this landscape type.</b></p> <p><b>Major A roads extend through the floor of the dale, while more narrow minor roads are elevated on the upper slopes.</b></p>	<p>This typology would readily overwhelm the small farms, individual houses small settlements and archaeological sites and areas characteristic of these dales, affecting their setting and the scale of the built development.</p>	<p>This typology could overwhelm the small farms, individual houses small settlements and archaeological features, affecting their setting and the scale of the built development if sited where they can dominate their visual setting.</p> <p>However, the less settled upper side slopes offer some potential to accommodate smaller turbines within the lower height band of this typology while minimising effects on scale and setting. However, the setting of archaeological sites and areas remains sensitive.</p>	<p>This typology could readily overwhelm the small farms, individual houses and small settlements, affecting their setting and the scale of the built development if sited where they can dominate their visual setting.</p> <p>However, the less settled areas offer some potential to accommodate this typology but the setting of archaeological sites remains sensitive.</p>
	Sensitivity rating: High	Sensitivity rating: High-medium	Sensitivity rating: Medium

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape context</b>			
<p>The Upper Glenkens lie between the more upland character types of the Southern Uplands (19 and 19a), Rugged Granite Uplands (21) and Foothills with Forest (18a). These LCTs strongly contain this upper dale and there is often a seamless topographical transition between the more open upper slopes of the Upper Glenkens and these more upland character types. There is clear inter-visibility between the upper dale and these surrounding hills, and where the uplands are gently sloped, they provide a large scale context and visual backdrop.</p>	<p>While the expansiveness of adjacent upland character types creates a wider setting for accommodating this typology, the strong inter-visibility between these landscapes and the more extensive upland types of (19) and (18a) limits scope for turbines of this size as they could intrude on the setting of the landmark hills of the Rhinns of Kells and Cairnsmore of Carsphairn.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>While the expansiveness of adjacent upland character types creates a wider setting for accommodating this typology, the strong inter-visibility between these landscapes and the more extensive upland types of (19) and (18a) limits scope for turbines of this size as they could intrude on the setting of the landmark hills of the Rhinns of Kells and Cairnsmore of Carsphairn.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>There would be greater scope to site these smaller turbines to minimise effects on adjacent landmark hills.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Perceptual qualities</b>			
<p>This landscape is well-settled and easily accessible and is therefore not perceived as being remote or secluded. Some of the side valleys are more secluded and contrast with the main valley.</p>	<p>While there might be some impact on rural character, this typology would not affect the appreciation of wildland qualities apart from in the side valleys, which are less well developed and more secluded.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>While there might be some impact on rural character, this typology would not affect the appreciation of wildland qualities apart from in the side valleys, which are less well developed and more secluded.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>While there might be some impact on rural character, this typology would not affect the appreciation of wildland qualities apart from within the side valleys, which are less well developed and more secluded.</p> <p><b>Sensitivity rating: Medium-Low</b></p>



Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Views and visibility</b>			
<p>The area is highly visible from the A713, a designated Tourist Route, and from settlements and individual farms and houses often located at a relatively high level along the side slopes.</p> <p>Views can be interrupted by localised undulating landform and woodland and very confined within narrow valleys and passes. Key views extend along the valleys, especially along the waterbodies in Glenkens, and towards side valleys or the outcrop hills.</p>	<p>The relative accessibility and openness of this landscape type means that this size of turbine would be readily visible over a wide area. Turbines located within the floor and lower slopes of the dales would intrude on presently open views across the dale from roads and settlement. This typology could also intrude on views to and from the dramatic hills of the Rhinns of Kells and Cairnsmore of Carsphairn.</p> <p><b>Sensitivity rating: High</b></p>	<p>The relative accessibility and openness of this landscape type means that this size of turbine would be readily visible over a wide area. Turbines located within the floor and lower slopes of the dales would intrude on presently open views across the dale from roads and settlement. This typology could also intrude on views to and from the dramatic hills of the Rhinns of Kells and Cairnsmore of Carsphairn</p> <p><b>Sensitivity rating: High</b></p>	<p>The relative accessibility and openness increases sensitivity and although turbines located within the floor and lower slopes of the dales would intrude on presently open views across the dale from roads and settlement, turbines of this size sited on upper side slopes and back-dropped by rising ground would be less visually dominant although still widely visible. This typology could intrude on views from the Glenkens to the dramatic uplands of the Rhinns of Kells and Cairnsmore of Carsphairn.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Landscape values</b>			
<p>The majority of this landscape is covered by the Galloway Hills RSA. Technical Paper 6 notes the importance of views to the Rugged Granite Uplands (21) of the Rhinns of Kells and to Cairnsmore of Carsphairn from the Glenkens valley.</p>	<p>This typology could intrude on the wider setting and views to the Rhinns of Kells and Cairnsmore of Carsphairn if sited either on upper western slopes or in front of views from elevated roads aligned on the eastern slopes of the dale.</p> <p><b>Sensitivity rating: High-medium to Low</b></p>	<p>This typology could intrude on the wider setting and views to the Rhinns of Kells and Cairnsmore of Carsphairn if sited either on upper western slopes or in front of views from elevated roads aligned on the eastern slopes of the dale.</p> <p><b>Sensitivity rating: High-medium to Low</b></p>	<p>This typology could intrude on the wider setting and views to the Rhinns of Kells and Cairnsmore of Carsphairn if sited either on upper western slopes or in front of views from elevated roads aligned on the eastern slopes of the dale.</p> <p><b>Sensitivity rating: High-medium to Low</b></p>



Side valleys often have a less managed, naturalistic appearance



The Southern Uplands form a rugged large scale backdrop to the Upper Dales



Water bodies form a key feature within the Glenkens



Parkland and woodlands of designed landscapes characterise parts of the Upper Dales



Distinctive outcrop hills punctuate the Upper Dales and these, together with more complex knolly landform, is highly sensitive to development.



The close proximity of the Upper Dales and Southern Uplands/Foothills may limit opportunities for further larger typologies

## 13. Upland Glens (10)

### 13.1 Introduction

The Upland Glens contain the upper reaches of rivers within the Foothills and Southern Upland character types in northern and eastern Dumfriesshire. The eight landscape areas of Castlefairn, Dalwhat, Shinnel, Scar, Mennock, Dalveen, Evan/Upper Annandale, Moffat and Ewes are considered together in the sensitivity assessment.

The assessment and guidance on development section focuses on smaller typologies (turbines <50m) with a brief outline of key constraints relating to larger typologies included in the summary of sensitivity.

#### 13.1.1 Cultural heritage overview

This landscape type is characterised by post-improvement (c19th-20th century) fields, farming and rough grazing with evidence for relict land-uses. These include landscapes with evidence for pre-improvement (pre19thc) farming, particularly in Ewes, Mennock and Shinnel, and, at a site-specific level, there are a number of archaeological sites of outstanding significance and distinctiveness.

#### 13.1.2 Operational/consented wind farm development

There are no operational or consented wind farm developments sited in this character type. The operational Wether Hill wind farm is visible at the head of the Dalwhat Glen. The consented Whiteside and Twenty-Shilling Hill wind farms will be visible from the Scar glen and the under-construction Blackcraig wind farm will be visible from the Castlefairn glen.

### 13.2 Description and summary of sensitivity

The Upland Glens are enclosed and often narrow, contained by steep sides which rise to form irregular ridgelines. The narrowness and enclosure of these glens create a contained and relatively small scale landscape and this severely limits scope for larger wind farm typologies. The landscape of the Upland Glens has an overall **High** sensitivity to the large, medium and small-medium typologies (turbines >20m). The lower side slopes of the valleys are more able to accommodate small turbines and therefore there is a **Medium-low** sensitivity to small wind turbines.

The majority of these Upland Glens are designated as RSAs. Landscape sensitivity would be **High-medium** for the large, medium and small/medium typologies and **Medium-low** for the small typology

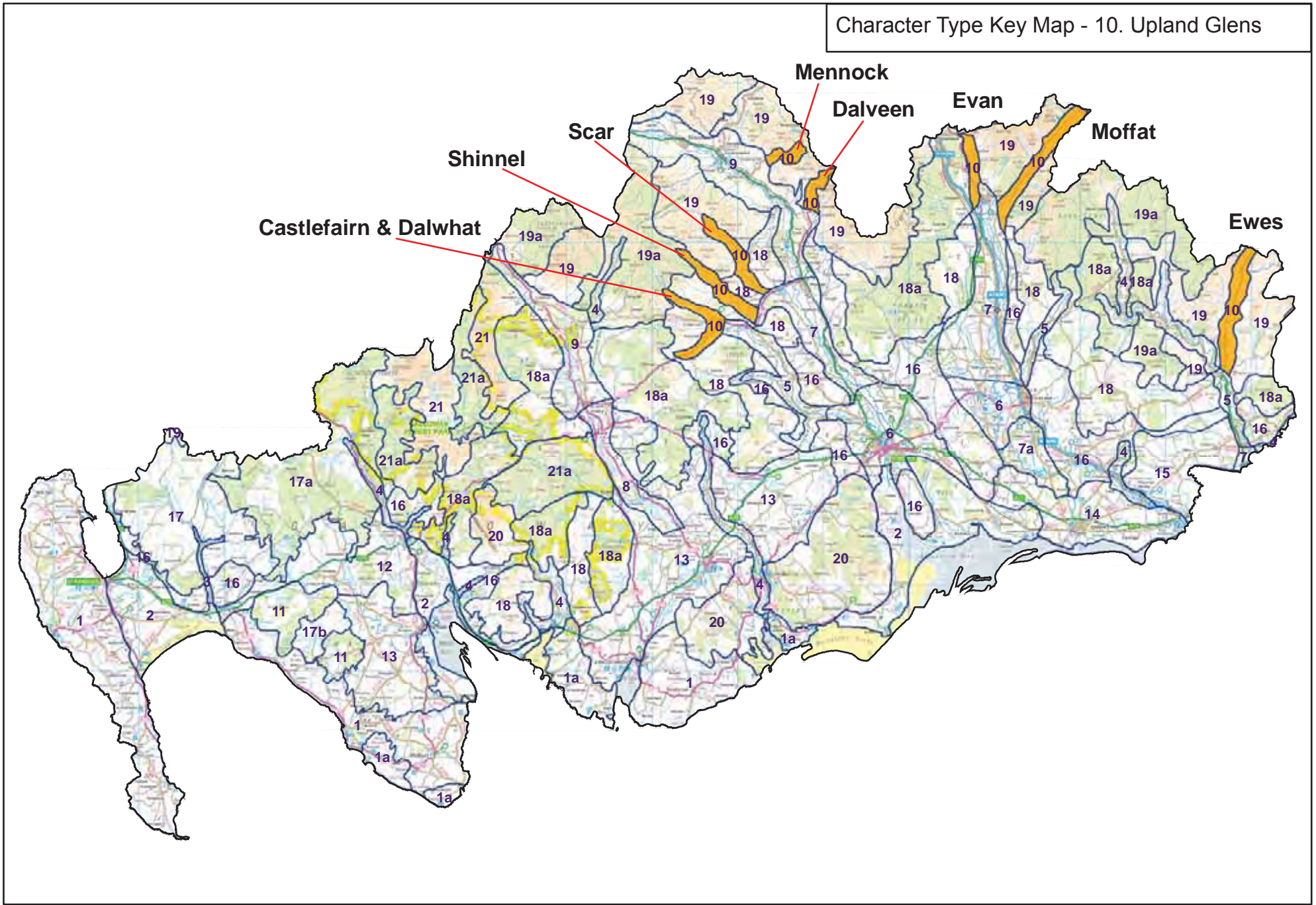
taking into account the relative importance of the designation and the likely effect on special qualities.

#### 13.2.1 Cumulative issues

The operational Wether Hill wind farm is located in the adjacent Southern Upland with Forest (19a) and can be seen at the head of the glen of the Water of Dalwhat. A similar effect is likely to occur from the under-construction Blackcraig wind farm on views from the Castlefairn glen. Hills and ridgelines at the head of the Upland Glens form a focal point in key views along these glens and significant adverse cumulative visual effects could arise if this pattern is repeated at the head of other upland glens, particularly in the same vicinity.

If more than one, or small groups, of small turbines appear within these glens, including along the hill slopes and adjacent ridgelines, the relationship between proposals for this typology should be monitored closely in terms of potential cumulative effects. Cumulative impacts could include increased visual clutter, detracting from the rhythm of existing settlement and diminishing the sense of anticipation of travelling into a more sparsely settled, less developed and often dramatic upper glen. Single turbines are likely to be more easily accommodated especially in the less developed and more secluded sections of the glens provided they are closely associated with widely dispersed buildings.

Character Type Key Map - 10. Upland Glens



### 13.2.2 Key constraints

- The narrowness of the glens, which limits scope for larger typologies which would dominate their limited extent and scale.
- The dramatic forms of steep-sided hill flanks and ridges.
- The upper edge of the valleys, where the irregularly shaped enclosing ridgeline is visually prominent against the sky when viewed from within the glen and which would be sensitive to wind turbines sited in these glens and in adjacent upland areas.
- The heads of the glens, which are often the focal point in views; the Devil's Beef Tub at the head of the Evan Glen comprising a notably scenic example.
- Archaeological features and broader historic landscapes, often associated with the unimproved grassland on the side slopes

### 13.2.3 Opportunities

The lower side slopes, where individual terraces and other landforms, the pattern of settlement and small side valleys or tributary watercourses offer opportunities for small turbines to be sited where they can be associated with these other features in the landscape.

Wider areas of valley floor, usually located where side valleys merge with the main valley, away from deeper glens contained by the more dramatic hills of the Foothills and Southern Uplands.

## 13.3 Guidance on development

There is **no scope** for large, medium and small-medium scale typologies (turbines >20m) to be accommodated within this character type without significant adverse impacts occurring on key landscape and visual sensitivities.

Small turbines (<20m) should be located where they can reinforce the pattern of existing development, associated with farms located at the edge of the glen floor or lower side slopes above the existing built development, possibly associated with side valleys or the head dyke. Small wind turbines should be sited to avoid intrusion on key views to the often dramatic heads of the glens and to avoid close inter-visibility with wind farms sited in the adjacent Southern Uplands (19 and 19a) and Foothills with Forest (18a) character types. They should also be sited to avoid intrusion on particularly distinctive buildings, archaeological features and policy landscapes.

The small scale and narrowness of these glens make them particularly sensitive to extended and multiple developments sited in surrounding uplands and seen on prominent skylines which may be seen successively or appear to surround the area. The glens are experienced from key tourist routes and minor roads enjoyed for quiet recreation, with valued scenery.

Supplementary Guidance is provided on the siting and design of smaller wind turbines <50m high.

## Character Type 10 Upland Glens

Topics and summary description	Assessment: Small-medium turbines (20-50m)
<b>Scale and openness</b>	
<p>These are often narrow, high sided valleys with flat floors. The steep valley sides create a high degree of enclosure. Containment is often further reinforced by the sinuous shape of several of the valleys, which limits long views.</p> <p>The height of the valley sides is most pronounced and dramatic when flanked by the Southern Upland Type (19) hills, which rise to over 600m. They are slightly less contained when located within the Foothills (18) character type.</p>	<p>This typology could easily dominate the narrow floor of these valleys and appear to 'fill up' the more contained and enclosed spaces.</p> <p>The sense of 'depth' and often perceived towering scale of some of the more dramatic valleys located in the Southern uplands would be diminished by the presence of this typology</p> <p>However, in places where the valley floor opens out, or widens at a confluence with a side valley, creating a more extensive sense of space, away from more dramatic steeply rising uplands, there is some potential to accommodate the lower range (possibly up to 35m) of this typology.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Landform</b>	
<p>The valleys are relatively narrow, with flat floors and steep side slopes rising to irregular ridgelines. The ridge between the valley sides and the surrounding uplands appears as an abrupt edge.</p> <p>There are regular side valleys. While the upper side slopes are relatively even and steep, the lower hillsides often have an irregular and relatively complex topography of 'slumped' land forms, rocky outcrops and terraces.</p> <p>These slopes contain the narrow river flats and occasional moundy deposits which extend along the valley floor. When located within the Southern Upland Character Type (19 and 19a), the dramatic hill forms of the upper slopes and ridges can appear sculptural and particularly prominent in side light.</p>	<p>The irregular topography along the lower slopes offers opportunities for siting individual turbines related to topographical features, although it would be difficult to relate the larger turbines to the small size of many landform features. The rhythm of the undulating and irregular ridges could be easily disrupted by turbines interrupting the skyline when viewed from the valley floor. The more sculptural and dramatic hill forms are particularly sensitive to disruption across the smoothly rolling summits and sheer-sided slopes, especially where the valleys are contained by the Southern Uplands. An additional effect is likely to be extensive cut and fill creating scarring if access tracks are built across the steep slopes.</p> <p><b>Sensitivity rating: High</b></p>
<b>Land cover and landmark features</b>	
<p>Rough grassland on the tops of the ridges extends down to head dykes located part way up the hillsides, separating the open grass moor on the upper slopes from fields of unimproved pasture along the lower slopes. The narrow valley floors are subdivided by dykes into small, improved pasture fields. Clumps of broadleaves associated with farms, some riparian woodland, conifer woods and occasional policy woodland in the lower reaches of the glens provide a sometimes sparse but otherwise diverse woodland cover. The exception is the Scar Water, where there is extensive regeneration of semi-natural woodland in the lower reaches of the glen.</p>	<p>The small size of individual features - from clumps of trees to small woodlands and fields - could be easily dominated by the larger turbines of this typology.</p> <p>Where more extensive and less visually diverse vegetation pattern occurs, there is likely to be more scope for this typology.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Small-medium turbines (20-50m)
<b>Settlement and archaeology</b>	
<p>Dispersed farms and cottages, become sparser towards the heads of the glens. Occasional estate houses are set within the lower glens. Settlement is generally located as point features along the edge of the valley floor and is frequently associated with side valleys. Roads can be narrow and often winding, although the A7, A702 and the A708 pass through these glens. Extensive remains of historic land use, including traces of tracks, abandoned farms, field boundaries and varied prehistoric sites can be found on unimproved land generally along the side slopes.</p>	<p>This typology could easily overwhelm small farms and individual houses, if sited close enough to dominate the setting and the scale of the existing buildings and associate features. This typology could also detract from the way development is characteristically located along the edges of the valley floor, if it is sited on the flat of the flood plain or on the higher ridges. In more dramatic upland glens, there is often a contrast between the small size of the buildings and the sheer-sided mass of the hills, which could be compromised and diminished by this typology. This typology could also impact on the setting and the prominence of archaeological and historic features.</p> <p><b>Sensitivity rating: High</b></p>
<b>Landscape context</b>	
<p>These narrow glens are visually cut off from other landscape types, with the exception of the immediate edges of the surrounding upland character types, which form the upper rim of the glen sides.</p>	<p>The geographical containment of the glens limits potential impacts on adjacent character types</p> <p><b>Sensitivity rating: Low</b></p>
<b>Perceptual qualities</b>	
<p>When travelling to the heads of some of the glens on 'dead end' roads, settlement becomes sparse and there is a strong sense of seclusion.</p> <p>However, several of these glens have well used and busy through routes.</p>	<p>While there can be a sense of seclusion in these glens, there is only a limited sense of remoteness, as the landscape is settled and the glen floor is relatively managed, with some busy roads. The upper reaches of the more secluded glens will be more sensitive to this typology.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Visual amenity</b>	
<p>Views from roads often focus along the length of the glens, if they are not too sinuous and if woodland does not obscure the view. The heads of the glens are often the focal point for key views, and the irregular shaped skyline around the rim of the valleys is visually prominent. Key viewpoints are likely to include accessible upland features such as hill forts and key summits, from where there are long views across the uplands and down along the length of the glens.</p>	<p>This typology could quickly become visually dominant within smaller spaces associated with narrower glens or if located where it intrudes into the linear views which focus along the length of the glens. The irregular ridges are also sensitive to development perched along the prominent skyline either within this or adjacent Southern Uplands and Foothills.</p> <p>Views to the heads of the glens are especially sensitive as these are the focal points of views.</p> <p><b>Sensitivity rating: High</b></p>

Topics and summary description	Assessment: Small-medium turbines (20-50m)
<p><b>Landscape values</b></p> <p><b>All these Upland Glens are designated as RSAs with the exception of the extreme upper margins of the Castlefairn and Shinnel units. The Ewes upland glen lies within the Langholm Hills RSA. The Moffat and upper Annan/Evan glens lie within the Moffat Hills RSA while the Mennock, Dalveen, Castlefarn, Shinnel, Scar and Dalwhat glens are covered by the Thornhill Uplands RSA.</b></p> <p><b>Ewes, Moffat and upper Annan are described in Technical Paper 6 as archetypal... 'long, straight-sided U shaped glaciated Upland Glens'. Castlefairn, Dalwhat, Dalveen, Mennock, Scar and Shinnel are described as contrasting dramatically with the adjacent Southern Uplands and Foothills</b></p>	<p>This typology could detract from the dramatic hill slopes of the Southern Uplands which contain the glens by introducing larger elements which diminish the contrasts between the small size of domestic buildings and the sheer-sided mass of the hills.</p> <p><b>Sensitivity rating: High-medium</b></p>





Settlement becomes more sparse within upper glens and some can have a remote feel



Larger typologies would dominate these glens which are narrow and settled



Archaeological features often pattern side slopes



The heads of glens are highly sensitive to development in adjacent uplands



The glens are strongly contained by uplands and development on upper ridgelines would dominate their scale



Dramatic steep-sided hill flanks and views into narrow side valleys are sensitive to all typologies

## 14. Moss and Forest Lowland (11)

### 14.1 Introduction

The Moss and Forest Lowland character type occurs in two locations within the north-west Machars peninsula.

Demand for smaller development typologies is likely to be limited within this sparsely settled character type and the sensitivity assessment therefore focuses on larger typologies with key constraints relating to smaller typologies described within the summary and guidance section.

#### 14.1.1 Cultural heritage overview

This landscape type is characterised as moorland/rough grazing and forestry, with areas of relict land-uses of pre-improvement (pre-19th century) remains and pre-medieval land-use. The latter are the focus of an Archaeologically Sensitive Area and are highlighted as a key characteristic in the Landscape Assessment. This character type also has archaeological sites of outstanding significance and distinctiveness.

#### 14.1.2 Operational/consented wind farm development

No wind farm development is located in this character type although it is influenced by wind farm development in adjacent landscapes. The operational Artfield Fell, Balmurrie Fell, Carscreugh and Glenchamber wind farms located within

the adjacent Plateau Moorland (17) and the operational Carscreugh and Barlockhart wind farms located in the Camrie area of the Upland Fringe (16) are widely visible from this landscape.

The under-construction Kilgallioch wind farm and the consented Stranoch wind farm, although more distant from this landscape, will also be visible from more elevated parts of this landscape such as Knock Fell.

### 14.2 Description and summary of sensitivity

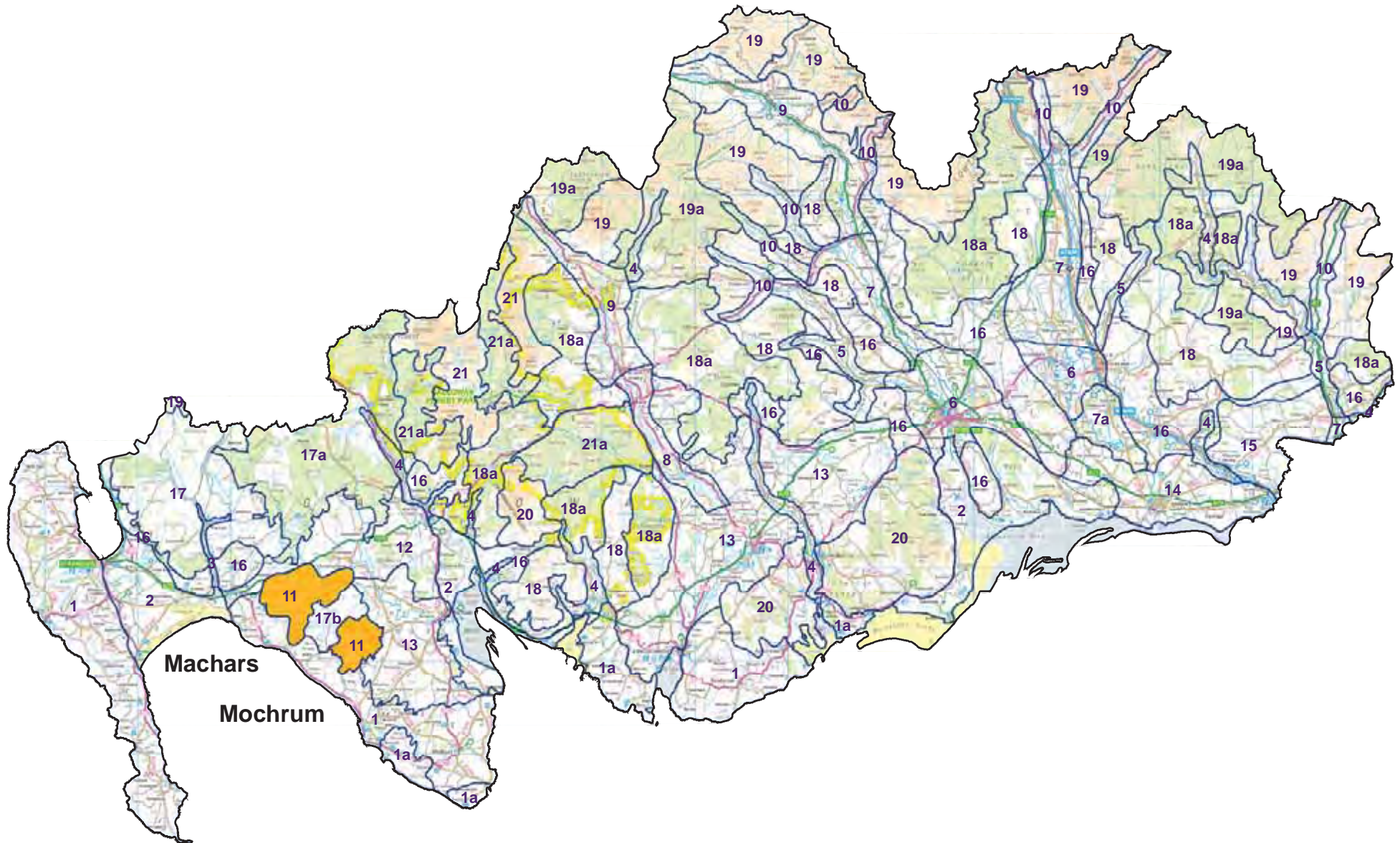
The key characteristics of the Moss and Forest Lowland character type comprise a gently undulating but generally low-lying landform and a simple land-cover of medium and small coniferous forestry plantations interspersed with areas of open moorland, remnant mosses and occasional areas of improved and enclosed pasture. The area is sparsely settled with small farms located on its fringes. While some of these characteristics present potential opportunities to accommodate larger typologies, the wildland character of open moorland/mosses together with the rich archaeology and distinctive pattern of domed pastures, which make a strong contribution to landscape diversity, constrain such development. This landscape also lies in close proximity to highly sensitive designated landscapes and more settled

and often smaller scale, lowland landscapes, which present further constraints. Although this landscape is sparsely settled and forestry restricts close views, it lies close to more settled areas, particularly to the south and east and major transport routes.

The landscape of the Moss and Forest Lowland character type has an overall **High-medium** sensitivity to the large typology (turbines 80-130m) and a **Medium** sensitivity to the medium typology (turbines 50-80m).

In terms of landscape values, sensitivity is high within and close to the Mochrum Lochs RSA although the majority of this character type is undesignated. Sensitivity would therefore range from **High-medium** to **Low** for both of the larger typologies.

Character Type Key Map - 11. Moss and Forest Lowland



### 14.2.1 Smaller typologies

Smaller typologies are most likely to be associated with existing farmsteads which are dispersed on the open fringes of this landscape. This typology could have similar adverse effects on the distinct pattern of small isolated domed pastures within moorland, on archaeological features, landmark hills and on fringing settlement as the larger typologies. It could also impact on adjacent sensitive landscapes such as the Mochrum Lochs RSA. The small typology would appear out of scale if sited within the larger areas of open moorland but could relate to small open hill slopes or forest edges which lie close to settlement and would therefore be visually associated with existing built features, thus reducing clutter within simple open moorland and pasture.

### 14.2.2 Cumulative issues

This character type forms a transitional landscape between the sparsely settled and generally simple Plateau Moorlands (17 and 17a) and the more complex and well-settled lowlands of the Machars. Operational wind farms sited in adjoining character types to the north and west of this landscape have a strong visual influence on the northern part of this landscape character type.

Key cumulative effects that could occur between developments sited in this landscape and those sited in nearby landscapes include:

- Effects on views from the A75 which may include sequential effects but also wind farms appearing to form a dominant corridor effect either side of this key tourist route.
- Domination and perceived encirclement of the landmark hill of Knock Fell.
- The extension of wind farm development seen on skylines around more settled landscapes.
- Exacerbation of the visual confusion which already occurs where the Barlockhart, Artfield Fell, Balmuirrie Fell, Carsecreugh and Glenchamber wind farms (which comprise a variety of turbines sizes and design/layouts) are seen together from coastal areas, hill tops and from the A75.

### 14.2.3 Key constraints

- Open moorland and mosses which often increase landscape diversity and have a natural and secluded character.
- The striking pattern of small, isolated domed bright green pastures lying within extensive moorland.
- The landmark hill of Knock Fell with its Iron Age Fort (SM) and the associated Archaeologically Sensitive Area.

- Settlement and archaeological features on the fringes of forestry where larger typologies could dominate scale and affect setting.
- The proximity of the diverse and intimate Plateau Moorland with Lochs (17b) and Mochrum Lochs RSA, which would be highly sensitive to turbines visible above containing landform and woodlands.
- Potential cumulative effects with operational wind farms which are sited in close proximity to the north and west of this landscape.
- Potential effects on adjacent smaller scale and more complex landscape character types such as the Elrig area within the Machars area of the Peninsula (1) landscape character type.

### 14.2.4 Opportunities

- The generally simple landform and medium to large scale of this landscape together with the presence of less sensitive commercial coniferous forestry.
- An absence of landscape designations over the majority of the character type

### 14.3 Guidance on development

Although the northern unit of this landscape character has some characteristics that reduce sensitivity to the large typology (turbines 80-150m), the proximity of the highly sensitive Plateau Moorland with Lochs (17b) character type, the potential for cumulative effects to occur with other wind farms and the presence of the landmark Knock Fell (and its associated ASA) are key constraints. It is considered that there is **no scope** to accommodate this typology without significant landscape and visual effects occurring on a range of sensitivity criteria.

There is **some limited** scope to accommodate the medium typology (turbines 50-80m), which is more likely to comprise single and small groups of turbines, to minimise impacts on settlement, on the character of moorland and moorland, cumulative effects with operational wind farms and on adjacent sensitive landscapes.

Smaller typologies (turbines <50m) could be accommodated on the edge of forestry and farmland where they could be visually associated with existing settlement. Cumulative impacts could arise however between smaller and larger typologies, or across smaller typologies only, with this fairly open and limited geographic area likely to quickly become cluttered by multiple developments and with inter-visibility likely from roads and settlement in the surrounding area.

All typologies should avoid impacting on archaeological features and their settings (including the landmark hill and SAM/ASA of Knock Fell) and on the small domed and walled pastures isolated within moorland which are particularly evident in the northern unit. The medium and small-medium typologies (turbines >30m) should additionally be sited to avoid impacting on views from the adjoining highly sensitive landscapes of the Plateau Moorland with Lochs character type (17b) and the richly diverse small scale Elrig area of the Peninsula (1), including the landmark hill of Mochrum Fell which forms an important backdrop to these landscapes. Supplementary Guidance is provided on the siting and design of smaller turbines <50m high.

## Character Type 11 - Moss and Forest Lowland

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>		
<p>This landscape has a medium to large scale due to its simple low-lying plateau landform. Coniferous woodland reduces the sense of openness experienced in places.</p>	<p>This typology could relate to the scale of the broader open areas of moorland and extensive forestry although it would dominate the scale of isolated hills such as Knock Fell.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could relate to the scale of the broader open areas of moorland and forestry. Although it could also dominate the vertical scale of isolated hills such as Knock Fell if located nearby, there is increased scope to site this smaller typology to minimise direct comparisons of scale from key viewpoints.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Landform</b>		
<p>A simple, gently undulating low-lying plateau generally lying below 100m, punctuated by low, domed, well drained mounds or hills formed by glacial deposits.</p> <p>The distinctive conical shaped Knock Fell rises abruptly from flat moorland to 175m.</p>	<p>This typology could relate to the flat to very gently gentle hill slopes and low-lying basins but would detract from the subtle flattened domed hills which are a feature within moorland. Turbines sited on or close to the distinctive Knock Hill would reduce the dominance of its pronounced shape, and its relationship with surrounding low lying land.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could relate to the flat to very gently gentle hill slopes and low-lying basins but would detract from the subtle flattened domed hills which are a feature within moorland. Turbines sited on or close to the distinctive Knock Hill would reduce the dominance of its pronounced shape, and its relationship with surrounding low lying land.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Land cover and landmark features</b>		
<p>Land cover mainly comprises angular coniferous forestry plantations of different sizes, many of these planted on raised mosses, and wet moorland.</p> <p>Isolated and often rounded bright green walled improved pastures occur on slightly domed areas of higher, better drained ground. These are surrounded by expansive moorland and give a very distinctive vegetation pattern across parts of this landscape. Small lochs and burns also feature. More extensive walled pastures occur close to the Tarf valley, Elrig and Derry Hill.</p>	<p>While this typology could fit with the simple pattern of forestry, if sited within open moorland patterned with isolated pastures, it would diminish the integrity of this striking vegetation pattern.</p> <p>The creation of the infrastructure and regularity of the roading and structures associated with developing this typology would fragment and severely impact on the intricate pattern of interlocking vegetation types.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Although this typology could also have a similar adverse effect in terms of potentially diminishing the integrity and diversity of areas of open moorland and farmland, single and small clusters of turbines of this size could be accommodated within less patterned or forested ground minimising impacts on more distinctive land cover pattern.</p> <p><b>Sensitivity rating: Medium-low</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Settlement and Archaeology</b>		
<p>This area is sparsely settled with widely dispersed farms and small dwellings located on the fringes of forestry next to public roads. The northern part of this landscape is less settled with farms largely associated with the Tarf Water. Archaeological and relict landuse features often have a strong presence within open moorland and fringe farmland and include the landmark Iron Age Fort on Knock Fell.</p>	<p>There is little scope for very large turbines to be sited to avoid contrasts of scale with settlement and to minimise impacts on archaeological features due to the openness of this landscape and visibility of fringing settlement. This typology would impact on the setting of the Knock Fell hill fort (SAM) and the associated ASA if located in the north-west and would dominate the scale of small buildings if located in the less extensive southern landscape unit.</p> <p><b>Sensitivity rating: High</b></p>	<p>There is slightly greater scope for this typology to be sited to minimise impacts on settlement and archaeology although turbines would still be likely to dominate the scale of dwellings and setting of archaeological features, particularly if sited close to the fringes of this character type. This typology would also impact on the setting of the Knock Fell hill fort (SAM) and the associated ASA if located nearby.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Landscape context</b>		
<p>This area is fairly extensive and relatively low-lying and does not make a strong contribution to the wider landscape composition. However, this type sits within a lowland context, and is surrounded by landscapes which are more settled, have a more complex pattern and which are often of a smaller scale.</p> <p>Knock Fell is visible from adjacent landscape character types and conifer woodlands sited in this landscape form the backdrop to the intimately scaled and notably diverse Plateau Moorland with Lochs (17b) landscape character type. The south western edge of this type sits above the coastal area of the Machars Peninsula (1)</p>	<p>This typology would be likely to impact on the sensitive landscape of the Plateau Moorland with Lochs 17b. It could also impact on the landmark hill of Mochrum Fell which provides a backdrop seen from parts of 17b and on the small scale, richly diverse Elrig area within the Machars Peninsula (1).</p> <p>This typology could be visible on containing skylines from the coastal areas of the Machars Peninsula (1) character type, which is sensitive to turbines of this size, and could dominate localised areas of small scale, interlocking drumlins in adjacent LCTs 12 and 13.</p> <p><b>Sensitivity rating: High</b></p>	<p>There may be greater scope for turbines towards the lower height band of this typology to be located so as to avoid impact on the adjacent highly sensitive character type 17b, on Mochrum Fell and on the Elrig area.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Perceptual qualities</b>		
<p>While commercially managed coniferous forestry limits the sense of naturalness in much of this landscape, open moorland and mosses are more natural and the absence of roads as well as settlement particularly in the northern unit instils a sense of seclusion.</p> <p>Archaeological features on open moorland give an impression of this being a 'timeless' landscape.</p>	<p>Turbines sited within the more extensive areas of open and undeveloped moorland would affect the sense of remoteness and naturalness. While there is scope for development to be sited within more modified forested areas, the presence of very large turbines sited within forestry close to areas of open moorland could adversely affect these perceptual qualities.</p> <p><b>Sensitivity rating: High-Medium</b></p>	<p>While there is greater scope for this typology to be sited in smaller areas of moorland which are more influenced by nearby forestry and settlement, turbines of this scale would still have a similar effect on perceptual qualities if sited in moorland and moss areas with more pronounced wildland characteristics.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<p><b>Views and visibility</b></p> <p><b>This landscape is sparsely settled, particularly within the more extensive moorland and forest to the north. Minor roads traverse the edge of this landscape and forestry often restricts views from within the character type. Elevated and extensive views are possible from Knock Fell, although this does not appear to be a popularly accessed viewpoint, and from sections of the B7005.</b></p> <p><b>There are views to this landscape from the A75 (where Knock Fell is a focus) to the north, part of the A747 to the north-west, the B7052 and minor roads and settlement within the Drumlin Pastures (13) to the south and east, although the rolling landform of the drumlins can restrict views in places. Although this landscape is not readily visible from the adjacent Plateau Moorland with Lochs 17b (Mochrum Lochs) area due to screening by forestry, future felling has potential to reveal views.</b></p>	<p>The low relief of this character type and the surrounding area means that this typology would be highly visible from the A75 and A747 if located in the northern unit and highly visible from more settled areas if located in the southern unit.</p> <p>Visual impact could be reduced if this typology were located in the less settled interior of the northern unit although views to and from Knock Fell may be affected. Future felling of forestry may increase visibility from settlement, roads and the highly sensitive Mochrum Lochs area.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>The low relief of this character type and the surrounding area means that this typology would also be highly visible from the A75 and A747 if located in the northern unit and highly visible from more settled areas if located in the southern unit.</p> <p>Visual impact could be reduced if this typology were located in the less settled interior of the northern unit although views to and from Knock Fell may be affected. Future felling of forestry may increase visibility from settlement, roads and the highly sensitive Mochrum Lochs area.</p> <p><b>Sensitivity rating: High-medium</b></p>
<p><b>Landscape values</b></p> <p><b>No landscape designations apply to the majority of this character type although the Mochrum Lochs RSA covers Craignarget Hill in the south-western corner of the northern landscape area.</b></p>	<p>Development located within and close to the Mochrum Lochs RSA could affect the containment and sense of remoteness which are special qualities of this sensitive landscape.</p> <p><b>Sensitivity rating: High-medium to low</b></p>	<p>Development located within and close to the Mochrum Lochs RSA could affect the containment and sense of remoteness which are special qualities of this sensitive landscape. There may be some scope for single and small groups of this smaller typology to be sited to avoid such impact.</p> <p><b>Sensitivity rating: High-medium to low</b></p>





Small drumlin pastures are interspersed with flat moss and scrub



Knock Hill is a landmark feature punctuating the gently undulating to flat moorland of this landscape



Distinctive walled drumlin pastures, forestry and lochans seen from Knock Hill



Existing wind farm development within the Plateau Moorland to the north

## 15. Drumlin Pasture In Moss and Moor Lowland (12)

### 15.1 Introduction

The Drumlin Pastures in Moss and Moor Lowland occurs in a single area in Galloway.

This landscape is easily recognisable by the relatively frequent occurrence of low mounded glacial deposits (drumlins) and more prominent, small hills set within low lying wetland and often rushy pasture. This character type forms an extension of the related Drumlin Pasture (13), and is straddled between the low-lying Moss and Forest Lowland (11) and the more extensive sparsely settled Plateau with Forest (17a).

#### 15.1.1 Cultural heritage overview

This landscape type is characterised as moorland/rough grazing to the west and post-improvement (c19th-20th century) fields, farming and a few small designed landscapes to the east, with areas of relict land-uses including pre-improvement (pre-19th century) land-use with their remains of buildings and distinct field shapes. However, it is the scattered prehistoric antiquities, including standing stones and cairns, that are highlighted as a key characteristic in the Landscape Assessment and which are recognised as being of outstanding significance and distinctiveness.

#### 15.1.2 Operational/consented wind farm development

The operational wind farm of Barlockhart is partially located within the far western corner of this character type. A number of operational and consented wind farms also lie in close proximity to the northern boundary of this landscape as can be seen in the detailed map of this landscape character type ([hyperlink](#)).

### 15.2 Description and summary of sensitivity

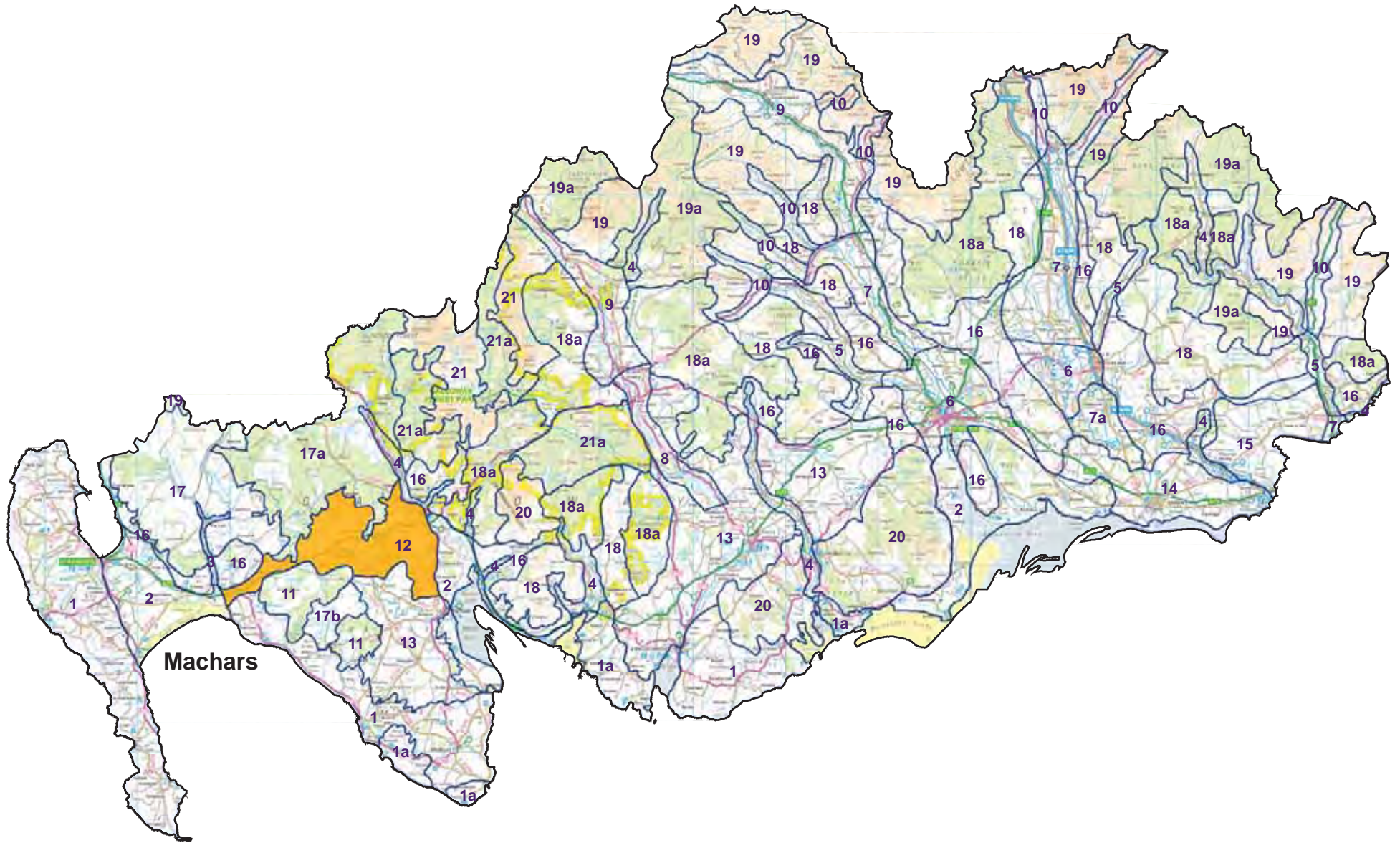
The Drumlin Pasture in Moss and moor Lowland is characterised by the extensive and repeated pattern of small, rounded, elongated mounds and higher, more irregular shaped hills rising out of low-lying areas of flat wetland, moss and flood plain which in places has been afforested. Relatively easy to access, this type is both well-settled within the drumlin dominated areas, and less settled within areas associated with more extensive wetlands and higher hills. Smooth textured grazed fields extend up and over the drumlins, well defined by hedges and patterned with occasional small woods and clumps of trees. The higher hills offer a more upland character of open rough grazing fragmented by whin and scrub, while wetland is frequently fragmented by rushy pasture and scrubby willow. The low profile, intimate scale and complexity of the drumlins,

as well as the diverse mosaic of the vegetation pattern, and in places relative semi-natural qualities, severely limits scope for larger wind farm typologies. This landscape is visible from the A75 although landform and vegetation result in views being intermittent.

The landscape of the Drumlin Pasture in Moss and Moor Lowland has an overall **High** sensitivity to the large typology (turbines 80-150m) and a **High-medium** sensitivity to the medium typology (turbines 50-80m). The small scale of the landform and the pattern of land cover and settlement, as well as the sensitivity of the smooth rhythm of the drumlin tops also results in a **Medium** sensitivity to the small-medium typology (turbines 20-50m). There would be a **Medium-low** sensitivity to small wind turbines (<20m high) as these are more able to be associated with existing development.

In terms of landscape value, the score is **Low** for all typologies, as no landscape designations apply to this area.

Character Type Key Map - 12. Drumlin Pasture in Moss and Moor Lowland



### 15.2.1 Cumulative issues

This character type forms a transitional landscape between the sparsely settled and generally simple Plateau Moorlands (17 and 17a) and the more complex and well-settled lowland landscapes of the Machars. The operational wind farm of Barlockhart is partially located in the western part of this character type. The operational Artfield Fell, Balmurrie Fell, Carsecreugh and Glenchamber wind farms and the under-construction and consented wind farms of Gass Farm, Airies and Kilgallioch lie close to the north-western boundary of this character type. A prominent ridge of small hills limit visibility of these wind farms from the more settled southern and eastern parts of this landscape although the following cumulative effects could occur with wind energy developments located in this landscape:

- Sequential views from the A75 where development (and particularly larger turbines >50m) sited in this landscape would increase the density and extent of wind energy development seen from this well-used route.
- Larger turbines sited in this and the adjacent Moss and Forest Lowland (11) could combine with the operational, under-construction and consented wind farms noted above to create a dominant cumulative effect on the settlement of Kirkcowan and contribute to a 'corridor-like' effect on the A75.

Cumulative impacts are also most likely to arise if more than one, or small groups, of small-medium typology (turbines 20-50m) appear across the hills within the drumlin pastures. These are already the focus for other structures, such as masts, which can add to visual complexity and potential clutter. The visual inter-relationship between proposals for this typology will need to be monitored closely.

In the more settled areas, the regularity of farmsteads could rapidly lead to a cluttered appearance if single or groups of turbines were associated with the majority of land holdings. This potential visual cumulative effect would particularly be the case if the small-medium typology was widely developed. The use of small turbines (<20m high) would reduce these effects as they would be more readily visually screened by topography and woodland. Variations in the type and scale of single and small groups of small turbines could lead to cumulative effects. Supplementary Guidance is provided on the siting and design of smaller turbines <50m high.

### 15.2.2 Key constraints

- The low relief, rounded profile, smooth texture and often complex and repeated pattern of the drumlins.
- The hills, which although less sensitive than the drumlins, are still small in a regional context, and often have a rugged irregular landform which would also be sensitive to larger typologies.
- The small settlements and farms, which are often tucked in around the drumlins and could be easily overwhelmed by tall structures sitting above them.
- Archaeological features, as well as historic point features, such as clumps of trees, which sit on top of the drumlins.
- The semi-natural quality of this landscape, formed by the wetland, moss and the rushy pastures with willow scrub, all of which also contrast with the smooth improved grassland of the drumlins to create a diverse vegetation pattern.
- Potential cumulative effects with turbines located in adjoining character types.

### 15.2.3 Opportunities

- The lower side slopes of the less distinctively rugged hills, which are larger in scale than the drumlins and offer more opportunity for accommodating small-medium and small turbines where slacker slopes and other low landforms can be used to create natural platforms for siting development.
- The pattern of settlement and farms, which offers a pattern of spot features which form a spatial framework of dispersed development which can be adopted by small turbines in particular.
- Wider areas of flat valley floor, often occupied by wetland, moor and coniferous forestry, which offer more expansive areas with a simpler landform within which the vertical structure of a turbine can be more readily accommodated.

## 15.3 Guidance on development

There is **no scope** to accommodate the large typology (turbines 80-150m) within this character type without significant adverse impacts arising across the majority of sensitivity criteria.

There are some **very limited** opportunities to accommodate the medium scale typology (turbines 50-80m) in this character type within broader, flatter, and largely forested, low-lying areas and the lower slopes of larger hills, although avoiding impact on more distinctively rugged irregular

hills. Smaller areas of more diverse wetland and moor should be avoided. Cumulative landscape and visual issues may arise with operational and consented wind farms located to the north and west of this character type and the location of this typology (which are more likely to comprise single and small groups of turbines) would need to be carefully considered to minimise inter-visibility.

Small-medium turbines (20-50m) could also be sited on the broad, low-lying areas of relatively level wetland between the drumlins, or across the lower slopes of the higher hills. More complex drumlin topography, and the tops of the drumlins, should be avoided. It is likely that turbines taller than 35m may be more difficult to accommodate in areas with a more complex landform, and visual impact on the perceived scale of the drumlins and small hills should be carefully assessed, along with potential cumulative visual effects.

There are greater opportunities to locate the small typology (turbines <20m) in this landscape. Small turbines should be sited where they can be clearly associated with existing development, farms or other settlement. They will be easier to accommodate if sited on natural low terraces and changes in gradient or folds in the topography. Where small turbines are perceived to fit with the scale of the drumlins, these should be located on the side slopes of the drumlin forms where views are more likely to be intermittent and where the rhythmical pattern of the drumlin forms against

the sky is less likely to be disrupted. Supplementary Guidance on the siting and design of smaller turbines <50m.

All turbines should avoid intrusion on key views from elevated roads, and into the backdrop and setting of small settlements or archaeological features and landscapes of historic interest.

Barskeoch and Culvennan Fells form a distinct ridge which contains the eastern area of this landscape from significant indirect and visual cumulative effects from the emerging cluster of wind farms, associated with the interior of the Wigtownshire Moors. The low-lying and outward looking character of this landscape to the south of this ridge makes it sensitive to any development in surrounding landscapes which may intensify existing effects to the west and north.

**Character Type 12 - Drumlin Pasture in Moss and Moor Lowland**

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Scale and openness</b>			
<p>The consistent pattern of small drumlins and occasional medium sized hills (rising to just over 200m) is interspersed with wetland, rough grassland and extensive conifer woodland most of which extends over flatter, more poorly drained land.</p> <p>The drumlins and hills create a strong enclosure with varied degrees of intimacy depending on the height and complexity of the landform. The small scale of the low drumlins is easy to read due to the frequent presence of livestock, trees and hedges which create ready scale reference points.</p>	<p>This typology would form dominant features in this small to medium scale landscape, overwhelming the height of both the small hills and the drumlins and (if sited on hill tops) appearing 'top-heavy' in comparison.</p> <p>This typology would dominate the limited extent of areas of wetland. Although broader forested mosses could fit with the extent of this typology, these tall turbines would overwhelm the size of small drumlins which often lie next to these areas.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would also form dominant features in this small to medium scale landscape, overwhelming the height of both the small hills and the drumlins and (if sited on hill tops) appearing 'top-heavy' in comparison.</p> <p>The more extensive, broader scale areas of planted moss/flat wetland may have some potential for this size of turbine.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would form dominant features within the small-scale landscape associated with the drumlins, which are low in height and often clustered into complex interlocking patterns which create areas of intimate scale.</p> <p>This typology could be accommodated if associated with the highest hills, however, which are often broader, stand alone and are often relatively open, or occasional more expansive level land between the drumlin-dominant areas.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landform</b>			
<p>Frequent occurrence of low rounded and often elongated, smoothly convex mounds or drumlins interspersed with areas of flat wet land or moss. Less frequent, larger, more visually prominent and irregularly shaped craggy-topped small hills occur mainly in north west with a distinct rugged ridge occurring between Fell End and Culvennan Fell. Drumlins frequently interlock to create more complex topography. The smoothness and rhythm of this topography is a key characteristic.</p>	<p>The smooth, rounded profile of the repeated drumlin pattern, particularly where it is at its most interlocking and complex, would be highly sensitive to this development typology. This typology would also detract from the distinctive band of higher craggy-topped irregular hills which occur in the north-west.</p> <p><b>Sensitivity rating: High</b></p>	<p>The smooth, rounded profile of the repeated drumlin pattern, particularly where it is at its most interlocking and complex, would be highly sensitive to this development typology. This typology would also detract from the distinctive band of higher craggy-topped irregular hills which occur in the north-west. The more extensive flatter land may offer some potential for this typology.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>The smooth, rounded profile of the repeated drumlin pattern, particularly where it is at its most interlocking and complex, would be highly sensitive to this development typology.</p> <p>Turbines would impact on the distinctive landform of the more rugged, craggy-topped larger hills although could be sited on slacker lower hill slopes where they would not detract from more pronounced landform. Low lying and more level land also offers some potential scope for this typology.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<p><b>Land cover and landmark features</b></p> <p><b>Extensive pattern of grassland fields, well defined by hedges emphasise the presence of the well-drained drumlins.</b></p> <p><b>Small clumps of trees are sometimes located on the tops of the drumlins and the higher more rugged hills feature patchy gorse, rock outcrops and rough grassland.</b></p> <p><b>Poorly drained wetland - sometimes extensive - scrub willow and rougher grassland extends between, and contrasts with, the smooth texture of the improved grassland on the drumlins.</b></p> <p><b>Occasional more extensive conifer woodland occupies low land, associated with the flatter, wetter areas or low ridges.</b></p> <p><b>The diverse land use of this character type reinforces the small scale and adds to the richness of this landscape in places.</b></p>	<p>Turbines of this size would dominate the interlock of enclosed fields, small woodlands and mosaic of wetland habitats which create a visually diverse pattern across this landscape.</p> <p>They would also detract from the setting of occasional landmark features such as clumps of trees on the hill tops and strong field pattern. Areas with a simpler vegetation cover such as rough grassland and conifer woodland would be less sensitive.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Turbines of this size would dominate the interlock of enclosed fields, small woodlands and mosaic of wetland habitats which create a visually diverse pattern across this landscape. They would also detract from the setting of occasional landmark features such as lochs and clumps of trees on the hill tops. Areas with a simpler vegetation cover such as rough grassland and conifer woodland would be less sensitive.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Turbines of this size, particularly if taller than 35m, could dominate the small scale elements of woodlands and enclosed fields however there is scope to site this typology where it has less interaction with these features. If poorly sited, they could detract from the setting of occasional landmark features such as clumps of trees on the hill tops.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Settlement and Archaeology</b>			
<p>The landscape alternates between extensive areas of less settled wetlands and hilly areas and more densely settled areas around drier, drumlin dominated landscapes, all of which include a range of archaeological and historic features.</p> <p>There are dispersed farms and individual houses and estates largely tucked in between the drumlins. The small settlement of Kirkcowan lies in the southern part of this landscape while the town of Newton Stewart is located on its eastern edge.</p>	<p>This typology could dominate small settlements and would affect the setting of settlements sited at the foot of hills and individual buildings and archaeological features dispersed across this landscape.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would dominate and potentially overwhelm small settlements and would affect the setting of small clustered settlements sited at the foot of hills and individual buildings and archaeological features dispersed across this landscape. Less settled areas may offer some potential for this typology which is more likely to comprise single and small groups of turbines.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could potentially overwhelm small settlements and could affect the setting of settlements sited at the foot of hills and individual buildings.</p> <p>Nevertheless, there should be scope to accommodate this typology where it has a less dominant effect on settlement and archaeology.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landscape context</b>			
<p>Plateau Moorland with Forest (17a) extends along most of the northern edge of this type, creating a higher, hillier upland edge which contains and provides a visual backdrop to this unit. To the south and west lie the lowland Drumlin Pasture (13) and Moss and Forest Lowland (11).</p> <p>To the west, a very narrow section of this type is tightly framed between Upland Fringe (16) and the coastal Peninsula type (1). This type also abuts the Coastal Flats (2) to the east.</p>	<p>Large turbines sited in this type could be highly visible from all the surrounding character types, although some of these are more sensitive than others. Particular potential impacts are likely to be on neighbouring small scale drumlins to the south in type 13 and on the sensitive Coastal Flats (2). The smaller landscape of lochs and policy features in Plateau Moorland with Lochs (17b) could additionally be adversely affected by development located in the north-west of this type.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Turbines of this size could be visible from surrounding character types. Potential impacts are more likely to occur on neighbouring small scale drumlins to the south in type 13 and on the sensitive Coastal Flats (2). The smaller landscape of lochs and policy features in Plateau Moorland with Lochs (17b) could additionally be adversely affected by development located in the north-west of this type although the smaller turbines of this type would be likely to minimise effects.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>Turbines could impact on the neighbouring small scale drumlins to the south in type 13 and on the sensitive Coastal Flats (2). In general however, there would be greater scope to accommodate this smaller typology to avoid potential impacts on adjacent sensitive landscapes.</p> <p><b>Sensitivity rating: Low</b></p>



Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Perceptual qualities</b>			
<p>The wetland, rush pasture, scrubby willow and rough grassland on the low lying areas, and the more extensive areas of rough grazing on the higher hills creates a sense of semi-naturalness which contrasts with the improved pasture and more managed fields on the drumlins and with extensive commercial forestry in adjacent landscapes to the north. This is further emphasised by the lack of settlement in the less settled areas.</p>	<p>Although there is not a pronounced sense of wildness associated with this landscape, the perception of semi-naturalness, and the way in which this contrasts with the improved pastures on the drumlins, could be adversely affected by the introduction of this typology.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Although there is not a pronounced sense of wildness associated with this landscape, the perception of semi-naturalness, and the way in which this contrasts with the improved pastures on the drumlins, could be adversely affected by the introduction of this typology.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The perception of semi-naturalness, and the way in which this contrasts with the improved pastures on the drumlins, could be adversely affected by the introduction of this typology, although the size of the turbine means that with careful siting, this affect could be minimised.</p> <p><b>Sensitivity rating: Medium-Low</b></p>
<b>Views and visibility</b>			
<p>Visibility is often limited from minor roads and settlement by woodland and the enclosure created by interlocking drumlins. However, the A75 generally offers more extensive panoramas. Lower slopes and hills can form the visual backdrop/setting to villages and other features of interest.</p> <p>Side light, for example in the late afternoons, can highlight and dramatise the drumlin forms. Minor roads in this landscape are popular with cyclists. Longer views over this landscape occur from Cairnsmore of Fleet and from the eastern side of Wigtown Bay.</p>	<p>Turbines sited on small hills or seen on prominent ridge-lines could dominate views from the A75 and from settlement. While there are some pockets of less visible lower-lying ground screened by higher ground and forest, turbines of this size would be likely to significantly impact on views from minor roads and from dispersed farms and houses. This typology could additionally detract from the visual focus of existing natural and historic features located on the tops of hills and could intrude on views across Wigtown Bay and Cairnsmore of Fleet.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would also dominate views from the A75 and from settlement if sited on small hills or seen on prominent ridgelines. There may be some scope to locate this typology to minimise effects on views from minor roads and settlement although archaeological features remain sensitive to intrusion.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could be visually prominent from well-used roads and from more elevated properties and footpaths, but is generally likely to be at least partially screened by intervening topography and tree cover.</p> <p>If poorly sited, turbines could detract from the visual focus of existing natural and historic features.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<p><b>Landscape values</b></p> <p><b>No landscape designations cover this character type although the non-Inventory listed designed landscape of Shennanton lies in the eastern part of this landscape.</b></p>	<p>The Shennanton designed landscape is contained by woodland and while large turbines seen over the top of this woodland could affect its setting, sensitivity in respect of values is low throughout much of this landscape.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>The Shennanton designed landscape is contained by woodland and while large turbines seen over the top of this woodland could affect its setting, there is increased scope to site smaller turbines to avoid impact. Sensitivity in respect of values is low throughout much of this landscape.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>Turbines of this size could be more easily sited to avoid impacts on the Shennanton designed landscape.</p> <p><b>Sensitivity rating: Low</b></p>



This landscape has a coarse textured pattern of rough pasture, scrub and woodland



Small drumlins are highly sensitive to all typologies



Areas of wetland between drumlins can be extensive



The craggy hills which outcrop at the transition with the Plateau Moorland character type

## 16. Drumlin Pastures (13)

### 16.1 Introduction

The Drumlin Pastures are easily recognisable by the relatively frequent occurrence of low mounded glacial deposits or drumlins and larger, more prominent, small hills. The type is relatively extensive in Dumfriesshire, reaching across the width of a wide plain, straddled between lower hill ranges and foothills. The landscape units of Milton, Deeside and Machars are identified in the Dumfries and Galloway landscape assessment within this character type. These landscape units have strong similarities and the character type is therefore considered as whole in the sensitivity assessment.

#### 16.1.1 Cultural heritage overview

This landscape type is characterised by post-improvement (c19th-20th century) fields and farming, with a number of designed landscape areas, as well as relict pre-improvement (pre-19th c) land-use with their remains of buildings and distinct field shapes, and a number of areas of pre-medieval land-use. One of the prehistoric foci is an Archaeologically Sensitive Area and there are numbers of archaeological sites of outstanding significance and distinctiveness, some of which are promoted for public benefit.

#### 16.1.2 Operational/consented wind farm development

There are no operational or consented wind farm developments in this character type, although there are individual and small groups of farm-based small turbines. The Deeside and Milton areas of the Drumlin Pastures will be influenced by views of the consented Mochrum Fell wind farms sited in the Stroan area of the Foothills with Forest (18a). There are views of the operational Plascow turbines sited in the Coastal Granite Uplands (20) from the Milton unit of this landscape character type.

### 16.2 Description and summary of sensitivity

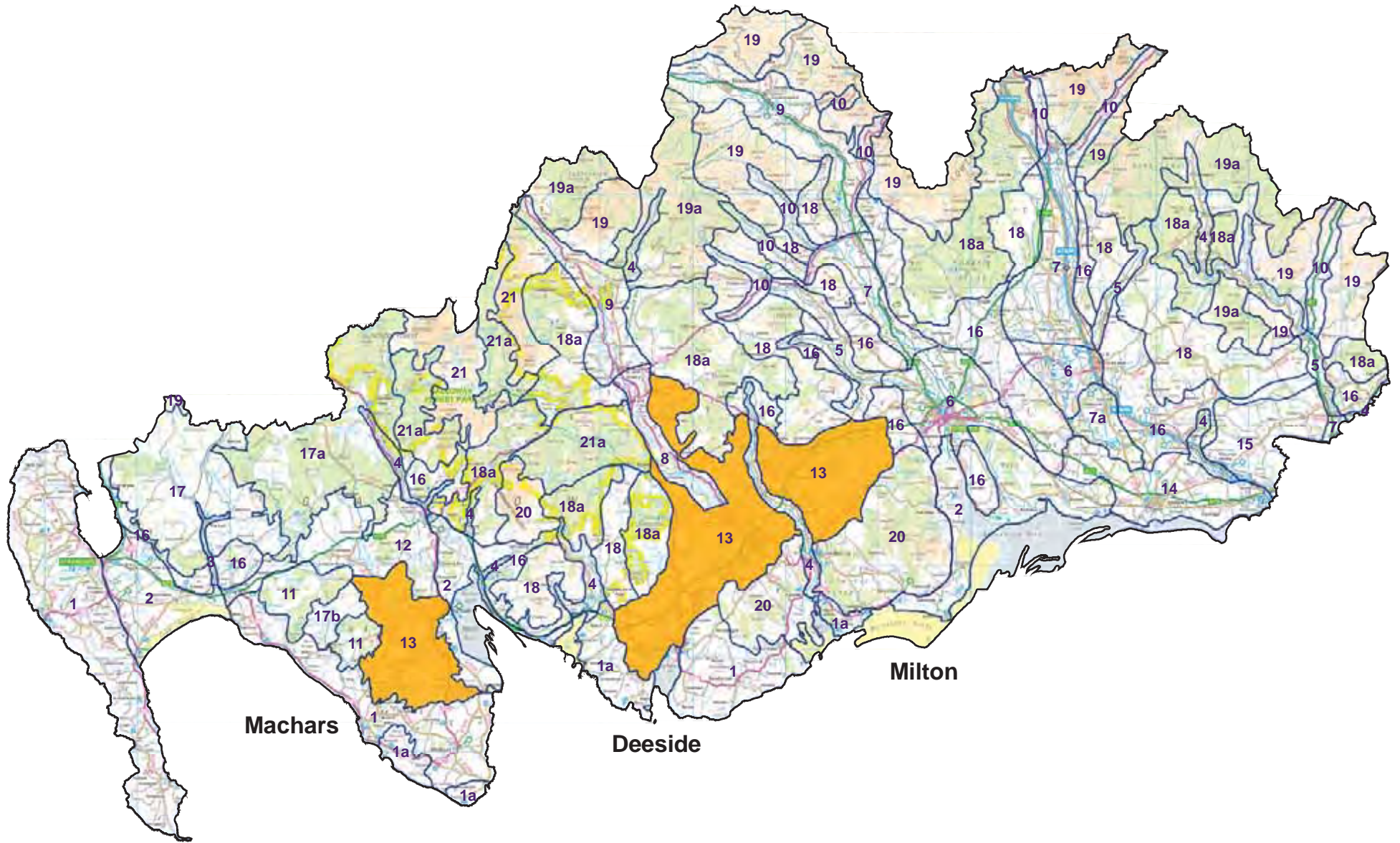
The Drumlin Pastures are characterised by the extensive and repeated pattern of small, rounded, elongated mounds which is occasionally interrupted by higher, more irregularly shaped hills and low-lying areas of flat drained land, wetland, flood plain or small lochs. They are easily accessible, well settled and farmed, with smooth textured grazed fields extending up and over the drumlins, well defined by hedges and occasional small woods and clumps of trees.

Sensitivity would be **High** to both the large and medium typologies (turbines >50m). The small scale of the landform and the pattern of land cover and

settlement, as well as the sensitivity of the smooth rhythm of the drumlin tops also results in a **High-medium** sensitivity to the small-medium typology (turbines 20-50m). The landscape has an overall **Medium-Low** sensitivity to small wind turbines (turbines <20m).

The majority of this character type is not covered by any landscape designations. A small part of the Deeside unit is included in the Galloway Hills RSA. Landscape values would therefore range from High-medium to Low. The small typology would have less of an effect on the special qualities of the RSA with a **Medium to Low** values rating assessed.

Character Type Key Map - 13. Drumlin Pastures



### 16.2.1 Cumulative issues

There is limited visibility of operational and consented wind farms sited in other landscape character types from the Drumlin Pastures and cumulative effects are therefore most likely to be associated with multiple developments located in this landscape.

Cumulative impacts are most likely to arise if more than one, or small groups, of small-medium turbines (turbines 20-50m) appear across the hills within the drumlin pastures. These landscapes are already the focus for other structures, such as masts, which can add to visual complexity and potential clutter. The visual inter-relationship between proposals for this typology will need to be monitored closely. A number of existing small (15-20m) high turbines are associated with farms in this area and cumulative landscape and visual impacts could arise where variations in the type and scale of single and small groups of turbines occur.

The regularity of farmsteads dotted across the Drumlin Pastures could rapidly lead to it appearing cluttered if single or groups of turbines were associated with the majority of land holdings. This potential visual cumulative effect would particularly be the case if the small-medium typology was widely developed, an effect which would be reduced if well-sited turbines of less than 35m were used. Small turbines are more readily visually screened by topography and woodland, which is likely to limit their cumulative visual impact.

Cumulative visual effects could arise from inter-visibility between the Drumlin Pastures, adjacent areas of the Coastal Granite Uplands (20) and the Foothills with Forest (18a), where larger turbines are/will be located.

### 16.2.2 Key constraints

- The low relief, rounded profile, smooth texture and often complex and repeated pattern of the drumlins.
- The hills, which although less sensitive than the drumlins, are still relatively small and would be dominated by larger typologies.
- Small settlements and farms, which are often tucked in around the drumlins or on side slopes and can be easily overwhelmed by tall structures sitting above them.
- Archaeological features and historic point features, such as clumps of trees, which sit on top of the drumlins.
- The visual backdrop to settlements and the wider setting of historic landscapes and individual archaeological features in valleys.
- Highly sensitive adjoining landscapes including the Plateau with Lochs (17b), Flooded Valley (8) and the Narrow Wooded Valleys (4).
- Potential cumulative effects with turbines located in the Coastal Granite Uplands (20) and Foothills with Forest (18a).

- Potential clutter created by the addition of individual small-medium and small turbines if associated with many land holdings across this well-settled landscape.

### 16.2.3 Opportunities

The lower side slope of the hills, which are larger in scale than the drumlins and offer more opportunity for accommodating small/medium and small turbines where individual terraces, sub-knolls and other low landforms can be used to create natural platforms for siting development.

The pattern of settlement and farms in this relatively densely settled character type, which offers a pattern of spot features which although low lying form a spatial framework of dispersed development which can be adopted by small turbines in particular.

Wider areas of flat valley floor, sometimes occupied by wetland, but often well drained, which offer more expansive areas of relatively open land within which the vertical structure of a turbine can be more readily accommodated.

### 16.3 Guidance on development

There is **no scope** to locate the large or medium typologies (turbines >50m) in this landscape character type due to the significant adverse impacts that would be likely to occur on a number of key sensitivities.

The small scale of the landform and the pattern of land cover and settlement, as well as the sensitivity of the smooth rhythm of the drumlin tops also limits scope for the small-medium typology (turbines 20-50m) although the lower side slopes of the slightly higher hills, as well as occasional more expansive low-lying flatter land offer more opportunities to accommodate this size of development if carefully sited. It is likely that turbines taller than 35m may be more difficult to accommodate, and their visual impact on the perceived scale of the drumlins and small hills should be carefully assessed, along with potential cumulative visual effects.

Small turbines (turbines <20m) could also be sited on low-lying flatter areas and the lower side slopes of higher hills. More complex drumlin topography and the tops of the drumlins should be avoided. Where small turbines could fit better with the scale of the drumlins, these should be located on the side slopes of the drumlin forms where views are more likely to be intermittent and where the rhythmical pattern of the drumlin forms against the sky is less likely to be disrupted.

The Drumlin Pastures are particularly sensitive to wind farms sited in adjacent landscapes towards their margins where turbines on nearby back drops and sky lines can dominate the smaller scale of the farmed and settled landscape, and impinge on the setting of features within them, detracting from general visual amenity and views. Extended and multiple developments in surrounding uplands could dominate landmark features, or successively, surround the area and would be seen from well-used roads and settlement.

The introduction of additional overhead lines should be avoided and the construction of new access tracks avoided or carefully routed to avoid landscape and visual impact on the distinctive landform of this character type. Turbines should avoid intrusion on key views from elevated roads, and into the backdrop and setting of small settlements or archaeological features and landscapes of historic interest. Supplementary Guidance is provided on the siting and design of smaller turbines <50m.

**Character Type 13 - Drumlin Pastures**

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Scale and openness</b>			
<p>The consistent pattern of small drumlins and occasional medium sized hills (rising to just under 200m) extends over an extensive area of low lying land.</p> <p>The landform creates a strong enclosure with varied degrees of intimacy depending on the height and complexity of the landform. The small scale of the low drumlins is easy to appreciate due to the frequent presence of livestock, trees and hedges which create ready scale reference points. Some broader low-lying areas occur between drumlins.</p>	<p>This typology would form dominant features in this small to medium scale landscape, overwhelming the height of both the small hills and the drumlins, whether sited on hill tops or in areas of flatter ground between them.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would form dominant features in this small to medium scale landscape, overwhelming the height of both the small hills and the drumlins, whether sited on hill tops or in areas of flatter ground between them.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would form dominant features within the small-scale landscape associated with the drumlins, which are low in height and often clustered into complex interlocking patterns which create areas of intimate scale.</p> <p>This typology could be accommodated if associated with the highest hills, however, which are often broader, stand alone and are often relatively open, or occasional more expansive level land between the drumlin-dominant areas.</p> <p><b>Sensitivity rating: High -Medium</b></p>
<b>Landform</b>			
<p>Frequent occurrence of low rounded and often elongated, smoothly convex mounds or drumlins. Less frequent, larger, more visually prominent and irregularly shaped small hills interspersed with occasional areas of flat ground and loch basins.</p> <p>Drumlins frequently interlock to create more complex topography. The smoothness and rhythm of this topography is a key characteristic.</p>	<p>The smooth, rounded profile of the repeated drumlin pattern, particularly where it is at its most interlocking and complex, would be highly sensitive to this development typology. This typology would detract from the irregularly shaped larger hills that infrequently occur in this character type and from the flatter areas which contrast with the distinctive drumlin pattern.</p> <p><b>Sensitivity rating: High</b></p>	<p>The smooth, rounded profile of the repeated drumlin pattern, particularly where it is at its most interlocking and complex, would be highly sensitive to this development typology. This typology would detract from the irregularly shaped larger hills that infrequently occur in this character type and from the flatter areas which contrast with the distinctive drumlin pattern.</p> <p><b>Sensitivity rating: High</b></p>	<p>The smooth, rounded profile of the repeated drumlin pattern, particularly where it is at its most interlocking and complex, would be highly sensitive to this development typology. The lower side slopes of the larger hills, which are more irregular and rugged in shape, offer terraces, which could be used to site this typology away from more prominent hill tops. Occasional low lying and more level land also offers some potential scope for this typology.</p> <p><b>Sensitivity rating: High-medium</b></p>



Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Land cover and landmark features</b>			
<p>An extensive pattern of grassland fields, well defined by hedges and occasional woodland. Small clumps of trees are sometimes located on the tops of the drumlins and the higher more rugged hills feature patchy gorse and rough grassland.</p> <p>Occasional lochs and wetlands occupy the flat ground between drumlins. The diverse land use of this character type reinforces the small scale and adds to the richness of this landscape.</p>	<p>Turbines of this size would dominate the small scale elements of woodlands and enclosed fields that create a strong pattern across this landscape.</p> <p>They would detract from the setting of occasional landmark features such as lochs and wetlands and clumps of trees on the hill tops. The construction of access tracks and installation of other associated infrastructure would interrupt the often smooth grassy cover of drumlins and low hills that complements their distinctive form, and could adversely affect the integrity of field enclosures.</p> <p><b>Sensitivity rating: High</b></p>	<p>Turbines of this size would dominate the small scale elements of woodlands, enclosed fields and settlement that create a strong pattern across this landscape.</p> <p>They would detract from the setting of occasional landmark features such as lochs and wetlands and clumps of trees on the hill tops.</p> <p>Access tracks and installation of other associated infrastructure would interrupt the often smooth grassy cover of drumlins and hills that complements their distinctive form, and could adversely affect the integrity of field enclosures.</p> <p><b>Sensitivity rating: High</b></p>	<p>Turbines of this size, particularly if taller than 35m, could dominate the small scale elements of woodlands and enclosed fields however there is some scope to site this typology where it has less interaction with these features</p> <p>If poorly sited, they could detract from the setting of occasional landmark features such as lochs and wetlands and clumps of trees on the hill tops.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Settlement and Archaeology</b>			
<p>The landscape is often well settled with dispersed farms and individual houses, small settlements and estate buildings largely tucked in between the drumlins.</p> <p>Roads are often small and relatively narrow, winding their way through the drumlins, although there are several larger A-class roads. There is a range of significant archaeological and sites and areas with prominent features such as forts, towers and crannogs in this landscape. In the Machars unit in particular, there are numerous archaeological sites and areas of more expansive historic landscape.</p>	<p>This typology would dominate and adversely affect the setting of settlements sited at the foot of hills and individual buildings and archaeological features dispersed across this landscape.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could dominate and adversely affect the setting of settlements sited at the foot of hills and individual buildings and archaeological features dispersed across this landscape. Single and small groups of turbines towards the lower height band may have a reduced effect in less settled areas however.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could also potentially affect the setting of small clustered settlements sited at the foot of hills and individual buildings and archaeological features dispersed across this landscape although there is greater scope to site turbines (and particularly turbines less than 35m high) to minimise effects.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape context</b>			
<p>The Milton unit abuts the small scale Narrow Wooded Valley (4) of the Urr valley, and forms the foreground and lowland setting for upland fringe, foothills and upland areas such as the Coastal Granite Uplands (20) and the Terregles area of the Upland Fringe (16). The Deeside area lies adjacent to the Flooded Valley (8) of Loch Ken and the Kirkcudbright coast while the Machars unit is in close proximity to the highly sensitive Plateau with Lochs (17b) character type.</p>	<p>Development sited on drumlins and ridges/hills which overlook highly sensitive small scale or notably diverse landscapes such as the Narrow Wooded Valley (4) of the Urr Water, the Upland Fringe (16) and the Flooded Valley (8) and the Plateau with Lochs (17b) would impact on the character and visual amenity of these neighbouring character types. The rhythm of the smooth drumlin pattern which contrasts with the more rugged upland character of the Coastal Granite Uplands (20), notably seen in views from the Machars area, could also be affected by development.</p> <p>In general, the relative extensiveness of the Drumlin Pastures (13) character type would allow scope to site this typology to avoid significant impact on adjacent smaller scale and highly sensitive character types.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Development sited on drumlins and ridges which overlook highly sensitive small scale valleys such as the Narrow Wooded Valley (4) of the Urr Water, the Flooded Valley (8) and the Plateau with Lochs (17b) would impact on the character and visual amenity of these neighbouring character types. The rhythm of the smooth drumlin pattern which contrasts with the more rugged upland character of the Coastal Granite Uplands (20), notably seen in views from the 'Machars' unit, could also be affected by development.</p> <p>In general, the relative extensiveness of the Drumlin Pastures (13) character type would allow scope to site this typology to avoid significant impact on adjacent smaller scale and highly sensitive character types.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Turbines sited on drumlins and ridges which overlook adjacent valleys such as the Narrow Wooded Valley of the Urr Water could impact on the character and visual amenity of these neighbouring character types. There are, however, opportunities to site this typology where these impacts can be readily avoided.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Perceptual qualities</b>			
<p>While the farmed and settled nature of this landscape limits the sense of naturalness and remoteness experienced, it has a strongly rural character accentuated by areas of unimproved ground, scrub and woodland, small fields, largely intact enclosure pattern and traditional architecture of small clustered villages and dispersed farmhouses.</p>	<p>Although this landscape does not have wildland characteristics, the perception of the strongly rural character of this landscape could be adversely affected by the introduction of this typology.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Although this landscape does not have wildland characteristics, the perception of the strongly rural character of this landscape could be adversely affected by the introduction of this typology.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology is more likely to relate to the size of existing structures, including pylons and masts, and so while it would reinforce the presence of these more industrial elements in the landscape, it could with care be sited where the potential impact on rural character is limited.</p> <p><b>Sensitivity rating: Medium- Low</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Views and visibility</b>			
<p>Visibility is often limited from minor roads and from small settlements by the enclosure created by interlocking drumlins although farmsteads and other dispersed dwellings are often located on higher, more open ground. Elevated and expansive views occur from the Old Military road (National Cycle Route 7) and the A75, A713 and A711 and these landscapes are also highly visible from roads and footpaths in surrounding upland areas. Lower slopes and hills can form the visual backdrop/setting to villages and other features of interest. Side light, for example in the late afternoons, can highlight and dramatise the drumlin forms.</p>	<p>Large turbines located on hills within these landscapes are likely to be visually prominent from well-used roads and from more elevated properties and footpaths both within the character type and from surrounding more elevated areas.</p> <p>Turbines of this size would detract from the visual focus of existing natural and historic features located on the tops of hills and summits and from the striking lighting effects which occasionally highlight the drumlin form.</p> <p><b>Sensitivity rating: High</b></p>	<p>Large turbines located on hills within these landscapes are likely to be visually prominent from well-used roads and from more elevated properties and footpaths both within the character type and from surrounding more elevated areas.</p> <p>Turbines of this size would detract from the visual focus of existing natural and historic features located on the tops of hills and summits and from the striking lighting effects which occasionally highlight the drumlin form.</p> <p><b>Sensitivity rating: High</b></p>	<p>Located on low hills, this typology could be visually prominent from well-used roads and from more elevated properties and footpaths, but is generally likely to be at least partially screened from settlements and roads by intervening topography and tree cover.</p> <p>If poorly sited, turbines could detract from the visual focus of existing natural and historic features located on the tops of hills and summits, or from the setting of more extensive historic landscapes</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Landscape values</b>			
<p>No landscape designations cover the Milton or Machars areas of this character type. The Galloway Hills RSA applies to the northern part of the Deeside unit lying adjacent to Loch Ken. Technical Paper 6 indicates that land within the visual envelope of the unique and distinctive Loch Ken is included in the RSA.</p> <p>A number of designed landscapes are located in this LCT with these being particularly concentrated in the Deeside area. The drumlin pastures are additionally a distinctive feature of the Dumfries and Galloway landscape.</p>	<p>If sited within or close to the RSA, this typology would be likely to have significant effects on its special qualities although the extensiveness of the LCT allows scope to avoid impacts on designated landscapes.</p> <p>Inventory and non-Inventory designed landscapes and the distinctiveness of the drumlins increase sensitivity in relation to landscape values.</p> <p><b>Sensitivity rating: High-medium to Medium</b></p>	<p>If sited within or close to the RSA, this typology would be likely to have significant effects on its special qualities although the extensiveness of the LCT allows scope to avoid impacts on designated landscapes.</p> <p>Inventory and non-Inventory designed landscapes and the distinctiveness of the drumlins increase sensitivity in relation to landscape values.</p> <p><b>Sensitivity rating: High-medium to Medium</b></p>	<p>Small turbines would be likely to have less of an effect on the special qualities of the RSA and could also be sited to minimise effects on designed landscapes and the more complex and distinctive areas of drumlin landform.</p> <p><b>Sensitivity rating: High-medium to Low</b></p>



Small woodlands planted on drumlins and hills are a distinctive feature



Small farms at the foot of drumlins or on side slopes could be overwhelmed by turbines set above them



The drumlins form a repeated pattern across this character type and are highly sensitive to all typologies



Larger hills occasionally occur but are still relatively small and sensitive to larger typologies

## 17. Coastal Plateau/Flow Plateau (14/15)

### 17.1 Introduction

These character types lie in the eastern part of Dumfries and Galloway and close to the inner Solway Firth. The units of Hoddum, Annandale (Coastal Plateau 14) and Annandale (Flow Plateau 15) are considered together in the sensitivity assessment due to the similarities of their key characteristics and landscape context.

#### 17.1.1 Cultural heritage overview

These landscape types are characterised by post-improvement (c19th-20th century) fields and farming but little evidence for relict land-uses. Nevertheless, there are a few archaeological sites of outstanding significance and distinctiveness in all of the landscape areas. The designated battlefield of Sark lies to the south of Gretna.

#### 17.1.2 Operational/consented wind farm development

No operational or consented wind farms are located in these character types. The operational offshore Robin Rigg wind farm is sited within the Solway Firth and is visible from the western parts of the Coastal Plateau (14) character type. The operational Minsca wind farm sited in the Annandale area of the Foothills (18) is widely visible across these largely open character types and the consented Solwaybank wind farm will

have a similar visual effect. The under-construction/consented Ewe Hill wind farm will also be visible but less intrusive due to it being set back more into the upland interior.

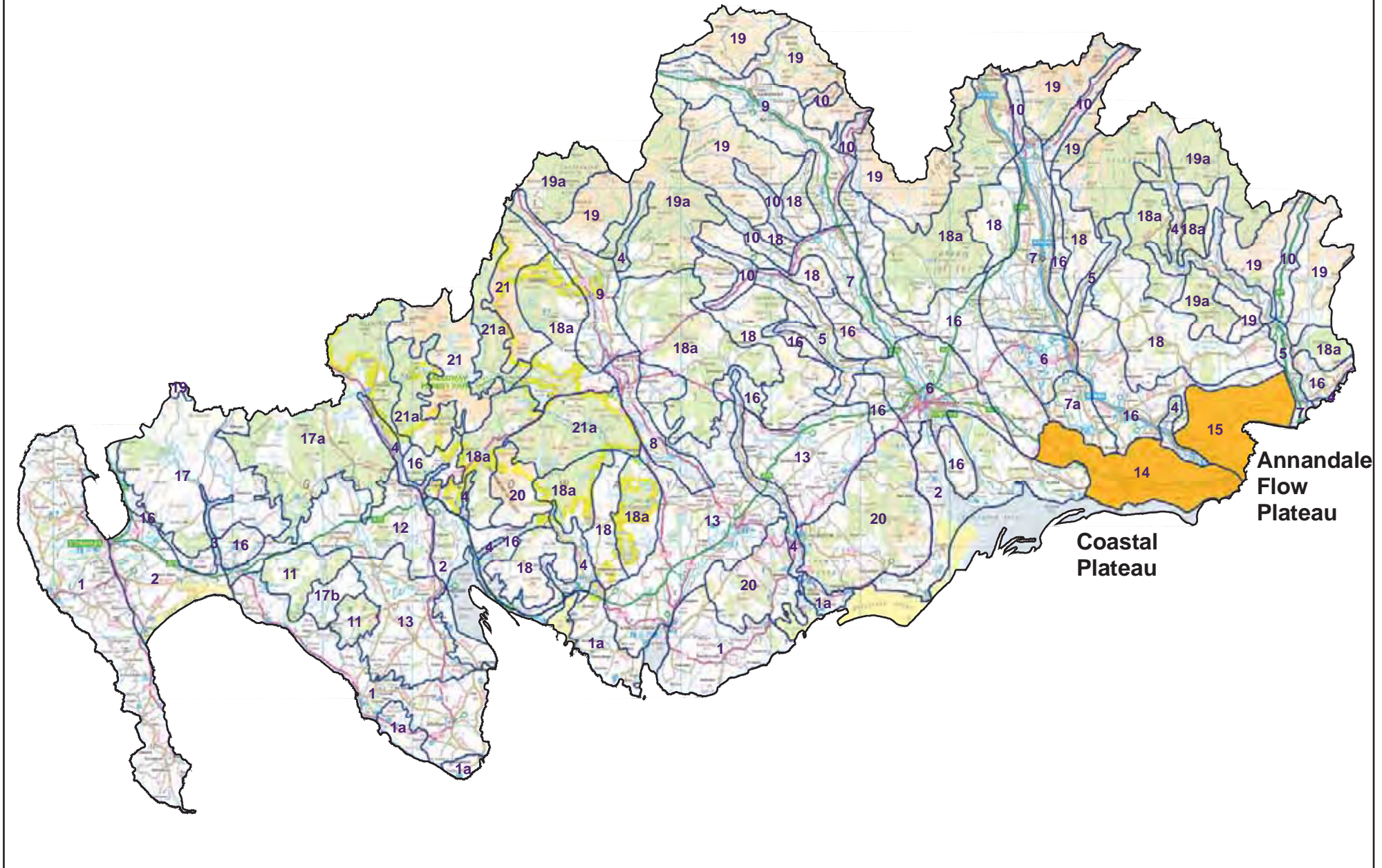
### 17.2 Description and summary of sensitivity

These gently undulating landscapes fall gradually to the Solway coast and the broad floodplain of the Esk. Farmland is interspersed with low-lying mosses which are often encircled by broadleaved woodland and scrub. This is a well-settled landscape with a number of settlements concentrated close to the Solway Firth. The field enclosure pattern becomes less distinct and settlement sparser in the north-east of the Flow Plateau (15) at the transition with the Upland Fringe (16). The well-settled nature of these landscapes increases sensitivity to larger typologies in general while additional sensitivities are also associated with the more natural mosses, coastal edge and woodlands and also the presence of existing wind farm development in the nearby Annandale Foothills (18). These open coastal areas are highly visible from roads and settlement which are often elevated above them.

There is a **High-medium** sensitivity to the larger typologies (turbines >50m). Sensitivity would be **Medium** for the Small-medium typology (turbines 20-50m) and **Medium-low** for the small typology (turbines <20m).

No landscape designations cover these landscapes and the score for landscape values is therefore **Low** for all typologies.

Character Type Key Map - 14. Coastal Plateau  
Character Type Key Map - 15. Flow Plateau



**Annandale  
Flow  
Plateau**

**Coastal  
Plateau**

### 17.2.1 Cumulative issues

While the operational Robin Rigg offshore windfarm may be inter-visible with any onshore development located in the western parts of the Coastal Plateau (14) character type, cumulative impacts are unlikely to be significant due to the distance and relatively limited extent that this wind farm occupies in coastal views.

There could be significant cumulative impacts between any wind farm developments located in the northern part of this landscape with the operational Minsca wind farm and consented Solwaybank wind farms which are/will be prominent on the skyline of the pronounced southern and south-western edges of the Annandale Foothills (18). Larger typologies located close to the base of the narrow Upland Fringe (16) in the north-east of the Flow Plateau (15) would be likely to have a greater cumulative effect in combination with these operational and consented developments.

Variations in the type and size of single and small groups of small-medium and small turbines associated with farms could create cumulative landscape and visual impacts particularly given the well-settled and open character of this landscape.

### 17.2.2 Key constraints

- The well-settled character of these landscapes and their openness which increases visibility from settlement, roads and footpaths.

- The clutter of transmission lines, masts and industrial buildings in parts of these landscapes which increases the scope for cumulative visual impacts to occur with turbines.
- The operational Minsca and consented Solwaybank wind farms within the adjacent Annandale area of the Foothills (18) which increases scope for cumulative landscape and visual impacts to arise.
- Dispersed farmsteads, field trees and small woodlands which provide highly visible 'point' features patterning these landscapes and ready scale references.
- Views over the Solway Firth to the Cumbrian Fells and also views across this open landscape which forms a threshold to Dumfries and Galloway and Scotland seen from the M74 and A75 when travelling north.
- The natural character of the tidal estuary and its mudflats, remnant mosses and their associated scrub woodland and the occasional, deeply incised valleys which cut into the eastern parts of this plateau landscape.
- Occasional policy woodlands at Springkell, on the north-eastern edge of this landscape around Hoddam that abut the highly sensitive Middle Dale with Hills (7a) character type and also within the adjacent Intimate Pastoral Valley (5) of the Esk.

### 17.2.3 Opportunities

Broader ridges on the more elevated north-eastern parts of the area which have a more expansive scale, simple land cover of more extensive pasture and coniferous plantation and are less settled in character.

## 17.3 Guidance on development

There is **no scope** for siting the larger development typologies (turbines >50m)

In this character type without incurring significant adverse landscape and visual impacts on a number of key sensitivity criteria, including potential for significant cumulative impacts to arise with operational and consented wind farms in the Annandale Foothills (18).

The small-medium typology (turbines 20-50m) could be sited on broader ridges at the transition between the Flow Plateau (15) and the Upland Fringe (16) where the land cover pattern is simpler, featuring more extensive pastures and coniferous forestry, and where there are opportunities to minimise impacts on settlement. Care should be taken however to avoid significant cumulative impacts with operational and consented wind farms sited in the Annandale Foothills (18).

Small turbines (<20m high) should be sited where they can be visually associated with existing built development, farms or other settlement. They will be easier to accommodate if sited on slight rises or folds in the landscape or where there are natural changes in gradient.

These landscapes are sensitive to extended or multiple wind farms located in the adjacent Foothills (18) and seen prominent skylines across these flat and generally open landscapes. Any development at the head of and across the Solway Estuary could both successively surround these landscapes, and detract from the expansiveness and scenic outlooks to the North Pennines and Lake Fells.

All turbines should avoid intrusion on key views from coastal footpaths, and into the backdrop and setting of settlements or archaeological features and landscapes of historic interest. They should be sited well away from the coastal edge and mosses which are highly sensitive to physical disturbance and intrusion from vertical structures such as turbines. Turbines should also not be sited close to notably incised and often well-wooded valleys. The introduction of additional overhead lines and the juxtaposition of turbines with existing masts and overhead lines should be avoided to reduce clutter in these characteristically open landscapes. Supplementary Guidance is provided on the siting and design of smaller turbines <50m.



## Character Type 14, 15 - Coastal Plateau /Flow Plateau

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Scale and openness</b>			
<p>The low-lying gently undulating to flat landform and field enclosure pattern with occasional trees and woodlands give these landscapes a medium scale and a generally open character. Scale and openness are reduced within the narrow valleys that cut into the generally higher plateau to the east and increases on broader ridges with more extensive pastures towards the Upland Fringe (16) in the north of the Flow Plateau (15). While the Solway increases the sense of openness in coastal areas, the narrowness of the Firth and containment provided by the Cumbrian Fells limit scale.</p>	<p>This typology (and particularly turbines &gt;100m) would dominate the scale of narrow valleys and the enclosed farmland, trees and woodlands in this landscape which provide ready scale references over much of this landscape. It could relate to the increased scale of more open broader elevated ridges, hill slopes and moorlands although these areas are limited in extent.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would also dominate the scale of narrow valleys and the enclosed farmland, trees and woodlands in this landscape which provide ready scale references over much of this landscape. There is slightly greater scope for this typology to fit with the scale of more open broader elevated ridges and hill slopes.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>These flat and gently undulating landscapes offer opportunities for this typology where the field pattern is large or the vegetation type extensive and more uniform.</p> <p>In the narrow inner firth the sense of expanse is limited by the presence of the Cumbrian Fells which provide visual containment. The smaller scale of narrow valleys and more complex rolling topography and vegetation pattern at the transition with (7a) are sensitive to this typology.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Landform</b>			
<p>A gently undulating plateau, rising gradually from the flat coastal edge and broad floodplain of the Esk. The eastern part of this landscape is more elevated and features occasional narrow winding valleys cut into the plateau and contained by broad flattened ridges at the transition with the Upland Fringe and Foothills. Low-lying moorlands occur across this landscape.</p>	<p>The gently undulating to flat landform characteristic of these landscapes could relate to wind farm development in general. More rolling landform at the transition with (7a) and the western parts of (16) and incised valleys would be more sensitive.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The gently undulating to flat landform characteristic of these landscapes could relate to wind farm development in general. More rolling landform at the transition with (7a) and the western parts of (16) and incised valleys would be more sensitive.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The more complex areas of topography including incised valleys and more rolling hills will be sensitive to this typology, but generally the flat and gently undulating land form could accommodate this typology</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Land cover and landmark features</b>			
<p>There is a simple pattern of large fields enclosed by hedgerows. Field trees are locally distinctive, for example in the Chapelknowe area. Intact mosses are ringed by scrub woodland and these add interest and diversity to the landscape. Broadleaved woodlands trace winding valleys. Policy woodlands are present in the Springkell area and blocky conifer plantations occur on higher ridges and planted on former mosses.</p>	<p>Although this smaller typology could relate to the simpler pattern of more extensive pasture and occasional coniferous plantations which occur in parts of this landscape, it would disrupt the integrity and detract from the character of more natural intact mosses and the distinctive pattern of field trees and policy woodlands elsewhere.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Although this smaller typology could relate to the simpler pattern of more extensive pasture and occasional coniferous plantations which occur in parts of this landscape, it would disrupt the integrity and detract from the character of more natural intact mosses and the distinctive pattern of field trees and policy woodlands elsewhere.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Tidal mud flats, semi-natural mosses, broadleaved scrub and woodland, areas with a strong hedgerow and field tree pattern and wooded policies would be sensitive to this typology although turbines of this size typology could relate to more open and larger pastures.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Settlement and Archaeology</b>			
<p>The settlements of Annan, Eastriggs and Gretna are located along the Solway, but set back from the coastal edge in the east. Smaller settlements and archaeological features occur elsewhere and large farms are dispersed fairly evenly across this landscape, apart from the mosses and the higher ground at the transition with the Upland Fringe (16) where settlement is sparse. Key landmark features comprise the Chapelcross power station (decommissioned) and the transmission lines which converge in this area. A number of major transport routes are aligned through this landscape. The area between Longtown and Dornock is noted for its industrial heritage related to munitions manufacturing. The inventory battlefield of Sark lies S of Gretna between the Sark and Kirtle Water.</p>	<p>This typology could affect the setting of settlements if located nearby. It would also dominate the scale of dispersed houses/ farms and archaeological features in this relatively well-settled landscape. Turbines sited close to the Solway coast and its hinterland could visually interact with other tall built infrastructure to create a cluttered and fragmented landscape.</p> <p><b>Sensitivity rating: High</b></p>	<p>There is some slightly increased scope for turbines towards the lower height band of this typology to be sited to minimise impacts on the scale and setting of past and present settlement although the well-settled nature of much of this lowland landscape would be likely to result in some significant impacts. Turbines sited close to the Solway coast and its hinterland could visually interact with other tall built infrastructure to create a cluttered and fragmented landscape.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could overwhelm small farms, individual houses and small settlements, affecting their setting and the scale of the built development if poorly sited although there are increased opportunities to site these smaller turbines to minimise effects on settlement and archaeology.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape context</b>			
<p>The designed landscapes set on the rolling hills adjacent to the River Annan and Water of Milk (7a) and the Torthorwald Ridge (16) abut this landscape in the north-east while the Esk valley (5+7) borders the Plateau Flow to the east. The Solway Firth is present to the south and forms a narrow inlet of tidal mudflats. The Foothills (18) are seen to the north as a distinct edge of higher ground above the Flow Plateau.</p>	<p>This typology could significantly affect the highly sensitive small scale Middle Dale with Hills (7a) and the Intimate Pastoral Valley of the Esk (5) and potentially affect the setting of designed landscapes within these character types. The visual prominence of the Torthorwald Ridge could be adversely affected if this typology were sited close-by. This typology could also diminish the sense of connection to the Solway Firth if sited along the coastal edge and its immediate hinterland.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could significantly impact on the highly sensitive small scale Middle Dale with Hills (7a) and potentially affect the setting of designed landscapes within this character type. The visual prominence of the Torthorwald Ridge could be adversely affected if this typology were sited close-by. This typology could also diminish the sense of connection to the Solway Firth if sited along the coastal edge and its immediate hinterland.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>There is increased scope to site these smaller turbines, which are more likely to comprise single and small groups of turbines, to minimise effects on adjacent sensitive landscapes.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Perceptual qualities</b>			
<p>While the tidal mudflats of the Solway and the remnant mosses have natural qualities, the presence of major transport routes, industry, settlement and intensively managed farmland reduces the sense of wildness overall in these landscapes.</p>	<p>Provided this typology were not located close to the coastal edge or within or close to semi-natural mosses there would be little effect on wildland character.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>Provided this typology were not located close to the coastal edge or within or close to semi-natural mosses there would be little effect on wildland character.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>The sense of naturalness associated with the tidal mud flats and mosses could be easily compromised by any development, including this typology.</p> <p>However, the more managed landscapes are more readily able to accommodate this typology.</p> <p><b>Sensitivity rating: Medium-low</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Views and visibility</b>			
<p>The openness of this landscape allows extensive views from this well-settled landscape and from the major transport routes which are aligned through it. There are notably striking views to the coastal edge from the B6357 east of Annan where the Cumbrian Fells are a key focus. The A75 and M74 are important routes with these landscapes forming the 'threshold' to both Scotland and Dumfries and Galloway from the south.</p>	<p>This typology would be highly visible from major transport routes and from settlement across this generally open landscape. It could intrude on key foci such as the views across the Solway Firth to the Cumbrian Fells and could increase the visual clutter of masts and transmission lines characteristic of the coastal area.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would be highly visible from major transport routes and from settlement across this generally open landscape. It could intrude on key foci such as the views across the Solway Firth to the Cumbrian Fells and could increase the visual clutter of masts and transmission lines characteristic of the coastal area.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would be likely to be widely visible from major transport routes and from settlement across this generally open landscape. It could intrude on key foci such as the Cumbrian Fells seen across the Solway Firth if sited in coastal areas and could increase the visual clutter of masts and transmission lines characteristic of the coastal area. Turbines towards the lower height band of this typology would be more likely to benefit from a degree of screening from hedgerows, woodlands and trees and the more undulating landform that occurs away from the coast.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Landscape values</b>			
<p>These landscapes are not covered by any landscape designations although the Torthorwald Ridge and Langholm Hills RSAs abut the boundaries of these landscapes. A number of designed landscapes are present in these LCTs.</p>	<p>The setting of the RSAs and designed landscapes would be sensitive to intrusion by large wind turbines although there may be some scope to minimise impact on this sensitivity.</p> <p><b>Sensitivity rating: Medium-Low</b></p>	<p>The setting of the RSAs and designed landscapes would be sensitive to intrusion by large wind turbines although there may be some scope to minimise impacts on this sensitivity.</p> <p><b>Sensitivity rating: Medium-Low</b></p>	<p>There would be increased scope to site these smaller turbines to avoid impacting on the setting of RSAs and designed landscapes.</p> <p><b>Sensitivity rating: Low</b></p>



Mosses, often fringed by scrub woodland, have a naturalistic character amidst farmland



Broader areas of pasture and conifer woodlands at the transition with the Upland Fringe and Foothills



Wind farms sited in the Foothills are highly visible features from parts of the Flow Plateau



Deeply incised river valleys cut through gently undulating farmland



Farms and individual trees provide ready scale references and limit scope for larger typologies



Views to the Solway Firth and distant Cumbrian Fells would be sensitive to intrusion by development

## 18. Upland Fringe (16)

### 18.1 Introduction

Twelve landscape areas are identified within the Upland Fringe character type within this study. These units vary from 'stand-alone' highly distinctive ridges within lowland areas (such as the Torthorwald Ridge) to areas which accord more with the name of the type, in that they comprise often narrow fringes between lowland valleys/dales and foothill/upland areas.

The landscape areas that essentially form hill slopes, fringing lowland and upland landscapes are considered together in the sensitivity assessment as the 'Hill Fringe' areas. These comprise the units of Balker Moor, Cairn Fringe, Camrie, Glentool, Cairnharrow, Ae, Annandale and Liddesdale. The 'stand-alone' ridges of Dunscore, Ward Law, Terregles and Torthorwald are assessed together in a separate sensitivity assessment.

#### 18.1.1 Cultural heritage overview

This landscape type is characterised as a mix of post-improvement (c19th-20th century) fields, farming, woodland/forestry and rough grazing with a number of small designed landscapes and areas of relict pre-improvement (pre-19thc) land-use with their remains of buildings and distinct field shapes as well as pre-medieval features. These are concentrated in the west and east parts of Camrie, Glentool and Liddesdale, with a broader scatter across the larger part of Annandale and

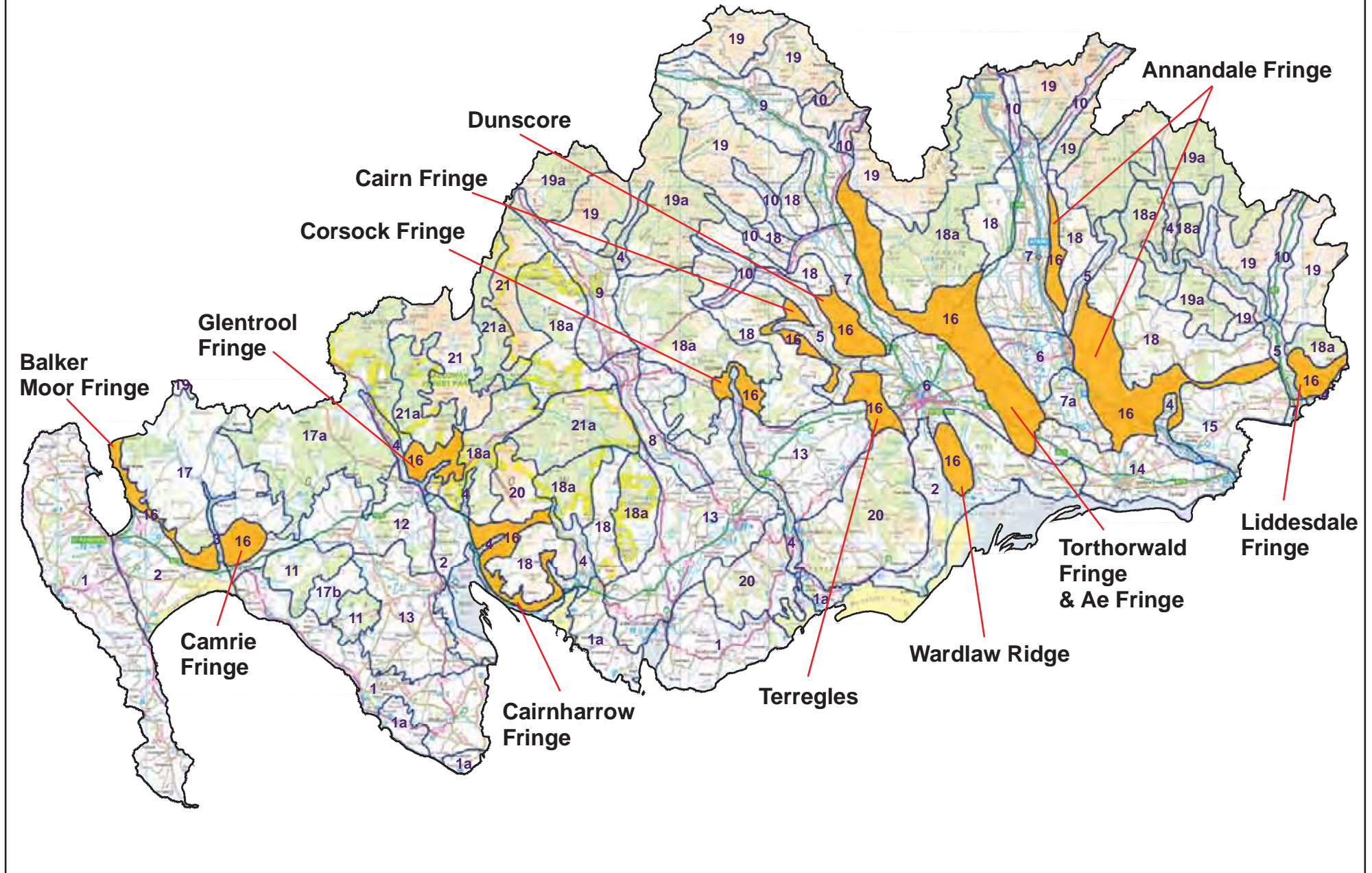
south Cairn Fringe. Burnswark, a highly significant example of such fortifications (both native and Roman) is an Archaeologically Sensitive Area, as is Cairnholy, an equally significant prehistoric burial and ritual site. The other two Archaeologically Sensitive Areas in Camrie and Glentool are more extensive, one extending into the neighbouring plateau moorland type. There are numerous archaeological sites of outstanding significance and distinctiveness, some of which are promoted for public benefit.

#### 18.1.2 Operational/consented wind farms

The operational Carsecreugh wind farm is located in the Camrie unit of the Upland Fringe. Operational and consented wind farms of Barlockhart, Artfield/Balmurrie Fell, Glenchamber, Aries and Gass Farm also lie very close to the Camrie unit while the consented Stranoch and under-construction Kilgallioch wind farm lie a bit further afield.

The operational Minsca and consented Solwaybank wind farms lie close to the Annandale unit of the Upland Fringe. The operational Dalswinton and Harestanes wind farms are located adjacent to the Ae unit of the Upland Fringe. Both these wind farms are also visible in relative proximity from parts of the Torthorwald unit.

Character Type Key Map - 16. Upland Fringe



## 18.2 'Hill Fringe' areas - Description and summary of sensitivity

The Balker Moor, Camrie, Glentrool, Cairnharrow, Cairn Fringe, Ae, Annandale and Liddsdale areas of the Upland Fringe predominantly comprise a narrow band of hill slopes between valleys/dales or the coastal edge and the higher foothills/upland landscapes. Typical characteristics include a rolling and occasionally knolly landform and an often diverse cover of broadleaved woodlands, planted policy features and small enclosed pastures, particularly evident on lower slopes. These landscapes are settled and commonly feature a rich archaeological and historic heritage. They are also important in the wider landscape context in that they form highly visible 'edge' landscapes that often provide a scenic backdrop to adjacent dales, valleys and coasts.

The assessment concludes a **High** landscape sensitivity to the large and medium typologies (turbines >50m). Some of the units within this type merge gradually with adjacent larger scale and less settled Foothills and Plateau Moorland landscapes and these 'transitional' areas at the boundary between character types would generally be less sensitive to the small-medium typology (20-50m) with an overall **Medium** sensitivity assessed for this smaller typology.

In terms of landscape values the score ranges from **High** to **Low** for the large, medium and small-medium typologies (turbines >20m). The Cairnharrow unit and parts of the Cairn Fringe and Ae units are covered by NSA and RSA designations. Small turbines <20m high would be likely to have less of an effect on the special qualities of designated landscapes.

### 18.2.1 Cumulative issues

**Camrie area:** The operational Carscreugh wind farm is located in this area while the operational Artfield/Balmurrie Fell, Glenchamber and Barlockhart wind farms and the consented Aries and Gass Farm wind farms lie close to the northern boundary of this area. Significant cumulative effects already occur due to the proximity and diversity of turbines (size, layout and siting) of wind farms in this area, leading to an intensive and confusing image. These developments are highly visible from this landscape, from the A75 and from roads and settlements on the east Rhins and Stranraer Basin and north-western coast of the Machars. The under-construction Kilgallioch wind farm would also lie within 7km of this landscape unit in the adjacent Plateau with Forest (17a) character type. Although this is an extensive development with very large turbines it is likely to have a relatively minor impact on views from the A75 and more settled lowland landscapes to the south.

Key cumulative effects that could occur if further wind energy development took place in the Camrie unit of the Upland Fringe include:

- Significant cumulative effects on the A75, potentially contributing to a concentrated corridor' of wind farm development either side of this major tourist route, particularly if additional wind farm development were located in the adjacent Moss and Forest Lowland (11) and Drumlin Pasture in Moss and Moor Lowland (12) character types.
- Smaller single and small groups of wind turbines, which would be more likely to be associated with farms on lower slopes, which could exacerbate the visual clutter which is a feature of operational wind farms in this and adjacent landscape character types.

**Ae area:** The existing Dalswinton wind farm is sited within the Foothills with Forest (18a), but close to the boundary of this character area. Its proximity to the edge of these foothills, together with the scale of the turbines (120m), results in this wind farm being a prominent feature widely visible across Nithsdale. The operational Harestanes wind farm is set back within the broad forested plateau of the same unit of the Foothills with Forest (18a) and this lessens its visual impact on adjacent well-settled lowland landscapes despite the greater scale of this development. Any further development of large wind turbines close to the eastern and southern boundaries of the Ae unit of the Foothills with Forest (18a) would limit



opportunities for accommodating smaller 'farm scale' wind turbine development within the Ae unit of the Upland Fringe because of likely significant cumulative landscape and visual impact.

Key cumulative effects associated with the Ae unit of the Upland Fringe are likely to include:

- Cumulative effects on views from Nithsdale, Dumfries and the A701 in combination with the Harestanes and Dalswinton wind farms and potentially also on the setting of designed landscapes.

**Annandale area:** The operational Minsca wind farm is located close to the south-eastern edge of this area. The broader extent of the Upland Fringe in this area reduces the apparent scale of these turbines seen from the well-settled parts of Annandale (LCTs 6+7) although the proximity of this development to the edge of the foothills results in it occupying a prominent skyline and it is highly visible from parts of the Annandale unit and from the Flow Plateau (15) to the south. The consented Solwaybank wind farm is likely to have a similar effect on views.

Key cumulative effects associated with the Annandale unit of the Upland Fringe include:

- Sequential effects from the M74 in combination with operational and consented wind farms of Minsca, Solwaybank, Harestanes, Minnygap and Clyde.

- Potential visual confusion which may occur between single wind turbines and single/small groups of smaller farm scale turbines which are more likely to be associated with the settled farmland of these Upland Fringe landscapes and large turbines within wind farms sited in adjacent upland areas.

The remaining landscape units of Balker, Glentrool, Cairnharrow, Cairn Fringe and Liddesdale are not significantly influenced by operational and consented wind farm development.

### 18.2.2 Key constraints

- The rolling and occasionally knolly landform, steep slopes and deeply incised narrow valleys which commonly characterise these upland fringe landscapes.
- A diverse land cover, including extensive broadleaved woodlands within the Glentrool and Cairnharrow units, small semi-improved pastures and distinctive field enclosure pattern of stone dykes, notably within the Cairn Fringe and Cairnharrow units.
- The backdrop that these upland fringe landscapes provide to more populated valleys, dales and coastal areas and their high visual prominence from roads, ferry routes and settlement.

- The presence of policy landscapes, especially notable within the Cairn Fringe and Ae units and the southern part of the Annandale unit where mature field trees, roundel and avenue plantings commonly feature.
- The settled nature of these hill fringes, particularly on lower hill slopes.
- A rich archaeological and historic heritage, including many landmark features, for example Burnswark hill fort and Cairn Holy chambered cairns which are the foci of two ASAs, as well as two much more extensive ASAs.
- The contribution these upland fringes provide to the wider setting of designed landscapes, for example Castle Kennedy, Springkell and Drumlanrig, and to settlements such as Lockerbie and Creetown.
- The foreground provided by some of these landscapes to landmark hills such as Cairnharrow or the Merrick group seen from across the Glentrool unit, or other natural features, for example the dramatic cleft of Glen App seen beyond the Balker unit from ferry routes within Loch Ryan.
- The proximity of the Ae, and Annandale units to operational and consented large scale wind farm developments in the adjacent Foothills character types which increases potential for cumulative landscape and visual impact.

- The intense cumulative effects of the operational Carscreugh wind farm located in the Camrie unit together with the very close-by operational Barlockhart, Artfield/Balmurrie Fell and Glenchamber wind farms which have resulted in a visually confusing array of different turbine sizes, layouts and siting elevations affecting key views from roads and settlements. The under-construction Aries wind farm and the consented Barlockhart extension and Gass Farm wind farms may exacerbate these effects.

### 18.2.3 Opportunities

The transition of some of these upland fringe landscapes with the more open, less patterned and larger scale Plateau Moorland (17) and Foothills (18).

## 18.3 Guidance for development

There are no opportunities to accommodate turbines >50m high in this landscape character type without significant effects occurring on key sensitivities.

The small-medium typology (turbines 20-50m) could be accommodated in some limited areas at the transition with the adjacent Foothills (18 and 18a) character types where upper hill slopes become more open and extensive in scale and are generally less populated. These areas occur within the Glentool, Annandale, Liddesdale and Ae units. The prominence of these Upland Fringe

landscapes would be likely to result in some significant visual impact from well-settled areas within the adjacent valleys and dales, although the use of smaller turbines within the height band of the small-medium typology (closer to 30m high) would minimise impact. Care should be taken to site turbines away from sensitive skylines, utilising a backdrop of higher ground where possible and avoiding key views and the setting of designed landscapes, ASAs, archaeological and historic features and settlements and intrusion on landmark features in adjoining areas.

Additionally, cumulative landscape and visual impacts will also be a key issue in the Camrie, Ae and Annandale units of the Upland Fringe as operational and consented wind farm developments are already prominent from these units but also in views from more settled lowland areas. The use of smaller turbines in areas where existing large scale wind farm development is visually prominent could minimise cumulative effects by providing a clear differential between scales of development and their association with different landscapes. However, given the extent and visual diversity of operational and consented wind farm development located within and close-by the eastern part of the Camrie unit of the Upland Fringe, there is no scope for any further turbines of any size in this area.

The upland fringes can be highly sensitive to indirect landscape effects and visual effects where they lie in close juxtaposition with adjacent plateau moorlands and foothills. Turbines located in these areas can dominate backdrop sky lines, create scale issues, impinge on the setting of features, and detract from general visual amenity; although views and outlook tends to be outwards from the upland fringes themselves.

The often small scale of the upland fringes makes them sensitive to extended and multiple developments in surrounding uplands which seen in combination can easily dominate skylines, or successively, surround the area.

Small turbines <20m high could be more easily assimilated in this landscape. Turbines should be sited on small terraces or breaks in slope, avoiding more complex knolly landform and steep slopes, and where higher ground can provide a backdrop to minimise visibility. They should be sited so they do not intrude on the fabric or setting of designed landscapes, archaeological and historic features, areas with a distinctive field enclosure pattern and woodlands.

## Character Type 16 - Upland Fringe - 'Hill Fringes' of Ae, Annandale, Balker Moor, Cairn, Camrie, Cairnharrow, Glentroof, Liddesdale

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Scale and openness</b>			
<p>These landscapes predominantly comprise a narrow band of hill slopes between lowland valleys/dales and foothills/uplands. Landscape scale is generally medium to small depending on the extent of enclosure by rolling landform and woodlands with scale increasing, particularly where there is a more seamless merging with adjacent open Plateau Moorland (17), for example as occurs in the Camrie unit.</p>	<p>This typology would overwhelm the scale and generally narrow extent of the majority of these upland fringes. This typology would dominate woodlands and field trees which often provide highly visible scale references even on broader, more open areas.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would overwhelm the scale and generally narrow extent of the majority of these upland fringes. Although it could relate to the scale of more extensive open areas, these are rare. This typology would dominate woodlands and field trees which often provide highly visible scale references even on broader more open areas</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would dominate the scale of lower hill slopes enclosed by woodland, and of narrow valleys but could relate to broader hill slopes and more open extensive areas of moorland and upland pasture often found at the transition with adjacent Foothill (18) and Plateau Moorland (17) character types.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landform</b>			
<p>These Upland Fringes comprise gently rolling lower hill slopes. In many units a complex furled landform of dips, narrow terraces, steep slopes and deeply cut valleys feature. Slacker slopes and broader ridges can occur at the transition with the Foothills (18) or Plateau Moorlands (17) character types.</p>	<p>This typology would detract from the predominantly rolling landform, particularly where it is most complex. It could relate to broader ridges and slacker hill slopes although there are very few of these areas that are sufficiently large to accommodate multiple turbines of this size.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would detract from the rolling landform, particularly where it is most complex although broader, slacker upper hill slopes and ridges often occur at the transition with the Foothills (18) and Plateau Moorland (17) and these areas would be less sensitive to smaller groups of turbines.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would detract from particularly complex rolling landform although broader, slacker upper hill slopes and wider ridges often occur at the transition with the Foothills (18) and Plateau Moorland (17) and these areas would be less sensitive to smaller groups of turbines.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Land cover and landmark features</b>			
<p>These landscapes commonly have a richly diverse land cover of enclosed pastures and often extensive broadleaved woodlands, most notably within the Cairnharrow and Glentrool units. A strong pattern of hedges, stone dykes, mature field trees and planted policies often occur on lower slopes at the transition with settled valleys and dales. The vegetation and enclosure pattern is less diverse at the transition with adjacent landscapes with a more open upland character where more extensive pasture and coniferous shelterbelts occur.</p>	<p>This typology would incur significant direct and indirect impact to woodlands, policy features and distinctive field enclosure pattern if sited within or nearby more patterned landscapes. This typology could relate to areas with a simpler vegetation pattern at the transition with more open upland landscapes although these areas are limited in extent.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>While this typology would have similar effects on notably diverse vegetation pattern and the strong field enclosure pattern, there may be slightly increased scope to accommodate smaller groups of turbines in areas with a simpler pattern.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Intricately patterned lower hill slopes and valleys with woodlands, policy features and strong field enclosure would be sensitive to this typology. There is scope to locate this typology within areas of simpler land cover that tend to occur on the more exposed upper hill slopes.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Settlement and Archaeology</b>			
<p>These landscapes are generally well-settled with dispersed farms and occasional estate houses mainly located on lower slopes and set within narrow valleys. Main roads tend to be aligned at the foot of these hill slopes although occasional narrow non-through access roads weave up steep slopes. These upland fringes commonly feature a rich archaeological and historic heritage including old field systems, chambered cairns, numerous hill forts and castles, some being landmark features.</p>	<p>This typology would dominate the scale of farms and small dwellings within these settled landscapes. It would also be likely to affect the setting of the many archaeological sites as well as landmark features located on hill tops and could detract from the prominence of mansion houses, castles and other historic features if located within their landscape setting. The settled nature of these landscapes increases sensitivity to this typology.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could also dominate the scale of farms and other small dwellings within these settled landscapes. It would also be likely to affect the setting of the many archaeological sites, as well as landmark features located in these upland fringes and could detract from the prominence of mansion houses, castles and other historic features if located within their landscape setting. The settled nature of these landscapes increases sensitivity to this typology.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could dominate the scale of farms and other small dwellings within these settled landscape although there may be limited scope to minimise effects by siting turbines in the more sparsely populated upper hill slopes. The setting of archaeological and historical features could be affected by poorly sited development.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape context</b>			
<p><b>These units of the Upland Fringe for generally narrow hill slopes, lying in close juxtaposition with adjacent foothills and upland landscapes. They also commonly contribute to wider landscape compositions seen from lowland and coastal areas. These landscapes form a backdrop to settlements such Creetown, Lockerbie, Glenluce and Thornhill. The Glentroll unit is important in the wider setting to Merrick hills, Cairnharrow particularly prominent in forming the setting to Wigtown Bay, Cairnharrow hill and the Fleet valley. Cairn, Ae, Annandale and Liddesdale form highly visible edge to populated valleys and dales.</b></p>	<p>This typology would adversely affect the scenic backdrop and contrast these landscapes provide to generally more managed and developed valleys and dales. Development within the Cairnharrow unit would impact on the wider scenic character of Wigtown Bay, Cairnharrow Hill and the Fleet valley NSA. The setting of settlements which are often located at the foot of these upland fringes could also be affected.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would adversely affect the scenic backdrop and contrast these landscapes provide to generally more managed and developed valleys and dales. Development within the Cairnharrow unit would impact on the wider scenic character of Wigtown Bay, Cairnharrow Hill and the Fleet valley NSA. The setting of settlements which are often located at the foot of these upland fringes could also be affected.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could adversely affect the scenic backdrop and contrast these landscapes provide to generally more managed and developed valleys and dales with larger turbines likely to have a greater effect. Development within the Cairnharrow unit would impact on the wider scenic character of Wigtown Bay, Cairnharrow Hill and the Fleet valley NSA. The setting of settlements which are often located at the foot of these upland fringes could also be affected.</p> <p>The landscape is settled and generally well cultivated and managed, therefore this typology will have limited impact on any sense of wildness provided impacts on more natural habitats are avoided</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Perceptual qualities</b>			
<p><b>These are generally managed landscapes with little sense of remoteness or naturalness although more extensive broadleaved woodlands and scrub has a natural character.</b></p>	<p>The landscape is settled and generally well cultivated and managed, therefore this typology will have limited impact on any sense of wildness provided impacts on more natural habitats are avoided</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The landscape is settled and generally well cultivated and managed, therefore this typology will have limited impact on any sense of wildness provided impacts on more natural habitats are avoided</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The landscape is settled and generally well cultivated and managed, therefore this typology will have limited impact on any sense of wildness provided impacts on more natural habitats are avoided</p> <p><b>Sensitivity rating: Low</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<p><b>Views and visibility</b></p> <p><b>These landscapes are well settled with dwellings located within the upland fringes generally facing outwards, away from more sensitive skylines or in more contained valleys. Woodlands and landform can further contain views although minor roads and footpaths are often elevated and allow open views over the Upland Fringe and across adjacent valleys, dales and coasts.</b></p> <p><b>The Upland Fringe landscapes are highly visible from major roads and settlement within adjacent populated valleys, Nithsdale and Annandale and the coastal edges of Wigtown Bay (in the case of the Cairnharrow unit).</b></p>	<p>While it may be possible to site this typology on less settled upper slopes at the transition with more open and larger scale foothills and plateau landscapes (and thus away from direct views from settlement located within these Upland Fringes) it would be highly visible from footpaths and minor roads which cross these areas.</p> <p>This typology would be highly visible over an extensive area, particularly if it affected sensitive skylines, seen from major roads and settlement within Nithsdale, Annandale and from the Wigtown Bay area. It would diminish the visual focus of woodlands, policy landscapes, archaeological and historic features seen from within and beyond these landscapes.</p> <p><b>Sensitivity rating: High</b></p>	<p>While it may be possible to site this typology on less settled upper slopes at the transition with more open and larger scale foothills and plateau landscapes (and thus away from direct views from settlement located within these Upland Fringes) it would be highly visible from footpaths and minor roads which cross these areas.</p> <p>This typology would be highly visible over an extensive area, particularly if it affected sensitive skylines, from major roads and settlement within Nithsdale, Annandale and from the Wigtown Bay area. It would diminish the visual focus of woodlands, policy landscapes, archaeological and historic features seen from within and beyond these landscapes.</p> <p><b>Sensitivity rating: High</b></p>	<p>While it may be possible to site this typology on less settled upper slopes at the transition with the more open and larger scale foothills and upland and thus away from direct views from settlement located within these Upland Fringes, it would be visible from footpaths and minor roads which cross these areas.</p> <p>Large turbines sited on these Upland Fringes would be likely to be highly visible over an extensive area, particularly if they affected sensitive skylines seen from major roads and settlement within Nithsdale, Annandale and from the Wigtown Bay area. They could diminish the visual focus of woodlands, policy landscapes, archaeological and historic features seen from within and beyond these landscapes if sited in more sensitive areas.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape values</b>			
<p>The eastern part of the Cairnharrow unit falls within the Fleet NSA. Special qualities of this NSA include the richness of archaeological and historic features, distinctive field pattern and woodlands.</p> <p>The Cairnharrow and Glentool units are covered by the Galloway Hills RSA where they are described as being “prominent westward facing edges of the main hill masses”. The southern part of the Cairn unit is covered by the Terregles RSA and its attractive knolly topography and diverse vegetation pattern is noted in Technical Paper 6. The northern part of the Ae unit is included in the Thornhill Uplands RSA and described as forming open sculptural ridges fringing scenic valley landscapes.</p> <p>The Balker, Camrie, Annandale and Liddesdale units are not designated.</p>	<p>This typology would significantly affect the special qualities of the NSA if located within the designated area.</p> <p>The special qualities of the RSAs focus on their prominence and importance in views from more populated landscapes.</p> <p>This typology could intrude on prominent skylines and views from the Nith and Annandale valleys. It could also adversely affect the diverse landform and vegetation pattern contributed by the Cairn unit to the Terregles Ridge RSA and disrupt the open sculptural ridges of the Ae unit.</p> <p><b>Sensitivity rating: High to Low</b></p>	<p>This typology would significantly affect the special qualities of the NSA if located within the designated area.</p> <p>The special qualities of the RSAs focus on their prominence and importance in views from more populated landscapes.</p> <p>This typology could intrude on prominent skylines and views from the Nith and Annandale valleys. It could also adversely affect the diverse landform and vegetation pattern contributed by the Cairn unit to the Terregles Ridge RSA and disrupt the open sculptural ridges of the Ae unit.</p> <p><b>Sensitivity rating: High to Low</b></p>	<p>This typology would significantly affect the special qualities of the NSA if located within the designated area.</p> <p>The special qualities of the RSAs focus on their prominence and importance in views from more populated landscapes.</p> <p>This typology could intrude on prominent skylines and views from the Nith and Annandale valleys. It could also adversely affect the diverse landform and vegetation pattern contributed by the Cairn unit to the Terregles Ridge RSA and disrupt the open sculptural ridges of the Ae unit.</p> <p><b>Sensitivity rating: High to Low</b></p>



Broadleaved woodlands within the 'Cairnharrow' unit



Many of these landscapes feature a diverse woodland pattern, enclosed pastures and settlement



Strong enclosure pattern and field trees within the 'Cairn' unit



Broader hill slopes and more open pastures within the 'Annandale' unit



A distinct change often occurs between enclosed improved pastures and more extensive moorland in adjacent upland character types



The distinct pattern of field trees on the lower slopes of the 'Annandale' unit



## 18.4 'Stand-alone' Upland Fringes (16) - description and summary of sensitivity

The prominent ridges of Dunscore, Ward Law, Terregles and Torthorwald which form part of the Upland Fringe (16) landscape character type, are considered together in the DGWLCS. These isolated and relatively low ridges are important in the scenic backdrop they provide to the settled dales and the Nith Estuary. They feature complex interlocking hills and valleys and elongated rolling ridges. Planted policy features are a particular characteristic in places and there is a rich archaeological and historic heritage with many notable landmarks. These landscapes are visually prominent from well-settled lowland areas such as Annandale and Nithsdale.

There would be a **High** landscape sensitivity to the large and medium typologies (turbines >50m), a **High-medium** sensitivity to the small-medium typology (turbines 20-50m) and a **Medium-low** sensitivity to the small typology (turbines <20m).

In terms of landscape values the score is **High** for the Ward Law ridge which is covered by the Nith NSA and an RSA. The values score for the large, medium and small-medium typologies would be **High-medium** in other units where the RSA only applies. The small typology would be likely to have a lesser effect on designated landscapes and is accorded a **Medium** values score.

### 18.4.1 Cumulative issues

No wind farms are located in these landscapes. The operational Dalswinton wind farm is prominently sited on the outer edge of the Ae Foothills with Forest (18a) and is particularly visible from the Dunscore area of this LCT and across Nithsdale. The operational Harestanes wind farm, which is also sited in the Ae Foothills with Forest (18a), is visible in close proximity from the northern part of the Torthorwald area. Key cumulative effects that could arise with wind energy developments sited in these areas of the Upland Fringes (16) include:

- Potential effects on views from roads, settlement and footpaths in surrounding dales, for example Nithsdale, if larger turbines were sited on these hill tops and seen in conjunction with windfarms sited in the Ae Foothills with Forest (18a) from Nithsdale.
- Variations in the size and design of smaller wind turbines.

### 18.4.2 Key constraints

- The complex folded landform and richly diverse land cover of these landscapes; particularly characteristic of the Terregles Ridge and the northern part of the Torthorwald Ridge.
- The relatively lowly height of these ridges and the presence of mature field trees and woodlands on hill tops which provide ready scale references.
- The scenic backdrop these 'stand-alone' ridges provide to Annandale, Nithsdale, the Nith Estuary and the Drumlin Pastures (13).
- The high visual prominence of these landscapes in views from well-settled lowland areas and from major roads.
- The presence of policy landscapes, archaeological and historic sites and areas, small villages and nearby settlement.
- The NSA which covers most of the Ward Law ridge and the RSA designation which applies to all these landscapes units.

### 18.4.3 Opportunities:

Broader and gentler hill slopes with a less diverse vegetation pattern provide opportunities for smaller typologies although the height of turbines will need careful consideration to minimise impacts of scale in relation to other landscape features and on views.

## 18.5 Guidance on development

There is no scope for the large, medium or small-medium typology (turbines >20m) to be located within these landscape units of the Upland Fringe (16) character type without incurring significant impacts on a number of sensitivity criteria.

Some of these 'stand-alone' Upland Fringes are sensitive to wind farm development sited in nearby Foothills with Forest (18a). Extensions or repowering proposals to existing wind farms could indirectly affect the relatively small scale and often diverse character of these landscapes.

Small turbines (<20m high) could be more easily assimilated in these landscapes provided they were visually associated with existing buildings. Turbines should not be sited on the skyline of these ridges but on hill slopes where higher ground can provide a backdrop to minimise visibility. They should avoid areas with a more complex landform and rich vegetation pattern and designed landscape features. They should also be sited so they do not intrude on key views within the NSA (for example from Ward Law) or on the setting of small settlements and archaeological features which are an important attribute of these landscapes. Supplementary Guidance is provided on the siting and design of smaller turbines.

## Character Type 16 - Upland Fringe - Torthorwald, Terrgles, Dunscore, Ward Law

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Scale and openness</b>			
<p>Relatively low, small hills and undulating ridges rising to between 103m and 250m and cut by narrow valleys. Fields extend over the hill tops and woodlands, hedgerows and field trees are visible on the skyline. The rolling landform limits scale which is generally medium reducing to small in more confined areas.</p>	<p>This typology would overwhelm the vertical scale of these small hills/ridges, appearing very large in relation to their height when seen from surrounding valleys/dales. It would dominate the containment of narrow valleys and the field enclosures, trees and woodlands which provide highly visible scale references on hill tops.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would also overwhelm the vertical scale of these small hills and the field enclosures, trees and woodlands which provide highly visible scale references on hill tops.</p> <p><b>Sensitivity rating: High</b></p>	<p>Turbines towards the upper height band of this typology would dominate the vertical scale of the smaller hills and lower ridges such as Ward Law and Terregles and could also dominate individual field trees and woodlands which provide highly visible scale references on hill tops. Smaller turbines would have less of an effect in this respect.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Landform</b>			
<p>The Terregles and Dunscore areas comprise small hills while Torthorwald and Ward Law form longer rolling ridges with less dissected hills. Landform is particularly complex, with deeply folded hills and occasional knolly craggy tops within the Terregles area and at either ends of the Torthorwald Ridge. Broader, smooth hill slopes and more flattened tops and ridges occur in the middle sections of the Ward Law and Torthorwald Ridge and in parts of the Dunscore character area.</p>	<p>There are no flatter and sufficiently extensive broader scaled areas to accommodate multiple turbines of this size without impacts occurring on adjacent more irregular landform. This typology would detract from the rolling landform, particularly where it is most complex.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would also detract from the rolling landform, particularly where it is most complex although broader, slacker hill slopes and flattened hill tops would be less sensitive to smaller numbers of turbines.</p> <p><b>Sensitivity rating High-medium</b></p>	<p>This typology would detract from particularly complex rolling hills but could relate better to simpler more even hill slopes and the broader terraces and flatter hill tops found in the middle sections of the Torthorwald, Ward Law and within parts of the Dunscore character areas.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Land cover and landmark features</b>			
<p>These landscapes commonly have a richly diverse land cover of enclosed pastures and woodlands, with patchy heather, bracken and gorse scrub accentuating the ruggedness of the landform on some hill tops. A notably strong pattern of hedges, stone dykes, roundels, beech avenue plantings and policy woodlands feature in places. Narrow, twisty hedge-lined roads cut through valleys and the lower hill slopes. The vegetation pattern is less diverse in the middle sections of the Torthorwald and Ward Law ridges and the southern part of the Dunscore ridge.</p>	<p>Construction of this typology would be likely to significantly affect narrow tree and hedgerow-lined roads and the field enclosure pattern. The composition and integrity of the distinct interlocking pattern of wooded and open hill tops in the Terregles area would be affected as would more intricate policy influenced plantings in parts of the Torthorwald ridge.</p> <p><b>Sensitivity rating: High</b></p>	<p>While this typology would have similar effects on notably diverse vegetation pattern and the strong field enclosure pattern, there may be slightly increased scope to accommodate smaller groups of turbines in areas with a simpler pattern.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>While this typology would have adverse effects on more intricately patterned areas of woodland, moor and scrub and on areas with a strong field enclosure pattern and designed landscape features, there may be slightly increased scope to accommodate smaller groups of turbines in more open areas of pasture with a simpler pattern.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Settlement and Archaeology</b>			
<p>Small tightly clustered villages are set within the sheltered folds of valleys and at the foot of hills. Many villages have a strong architectural integrity. These landscapes are rich in archaeological features, including hill forts, mottes and cairns which form landmarks. A number of mansion houses also feature. Dispersed farms and houses are generally sited on outer hill slopes and in valleys. Telecommunication masts and lattice towers on the Torthorwald and Terregles ridges are visually prominent and a transmission line is also aligned through the Terregles area.</p>	<p>This typology would dominate the scale of farms and other small dwellings and could also adversely affect the setting of small settlements. It would also be likely to affect the setting of the many archaeological features located in these landscapes and could detract from the prominence of mansion houses if located within their landscape setting.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could also dominate the scale of farms and other small dwellings and could also adversely affect the setting of small settlements. It would also be likely to affect the setting of the many archaeological features located in these landscapes and could detract from the prominence of mansion houses if located within their landscape setting.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could dominate the scale and setting of farms, small dwellings and settlements, particularly if located nearby. It could also affect the setting of archaeological and historical features and could detract from the prominence of mansion houses if located within their landscape setting. The settled nature of these landscapes increases sensitivity to this typology.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape context</b>			
<p><b>These hills and ridges form an important backdrop to Annandale, Nithsdale and the Drumlin Pastures (13) to the west where their diverse rolling landform and land cover enriches the wider landscape composition. The Terregles ridge forms part of the setting to Dumfries while the Ward Law ridge contains the Nith Estuary and provides an important backdrop to the Coastal Flats (2) and Caerlaverock Castle.</b></p>	<p>This typology would adversely affect the scenic backdrop and contrast these landscapes provide to Annandale, Nithsdale, the Drumlin Pastures to the west and the coastal area to the south-west.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would adversely affect the scenic backdrop and contrast these landscapes provide to the dales, farmland to the west and the coastal area to the south-west.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could impact on sensitive coastal areas if sited on Ward Law. The 'stand alone' nature of these landscapes would result in impacts on the scenic backdrop and contrast these landscapes provide to more populated dales and farmland, even if not sited on more sensitive ridges or hill tops.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Perceptual qualities</b>			
<p><b>Generally a managed landscape with little sense of remoteness or naturalness although rough grazing, scrub and woodland on more rugged hill tops is naturalistic.</b></p>	<p>The landscape is settled and generally well cultivated and managed, therefore this typology will have limited impact on any sense of wildness.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>The landscape is settled and generally well cultivated and managed, therefore this typology will have limited impact on any sense of wildness.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>There is scope to locate this typology to avoid impact on perceptual qualities.</p> <p><b>Sensitivity rating: Low</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<p><b>Views and visibility</b></p> <p><b>These landscapes are well settled. Villages and dispersed houses tend to be located in visually contained valleys or at the foot of hills or outward-facing slopes. Minor roads within these landscapes are generally similarly contained although views are more open from the B729 which crosses the Dunscore ridge. Hill summits and ridges provide vantage points with extensive views possible. The Torthorwald ridge is crossed by the major routes of the A75, A709 and A701 and is highly visible on the approach to Dumfries (and at the 'threshold' to Annandale seen from the M74). The Terregles hills are also highly visible from the A75.</b></p> <p><b>These outcrop hills form prominent features, viewed on all sides from surrounding well-settled dales and coastal areas.</b></p>	<p>While it may be possible to site turbines of this size on less settled hill tops to avoid close visibility from settlement, they would be highly visible from the footpaths and minor roads which cross these areas.</p> <p>Large turbines sited on these ridges and hills would be highly visible over an extensive area from major roads and settlement within Nithsdale, Annandale and from within the Nith Estuary.</p> <p>Telecomm masts are already prominent foci and this typology would increase the clutter of structures on the highly visible skyline of these hills.</p> <p><b>Sensitivity rating: High</b></p>	<p>While it may be possible to site turbines of this size on less settled hill tops to avoid close visibility from settlement, they would be highly visible from the footpaths and minor roads which cross these areas.</p> <p>Large turbines sited on ridges and hilltops would be highly visible over an extensive area from roads and settlement within Nithsdale, Annandale and from within the Nith Estuary. Turbines of this size would also exacerbate the intrusion of masts on some of these hills.</p> <p><b>Sensitivity rating: High</b></p>	<p>Opportunities for screening offered by trees and topography, could limit the potential visibility of turbines towards the lower height band of this typology. If poorly sited, on prominent ridges or hill tops, this typology could however detract from the visual focus of existing natural and historic features, including highly scenic coastal landscapes.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape values</b>			
<p><b>Much of the Ward Law ridge lies within the Nith Estuary NSA. The landmark feature of Ward Law hill is noted as a special quality as is Criffel which features in extensive views from the surrounding area.</b></p> <p><b>The Dunscore area is located within the Thornhill Uplands RSA. Technical Paper 6 describes the Upland Fringe landscapes within the RSA as forming open sculptural ridges fringing the scenic valley landscapes. The Torthorwald area lies within the Torthorwald Ridge RSA. It is described as a...“prominent hill separating, and widely overlooked and easily accessible from the well populated Nith and Annandale valleys”. The Terregles area lies within the Terregles Ridge RSA. Technical Paper 6 describes it as containing and forming western setting to Dumfries. The very diverse character of transitional uplands, steep-sided valleys and attractive knolly topography with areas of enclosed pasture, gorse knolls and woodlands is noted.</b></p>	<p>This typology would have a significant effect on the special qualities of the Nith Estuary NSA if sited on Ward Law as it would dominate its scale, overwhelming the ‘emphasis’ it provides to the Nith estuary, the landmark feature of Ward Law (a planted roundel on a former Iron Age hill Fort with nearby Roman features) and views to Criffel from this ridge.</p> <p>This typology would adversely affect the open sculptural ridges of Dunscore. It would significantly affect views to the prominent Torthorwald Ridge from the well populated Nith and Annandale valleys. It would also adversely affect the very diverse character of the Terregles Ridge, conflicting with its attractive knolly topography and intricate vegetation pattern.</p> <p><b>Sensitivity rating: High to High-medium</b></p>	<p>This typology would have a significant effect on the special qualities of the Nith Estuary NSA if sited on Ward Law as it would dominate its scale, overwhelming the ‘emphasis’ it provides to the Nith estuary, the landmark feature of Ward Law and views to Criffel from this ridge.</p> <p>This typology would adversely affect the open sculptural ridges of Dunscore. It would significantly affect views to the prominent Torthorwald Ridge from the well populated Nith and Annandale valleys. It would also adversely affect the very diverse character of the Terregles Ridge, conflicting with its attractive knolly topography and intricate vegetation pattern.</p> <p><b>Sensitivity rating: High to High-medium</b></p>	<p>Turbines towards the lower height band of this typology could have less of an impact on these designated landscapes provided they were located away from the eastern and southern slopes and skyline of Ward Law to avoid impact on views from the NSA and other prominent ridges and hill tops and avoided areas with a more diverse or open and sculptural character.</p> <p><b>Sensitivity rating: High to Medium</b></p>



Designed landscapes occupy sheltered locations within these Upland Fringes



The open hill tops of the 'Dunscore' ridge are highly visible from adjacent Nithsdale



Distinctive field trees patterning the Torthorwald Ridge would be overwhelmed by large turbines



An existing telecom mast already dominates the small scale of the 'Terregles' Hills



These 'stand-alone' ridges commonly feature diverse vegetation patterns



Archaeological features, such as Ward Law, often form landmark features



## 19. Plateau Moorland (17)

### 19.1 Introduction

This landscape character type occurs in one area in the north-west of Galloway. Demand for smaller wind turbines is likely to be limited within this sparsely settled character type and the sensitivity assessment therefore focuses on larger typologies, turbines >50m high. Key constraints relating to smaller turbines is described within the guidance sections in 20.4.

#### 19.1.1 Cultural heritage overview

This landscape type is characterised as moorland/rough grazing and forestry with both extensive pre-improvement (pre-19thc) land-use with remains of buildings and distinct field shapes as well as numerous areas of pre-medieval features. These relict land-use areas with their numerous individual sites from historic and prehistoric times add distinctiveness to this landscape. The large East Rhins Archaeologically Sensitive Area within Balcer Moor reflects this significance.

There are a very high number of outstandingly significant and distinctive archaeological sites across Balcer Moor, some of which are promoted for public benefit.

#### 19.1.2 Operational/consented wind farms

The operational Artfield Fell, Balmurrie Fell and Glenchamber wind farms are located in the south-eastern part of this landscape. The under construction Kilgallioch wind farm extends over the north eastern boundary. The consented Stranoch wind farm will be located in the northern and central part of Balcer Moor between the Main Water of Luce and Cross Water of Luce Valleys.

The operational Arecleoch wind farm and the consented Glen App wind farms are located to the north and west of this landscape character type within South Ayrshire. The majority of the under-construction Kilgallioch wind farm and the consented Gass Farm and Aries wind farms are located in the nearby Plateau Moorland with Forest (17a).

### 19.2 Description and summary of sensitivity

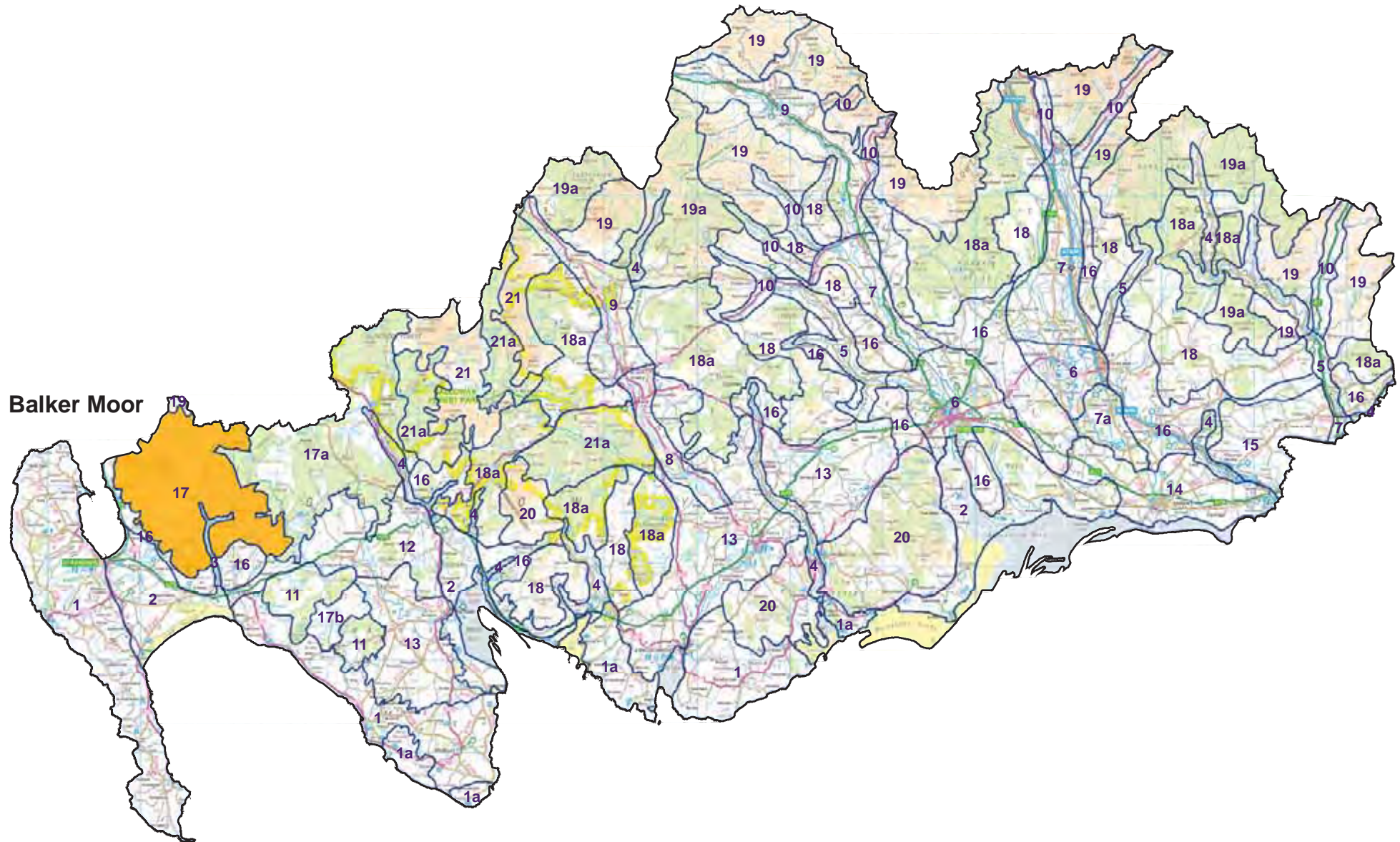
Key characteristics of the Plateau Moorland character type comprise a gently undulating landform, a simple land cover of grass moorland and occasional improved pastures with some areas of coniferous forestry. This landscape is sparsely populated although some built infrastructure is associated with Penwhirn Reservoir. The large scale and simplicity of this landscape present potential opportunities to accommodate wind farm development. However, the sense of seclusion

and openness and the richness of archaeology found in some areas of moorland not occupied by operational and consented wind farms are key constraints. The sparsely settled nature and relative extensiveness of this character type are likely to limit visual intrusion although distant views are possible from the south and west where this landscape forms a backdrop to settled landscapes.

There would be a **High** sensitivity to the Very Large typology (turbines >150m high) comprising new developments, principally due to cumulative effects that would be likely to occur with operational and consented wind farms and potential effects on the setting of archaeological features. There would be a **High-medium** sensitivity to the large typology (80-150m) because of potential effects on the character of remaining open moorland and the integrity and setting of archaeological features which are a key characteristic of this landscape. There would be a **Medium** sensitivity to the medium typology (turbines 50-80m) as this is more likely to comprise single and small groups of turbines that could be sited to minimise effects on key sensitivities.

Although no designated landscapes are present within this character type, the remaining open moorlands represent an increasingly rare feature within the context of Dumfries and Galloway with landscape values therefore judged to be **Medium** for all typologies.

Character Type Key Map - 17. Plateau Moorland



### 19.2.1 Cumulative issues

This landscape character type lies within the Wigtownshire Moorlands area which has incurred significant change because of the extent and density of wind farm development. Parts of this landscape character type are dominated by wind farm development and the openness of the landscape increases the visual influence of wind farms across undeveloped areas. The close juxtaposition of a variety of wind farm developments (varied in terms of turbine size and siting) has led to some significant cumulative landscape and visual impacts in the south-eastern part of this character type and adjoining character types.

Key cumulative issues that may arise within the Plateau Moorland (17) landscape character type are likely to include:

- Effects on the smaller scale Water of Luce valley and its upper tributary valleys; the Main Water of Luce and Cross water of Luce, and on views from minor roads and settlement where operational and consented developments already form a near-continuous arc of turbines around the Water of Luce watersheds and beyond.
- Exacerbation of the varied design rationale already associated with operational and consented wind farms located in the Plateau Moorland, the Camrie unit of the Upland Fringe (16) and the Plateau Moorland with

Forest (17a) which has resulted in significant visual clutter and confusion. This could happen where potential repowering of some wind farms occurred (involving substantially increased turbine sizes) with developments on the outer, more visible, edges of this character type most likely to be problematic. New, much larger turbines in these more visible locations could also contribute to cumulative effects associated with different designs/rotation speed with close-by operational wind farms.

- Cumulative effects on the setting of archaeological features and the SUW
- Development of the western and southern areas would lead to cumulative effects on views from the A75 and from other roads and settlement in the Stranraer Basin and the eastern coast of The Rhins.

### 19.2.2 Key constraints

- The south-western 'edge' of this upland plateau which is important in forming a backdrop to settled lowland landscapes and the designed landscape of Castle Kennedy.
- The small scale, relatively diverse and settled valleys of the Main Water of Luce and Cross Water of Luce.
- The pronounced hills of Berneraird and Milljoan within the adjacent Southern Uplands (19) on the north-western boundary of this character type.

- Extensive areas of open moorland where a strong sense of seclusion can be experienced.
- The presence of archaeological features, such as the Caves of Kilhern and numerous cairns and standing stones which contribute to landscape character.
- Areas where there is an extensive record of a multi-layered historic environment which has largely remained intact, particularly the Archaeologically Sensitive Area, surviving to a greater degree than in other areas.
- The SUW which is aligned through the south-eastern part of this character type.
- The network of minor roads and footpaths that access the upland valleys and moorlands; some offering long views of the Galloway Hills and Rhins Peninsula.
- Potential cumulative effects with operational and consented wind farms, particularly given the variety of turbine sizes and siting between developments in the south-eastern part of this landscape.
- The rarity of the open and largely undeveloped moorland within this character type which is a diminishing feature within Dumfries and Galloway.

### 19.2.3 Opportunities

- The generally simple landform, expansive scale and absence of strong pattern within this landscape which could relate to larger scale typologies.
- The sparsely populated nature of this character type and the relatively limited visibility of the 'interior' of this extensive plateau, distant from adjacent settled character types and contained to the north by higher ground.
- The dispersed settlement pattern and more irregular topography of the moorland fringes and valleys which could support a structured pattern of smaller sized wind turbines associated with settlement.
- The more modified landscape around Penwhirn Reservoir where forestry and infrastructure strongly influence character.
- An absence of formal landscape designations within the character type.

### 19.3 Guidance for development

There is no scope for the Very Large typology (turbines >150m) to be sited in this landscape, as new developments, due to the likely domination of turbines of this size on the remaining less developed moorland areas which often have a rich archaeology and potential exacerbation of cumulative effects which already occur between varied wind farm developments in the south-eastern part of this character type. There may be some limited scope for repowering of existing wind farms which are set well back from landmark hills, archaeologically rich areas and from more settled areas.

There may be some very limited opportunities for the Large typology (turbines 80-150m) to be located in some parts of this landscape. Additional developments should avoid impacting on the remaining areas of open moorland lying in the southern Balker Moor area where a strong sense of seclusion can be experienced and where they could affect the integrity and setting of the extensive and multi-layered archaeological features which are a key characteristic of this landscape. Turbines should be sited well away from the sensitive 'edges' of the Plateau Moorland where they abut small settled valleys, the Loch Ryan basin and the designed landscape of Castle Kennedy. The walking experience of the SUW should also be conserved by avoiding siting wind farm developments close to the route.

Cumulative effects will need to be carefully considered given the extent and variety of operational and consented wind farms present both within this landscape and sited in nearby landscapes and South Ayrshire. Monitoring would need to be carried out on a case by case basis to determine limits of capacity. It is considered that capacity is close to being reached in this landscape given the constraints identified in this assessment.

There is some scope for the small-medium and small typologies (turbines <50m) to be associated with the more settled fringes of this character type, avoiding the open moorland where turbines would appear out of scale. These typologies would need to be carefully sited to avoid impacting on archaeological features and their settings and to minimise potential cumulative effects with large scale wind farm development in adjacent character types. Turbines <30m high would be likely to be more acceptable in minimising cumulative effects.

## Character Type 17: Plateau Moorland

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale</b>			
<p>This landscape has a generally large scale due to its gently undulating landform, simple land cover and open character. Scale is reduced around the fringes of the moorland where topography becomes more broken and narrow valleys cut into the plateau. Operational and consented wind farm development is sited in the northern and south-eastern parts of this landscape, reducing the extent of open ground.</p>	<p>This typology (and particularly turbines towards 200m high) would appear very large in relation to the remaining areas of larger scale plateau lying to the S, SE and W of this landscape. Turbines of this height would overwhelm smaller scale valleys and more settled fringes and could dominate the scale of the more pronounced hills of the Southern Uplands (19) lying on the NW boundary of this character type.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could relate to the more expansive remaining undeveloped moorlands although it would overwhelm smaller scale valleys and the more settled fringes of this landscape.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could relate to the expansiveness of the interior plateau areas of more expansive moorland,. This typology would also overwhelm the scale of narrow valleys although there may be greater scope to avoid intrusion.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Landform</b>			
<p>Areas of simple gently undulating plateau landforms and broader basins, with upland valleys that cut back through the moorlands, and with the domed shaped Cairnerzean Fell rising to 229m in the south. This upland area presents a distinct upland 'edge' to the south-west above Loch Ryan and frames the valley of the Water of Luce. Landform becomes more rolling and complex close to valleys and particularly east of the Water of Luce, Higher rounded hills to the NW, Beneraird and Miljoan contain the broad bowl landform of the upper Main Water of Luce valley and the Penwhirn Reservoir.</p>	<p>This typology could relate to areas of simple gently undulating plateau landforms and broader basins of this character type although it would detract from the upland valleys and more pronounced hills which lie to the NW and more rolling landform on the outer edges of the plateau moorlands.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could relate to the simple gently undulating plateau landforms and broader basins of this character type. Upland valleys, pronounced hills and more rolling landforms on the outer edges of the plateau moorland have an increased sensitivity to development.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>This typology could also relate to the simple gently undulating plateau landforms and broader basins of this character type. Upland valleys, pronounced hills and more rolling landform on the outer edges of the plateau moorlands have an increased sensitivity to development.</p> <p><b>Sensitivity rating: Medium-low</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Land cover and landmark features</b>			
<p><b>This landscape has a simple land cover of grass/heather moorland. Small fields and woodland fringe the outer edges of moorland forming a transition with adjacent lower ground and valleys. Coniferous forestry covers gentle hill slopes above Penwhirn Reservoir. Minor single track roads and the Stranraer to Girvan railway cross this area.</b></p>	<p>Turbines could fit with the simple land cover and general absence of pattern within the upland interior of this character type. This typology could dominate small fields and scattered woodland found on the outer edges of this landscape and within more settled valleys.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Turbines could fit with the simple land cover and general absence of pattern within the upland interior of this character type. This typology could dominate small fields and scattered woodland found on the outer edges of this landscape and within more settled valleys.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology, which is more likely to comprise single and small groups of turbines, could fit with the simple land cover and general absence of pattern within the moorland lying at the core of this landscape. Turbines towards the lower height band would have less of an effect on less strongly enclosed upland farmland on the outer fringes of the moorland.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Settlement and archaeology</b>			
<p><b>A sparsely settled landscape with isolated farms located within the upper Main and Cross Water of Luce valleys. Archaeological features including abandoned farms are conspicuous in this open landscape but there are also extensive areas of less obvious multi-layered historic landuse from prehistoric to 19<sup>th</sup> century farming enclosures which create a rich archaeological resource. The Penwhirn Reservoir and associated large buildings of the water treatment works are obvious man-made features seen from the public road.</b></p>	<p>While there is scope for very large turbines to be sited within sparsely populated areas to avoid overly dominating settled valleys, there are extensive areas of dense and multi-layered archaeological features which could be disturbed and fragmented by turbines and associated infrastructure. In addition, the setting of archaeological features could be affected by larger typologies particularly in the southern and eastern parts of the character type.</p> <p><b>Sensitivity rating: High</b></p>	<p>While there is scope for large turbines to be sited within sparsely populated areas to avoid overly dominating settled valleys, there are extensive areas of dense and multi-layered archaeological features which could be disturbed and fragmented by turbines and associated infrastructure. In addition, the setting of archaeological features could be affected by larger typologies particularly in the southern and eastern parts of the character type.</p> <p><b>Sensitivity rating: High</b></p>	<p>While there is greater scope to accommodate medium scale wind farm development to avoid impact on settlement and archaeological features, extensive areas of dense and multi-layered archaeological features could still be disturbed and fragmented by turbines and associated infrastructure. In addition, the setting of archaeological features could be affected.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Landscape context</b>			
<p>This area is fairly extensive and relatively low-lying. While it does not make a strong contribution to the wider landscape composition it provides an upland 'edge' to the Water of Luce valley (LCT 3) and a backdrop to Loch Ryan and the designed landscape of Castle Kennedy. There is a strong visual relationship with the adjacent Plateau with Forest (17a) landscape character type to the E, and the small area of Southern Uplands (19) to the NW.</p>	<p>Very Large typologies could impact on the settled Water of Luce valley and affect the backdrop provided to settled lowland areas, including Castle Kennedy, unless limited in scale and located well away from the edges and higher moorland.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Large typologies could impact on the settled Water of Luce valley and affect the backdrop provided to settled lowland areas, including Castle Kennedy, unless located well away from the edges and higher moorlands.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>There is greater scope for this typology to be sited so as to avoid significant impact on adjacent character types.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Perceptual qualities</b>			
<p>A sense of remoteness and naturalness can be experienced in areas of open moorland although the presence of reservoir infrastructure, wind farms and forestry reduces these perceptual qualities in other areas. Visible upstanding archaeological features can add to the impression of parts of this landscape being 'timeless'.</p>	<p>Turbines sited within remaining areas of open moorland which are less influenced by wind farm development would significantly affect the sense of seclusion and historical time depth that can be experienced. Turbines closer to 200m replacing smaller turbines in existing wind farms could also adversely affect perceptual qualities associated with less developed moorlands.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Turbines sited within remaining areas of open moorland which are less influenced by wind farm development would significantly affect the sense of seclusion and historical time depth that can be experienced.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Turbines sited within remaining areas of open moorland which are less influenced by wind farm development would significantly affect the sense of seclusion and historical time depth that can be experienced.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Views and visibility</b>			
<p><b>Views to this character type are generally distant from main roads and settlement with close views limited to those from minor roads, footpaths and the railway. The interior moorlands and upper reaches of the Water of Luce valley are not generally visible from surrounding settled lowland areas but rather forms an 'edge' of steeper slopes which provide a backdrop to views from the south and west. A rim of higher ground on the NW boundary of this character type restricts visibility in adjacent more sensitive valleys and coasts in South Ayrshire. This landscape forms a low edge either side of the small scale Water of Luce valley.</b></p> <p>There are distant but dramatic views of the Galloway Hills from the open moorland, hill tops and minor roads within this character type. Operational wind farm development is a key component of views from within this character type.</p>	<p>The sparsely settled nature of this character type reduces sensitivity although very large turbines could affect the visual containment provided by the rim of higher ground on the NW boundary of this character type. Particular sensitivities include skylines above the Stranraer Basin and Castle Kennedy designed landscape and either side of the Water of Luce valley.</p> <p>Very Large typologies could intrude on key views to the Galloway Hills from minor roads and hill tops.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The sparsely settled nature of this character type reduces sensitivity although large turbines could affect the visual containment provided by the rim of higher ground on the NW boundary of this character type. Particular sensitivities include skylines above the Stranraer Basin and Castle Kennedy designed landscape and either side of the Water of Luce valley.</p> <p>Large typologies could intrude on key views to the Galloway Hills from minor roads and hill tops.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>There is greater scope to site turbines towards the lower height band of this typology so as to minimise significant visual impact from surrounding areas.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Landscape values</b>			
<p><b>Although no landscape designations apply to this character type, the more extensive tracts of open moorland particularly found in the southern part of this character type now represent a rare feature of Dumfries and Galloway's landscapes due to the extent and influence of wind farm development and forestry.</b></p>	<p>This typology is more likely to comprise multiple turbines as part of a wind farm and it would therefore diminish the remaining open moorland particularly characteristic in the south-western part of this landscape character type.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology is more likely to comprise multiple turbines as part of a wind farm and it would therefore diminish the remaining open moorland particularly characteristic in the south-western part of this landscape character type.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology is more likely to comprise single or small groups of turbines on farmland and as such it would not significantly affect more extensive tracts of open moorland.</p> <p><b>Sensitivity rating: Medium-low</b></p>





Enclosed fields on valley sides contrast with the expansive open character of moorlands



Smaller typologies could be associated with dispersed settlement although cumulative effects with larger wind farms may be an issue



Small scale settled valleys cut into the Plateau Moorlands



Reservoir infrastructure and forestry in parts of the Plateau Moorland



The less modified and expansive areas of moorland have a strong sense of seclusion and notable archaeology



Turbines sited on the south-western edge of the Plateau Moorlands could impact on the designed landscape of Castle Kennedy

## 20. Plateau With Forest (17A)

### 20.1 Introduction

This landscape character type occurs in the Glentroot area only. Demand for smaller wind turbines is likely to be limited within this sparsely settled character type and the sensitivity assessment therefore focuses on larger typologies, turbines >50m high. Key constraints relating to smaller turbines is described within the guidance section only.

#### 20.1.1 Cultural heritage overview

This landscape character type is characterised as forestry with considerable areas of relict land-uses occurring in areas that are not forested. The HLA records evidence for extensive pre-improvement (pre-19thc) land-use with their remains of buildings and distinct field shapes as well as a few area of pre-medieval features, particularly west of Cree. These relict land-use areas with their numerous individual sites from historic and prehistoric times add distinctiveness to this landscape and area a key characteristic. At a site-specific level, there are a number of archaeological sites of outstanding significance with some being promoted for public benefit.

#### 20.1.2 Operational/consented wind farms

The under-construction Aries and Kilgallioch wind farms and the Gass Farm wind farm are largely sited in this landscape character type. The operational Artfield Fell, Balmurrie Fell and Glenchamber wind farms are located within

the adjacent Plateau Moorland (17) landscape character type, along with part of Kilgallioch and consented Stranoch wind farms. The operational Arcleoch wind farm is located in South Ayrshire but adjacent to the Kilgallioch wind farm and in a similar landscape character type. The operational Carsecreugh wind farm also straddles the lies the Plateau Moorland (17) and Upland Fringe (16) landscape character types which lie close to this landscape. The operational Barlockhart wind farm and its consented extension lies within the Peninsula (1) landscape character type.

### 20.2 Description and summary of sensitivity

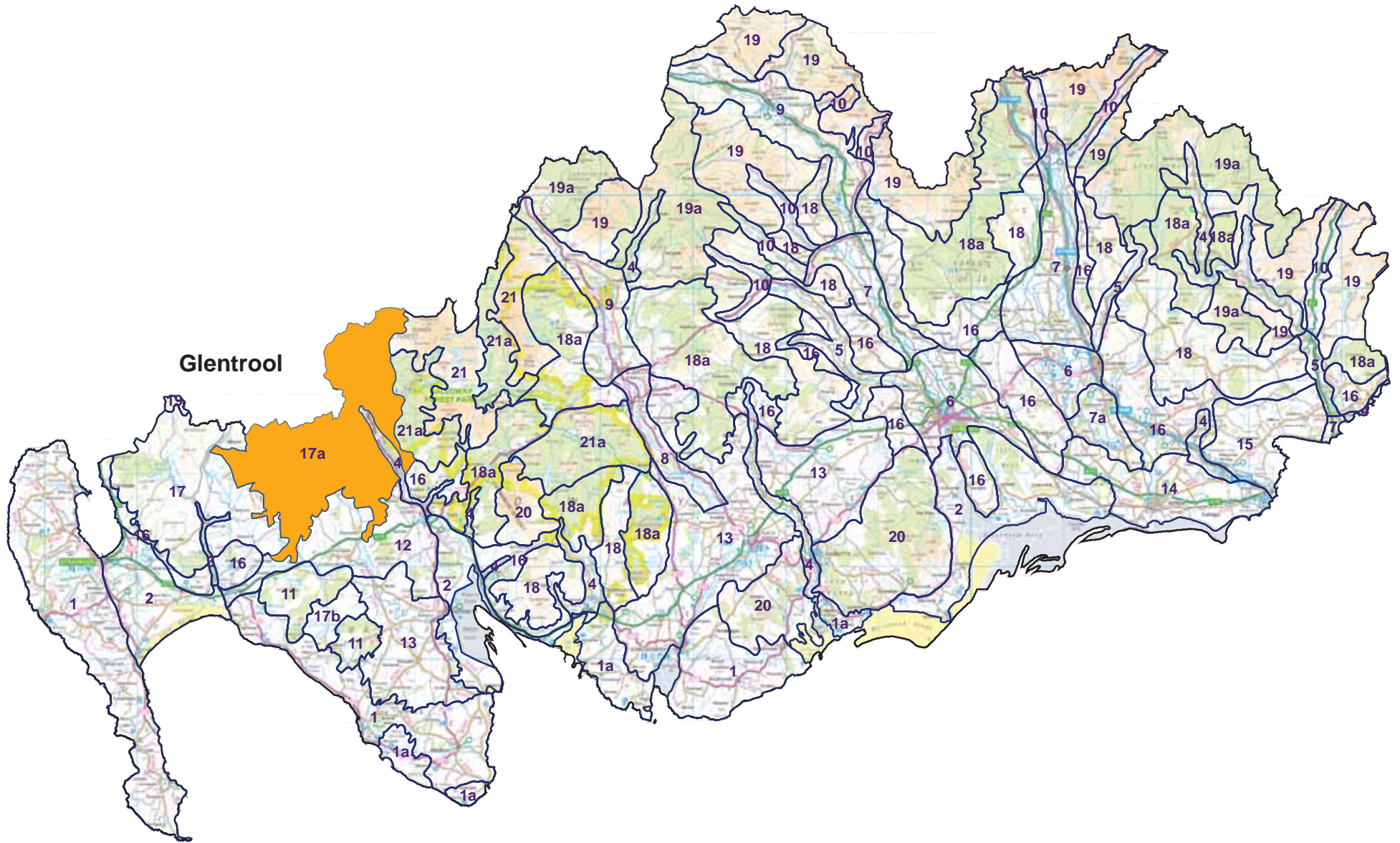
Key characteristics of the Plateau with Forest (17a) comprise a gently undulating landform and extensive scale, a generally simple land-cover of large scale coniferous forestry interspersed with areas of open moorland and farmland and sparse settlement. While these key characteristics present opportunities for potential development, areas of open moorland, small pronounced hills, loch basins and pockets of settled farmland, pre-improvement and prehistoric sites and landscapes are important in contributing diversity to this landscape and are of increased sensitivity. The proximity of the Merrick WLA is also a key constraint. Wind farms are a key characteristic of this landscape and the variety of operational and under-construction wind farm developments (in terms of the height,

number and layout of turbines) and their differing relationship to landform features (whether sited in shallow basins, extensive plateaux or on small hills) further constrains opportunities for additional wind turbines to be accommodated.

There would be a **High** sensitivity to the Very Large typology (turbines >150m high) comprising new developments principally due to cumulative effects that would be likely to occur with some operational wind farms which comprise substantially smaller turbines and on the Galloway Hills, Merrick WLA and smaller scale diverse landscape features. This sensitivity assessment considers the current baseline of operational, under-construction and consented wind farms and remaining scope in undeveloped parts of the landscape character type. Scope for repowering (involving replacement of turbines within these developments with larger turbines) is addressed in 21.3 under the Guidance for development section.

There would be a **High-medium** sensitivity to the large typology (turbines 80m-150m) because of potential effects on the Galloway Hills, Merrick WLA and smaller scale diverse landscape features. Sensitivity would also be **High-medium** for the medium typology (turbines 50-80m) as, although this typology is more likely to comprise single and small groups of turbines located on farmland, cumulative effects with large turbines within operational and consented wind farms are a key constraint.

Character Type Key Map - 17a. Plateau Moorland with Forest



### 20.2.1 Cumulative issues

Operational and under-construction wind farms sited in the Plateau with Forest (17a) and within the adjacent Plateau Moorland (17) and Upland Fringe - Camrie Fringe (16), and similar landscapes within neighbouring South Ayrshire, are a defining characteristic of the Wigtownshire Moorlands located in north-west Galloway. The operational Artfield Fell/Balmurrie Fell, Glenchamber and Carseceugh wind farms present a concentrated grouping of turbines in the south-western part of this character type with significant cumulative effects occurring because of the different turbine sizes, siting and pattern between developments. The currently under-construction Aries wind farm and the consented Gass Farm wind farm will add to this concentration and may further exacerbate cumulative landscape and visual effects.

Key cumulative effects that are likely to arise within the Plateau with Forest (17a) include:

- Further variation in the type and size of turbines proposed within this and nearby landscape character types which would exacerbate the visual confusion and clutter already associated with the wind farms noted above. Repowering of wind farms (involving substantially larger turbines) and new much larger turbines, particularly in the south-western part of this character type, would be likely to incur significant cumulative effects.

- Sequential visual impacts experienced when travelling on minor roads and footpaths, including the SUW, where the incidence and extent of wind farm development could dominate views and overwhelm the viewer.
- Landscape and visual effects on small pockets of settled farmland and lochs if wind farms substantially extend on surrounding skylines or give a perception of encirclement.
- Visual interaction between smaller turbines which are more likely to be associated with pockets of settled farmland and large turbines within wind farms.
- Wider cumulative effects on the Merrick Wild Land Area and Galloway Hills RSA where further development could consolidate and fill gaps creating a sense of near encirclement and domination. Much larger and closer turbines could significantly exacerbate cumulative effects.
- The outer fringes of this landscape character type, close to areas of settled farmland, where larger turbines would dominate small scale valleys including the notably diverse upper Cree valley (LCT 4).
- The rich archaeology found within areas of open moorland.
- The Merrick Wildland Area and RSA lying to the east of this character type where wind turbines could diminish the sense of naturalness and seclusion experienced and affect the setting of the western Galloway Hills.
- Recreational use of the eastern fringe of the LCT, with cycle/walking trails and promoted places of interest as part of the Galloway Forest Park and Dark Skies Park.
- Views from the Merrick and other western Galloway Hills, from key viewpoints within Glen Trool such as the Bruce's Stone and from the SUW, A75 and A714.

### 20.2.2 Key constraints

- Areas of open moorland and pockets of settled farmland, small but pronounced hills and loch basins, for example Glenvernoch Fell, Loch Ochiltree, Loch Heron and Loch Ronald; a local recreational hub with accommodation, activities and waymarked trails; and the setting of other lochs with local scenic and recreational value (Marberry, Dorbnal, Eldrig, Garwackie).
- Cumulative effects with operational and consented wind farms particularly where turbine size, pattern and siting is noticeably different.
- Cumulative effects on the Merrick WLA and on the Galloway Hills RSA sited to the east of this landscape character type.

### 20.2.3 Opportunities

- The generally simple landform, expansive scale and uniform land cover of coniferous forestry which could relate to larger typologies.
- The sparsely settled nature of this landscape and the relatively limited visibility from areas which are distant from public roads and settlement and the screening provided by forestry.
- An absence of landscape designations.

## 20.3 Guidance for development

Given the extent and diversity of operational and consented wind farm development located within and close-by this landscape character type, there is only very limited scope remaining in the Plateau with Forest (17a) for further large wind turbines (>80m) to be accommodated.

New developments comprising turbines substantially over 150m high (the Very Large typology) could significantly exacerbate the visual confusion already evident between different wind farm developments sited in the south-western part of this character type and adjoining landscapes and with the under-construction wind farms of Aries and Kilgallioch. Turbines of this size could also increase impacts on smaller scale valleys, landmark hills and lochs and the Merrick WLA if sited on the remaining undeveloped parts of this landscape which lie closer to these features.

The large typology (80-150m) would be more compatible in size with the majority of existing wind turbines although, again, scope is severely restricted because of the extent of committed development already located in less sensitive parts of this landscape. Turbines closer to 150m high could only be successfully accommodated if set well back so that they are some distance from roads and settlement and from other wind farms which feature smaller turbines.

The very recent development of many wind farms in this landscape character type may inhibit imminent repowering projects. Some developments currently under-construction already comprise turbines close to 150m high. There may be some very limited scope for the Very Large typology (turbines >150m) to be accommodated as part of a potential repowering scheme but only for operational wind farms located well into the core of this upland plateau as these developments are more likely to avoid significant cumulative effects with the confusion of varied turbine layout and sizes evident in the south-western part of this character type and to minimise effects of scale on adjacent more settled areas.

While turbines towards the upper height band of the Medium typology (50-80m) would fit with the size of the Carsecreugh, Artfield and Balmurrie Fell turbines, the majority of more recently consented and under-construction turbines are significantly larger and there is very little scope for further turbines of this size to be accommodated. The

Small-Medium typology (turbines 30-50m) and turbines below 30m high could be accommodated as single and small clusters of turbines on the edge of forestry and farmland where they could be visually associated with existing settlement but they should be sited away from commercial scale wind turbines to avoid contrasts of turbine scale, rotation speed and design. Supplementary Guidance is provided on the siting and design of turbines <50m high.

All development typologies should avoid impacting on the setting and views to small lochs, on areas of more complex landform, including small but pronounced hills such as Glenvernoch Fell, and on archaeological features as these enrich the landscape of this character type and often provide a focus in views. Intrusion on key views to the Galloway Hills, for example from the A714 and the Cree valley, should be avoided. Potential cumulative landscape and visual effects with other operational and consented wind farms would need to be carefully considered as this landscape is considered to be close to reaching capacity for additional development. Key cumulative sensitivities are likely to include effects on smaller scale settled landscapes on the outer fringes of this landscape, on the Merrick Wildland Area and on views from the south-eastern coast of the Rhins, parts of the Machars, the Galloway Hills and the A75 and A714.

There is potential for wind farm development to accelerate positive change to existing forestry and proposals for wind farm development should aim to improve the composition, age structure and design of existing forestry in accordance with best practice guidance set out in the UK Forestry Standards. A high proportion of broadleaved trees should be restocked and planted on the fringes of moorland and pastures to ameliorate often hard and geometric margins.

## Character Type 17A: Plateau With Forest

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>			
<p>This landscape has an expansive scale due to its simple low-lying plateau landform although extensive coniferous forest cover reduces the scale experienced at lower levels. There are two larger remaining areas of open moorland; N of Elrig Fell and at the head of the Cree Valley centred on Glenvernock Fell, and a few other smaller ones. Operational/consented wind farms are a key characteristic of this landscape. Small hills are an occasional feature and lochs and farmland occur in pockets and on the outer fringes of this landscape and these have a reduced scale.</p>	<p>Turbines towards the 200m high onshore turbines currently available could dominate the smaller scale settled outer fringes of this plateau and the small hills which are an occasional feature in this landscape. This typology would have a better scale relationship with the more expansive plateau areas.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could relate to the expansiveness of this plateau area. There is greater scope to site this size of turbine to minimise effects on smaller scale hills and the settled landscapes which occur on the outer fringes of this landscape.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>This typology could relate to the expansiveness of the plateau area but also to the smaller scale pockets of settled farmland which occur on the fringes of this character type.</p> <p><b>Sensitivity rating: Low</b></p>
<b>Landform</b>			
<p>A simple, gently undulating low-lying plateau where occasional open craggy topped small knolls are distinctive features within generally subtle and sweeping topography. Larger hills rise to around 300m. The extensive forest cover of this area tends to 'flatten' and mask underlying topography. The shapely open Glenvernoch Fell is more prominent despite its relatively low height.</p>	<p>Turbines sited on or close to occasional distinctive craggy knolls and small hills would overwhelm their size and detract from their more intricate form. Turbines could however relate to the gentle hill slopes and low-lying basins of the plateau.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>Turbines sited on or close to occasional distinctive craggy knolls, and small hills would dominate their size and detract from their more intricate form. Turbines could however relate to the gentle hill slopes and low-lying basins of the plateau.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>This typology could be sited to have less of an impact on occasional distinctive hills and knolls.</p> <p><b>Sensitivity rating: Low</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Land cover and landmark features</b>			
<p><b>This landscape has a simple pattern being dominated by dense and fairly uniform coniferous forest. Areas of open moorland, small pockets of farmland and occasional lochs, for example the string of lochs focussed on Loch Ranald and Loch Ochiltree are important in providing diversity and contrast within the character type.</b></p>	<p>While larger turbines could fit with the simple pattern of forestry, if sited within or nearby open moorland and farmland, they would diminish the visual contrast it provides with forestry and therefore the diversity of the landscape type as a whole. Turbines of this size sited close to lochs would overwhelm their scale and adversely affect their landmark status.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would have similar minor effects on the simple pattern of commercial forestry but would also diminish landscape diversity and contrast if sited on, or close to, rare areas of open moorland and farmland. Turbines sited close to lochs would dominate their scale and adversely affect their landmark status.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Although this typology could also have a similar adverse effect in terms of potentially diminishing the integrity and diversity of areas of open moorland and farmland, single and small clusters of turbines towards the lower height band of this typology could be accommodated within the character type.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Settlement and archaeology</b>			
<p><b>This area is sparsely settled with isolated farms, small groups of cottages and occasional estate houses set within adjacent valleys such as the Water of Luce and the Cree valley. A network of tracks is largely hidden by the forest and the B7027 and narrow minor roads cross the area. Archaeological and relict land-use features often have a strong presence within open moorland and fringe farmland.</b></p>	<p>There is some scope to site this typology to avoid overwhelming settlement and archaeological features by being located within more extensively forested areas and set back from more populated areas. Open areas of moorland and farmland which feature settlement and archaeology would be of higher sensitivity to this typology.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>There is scope for large turbines to be sited to avoid contrasts of scale with settlement and to avoid impacts on archaeological features by being located within more extensively forested areas and set back from more populated areas. Open areas of moorland and farmland which feature settlement and archaeology would be of higher sensitivity to this typology.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>There is scope for this typology to be sited to avoid contrasts of scale with settlement and to avoid impacts on archaeological features. Open areas of moorland and farmland which feature settlement and archaeology would be of higher sensitivity although turbines towards the lower height band of this typology could have a reduced effect on the setting of features.</p> <p><b>Sensitivity rating: Medium-low</b></p>



Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Landscape context</b>			
<p>This area is fairly extensive and relatively low-lying. While it does not make a strong contribution to the wider landscape composition it provides a simple foreground to the distant Galloway Hills and an upland backdrop to the Cross Water of Luce valley (17), the Cree Valley (4) and the Machars (11/12)</p>	<p>Turbines towards 200m high sited close to the western edges of this character type would dominate the settled and small scale <i>Water of Luce Valley</i> (3). Very large turbines sited in the eastern part of this area could adversely affect the small scale and diverse Cree valley and the scenic contrast between the flat plateau and the dramatic Galloway Hills. There may be some very limited scope to avoid or reduce impacts on adjacent character types with turbines closer to 150m height likely to minimise effects.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Turbines could be sited to avoid impacts on adjacent character types because of the extensiveness of this type. Large wind farms particularly sited in the eastern part of this area could adversely affect the small scale and diverse Cree valley and the scenic contrast between the flat plateau and the dramatic Galloway Hills. There may be some very limited scope to minimise impacts on adjacent character types.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>There is greater scope for this typology to be sited so as to avoid significant impact on adjacent character types.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Perceptual qualities</b>			
<p><b>Operational and under-constructed wind farms in this and adjacent character types and extensive heavily managed non-native forestry precludes a sense of wildness. Remaining pockets of open moorland and lochs have a natural appearance however and archaeological features in these areas add to the impression of this being a 'timeless' landscape.</b></p>	<p>Turbines sited within and close to the more extensive areas of open and undeveloped moorland would affect the sense of naturalness associated with these areas.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Turbines sited within and close to the more extensive areas of open and undeveloped moorland would affect the sense of naturalness associated with these areas.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>While there is scope for this typology to be sited in smaller areas of moorland which are more influenced by nearby forestry, turbines of this size would still have similar effects on perceptual qualities if sited within, or close-by, more naturalistic moorlands.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Views and visibility</b>			
<p><b>Views to this sparsely settled character type are generally distant with close views from the key routes of the A714 and A75 and from settlements restricted by forestry and landform. There are dramatic views of the Galloway Hills from the open moorland and hill tops of this character type and from the Southern Upland Way (SUW). Lochs form a visual focus from roads such as the B7027 and from footpaths (SUW). Operational and under-construction wind farms are visible from the SUW and from minor roads within and close-by the character type.</b></p>	<p>The sparsely settled nature of this character type, the presence of large wind farm developments and the screening provided by extensive forestry reduces visual sensitivity. Turbines of this size could increase the extent of development visible on key skylines on the Upper Water of Luce, tributary valleys and Duisk Valleys and seen from key roads. Views to and from the Galloway Hills, from minor roads and from the SUW could also be affected and the focus provided by small lochs, which provide visual interest within the predominant forest cover of this character type, could also be diminished. Turbines towards 200m high would be likely to significantly increase visual impact from the Galloway Hills assuming these would be sited on remaining undeveloped forest in the east of this character type.</p> <p><b>Sensitivity rating: High</b></p>	<p>The sparsely settled nature of this character type reduces sensitivity to large scale turbines. Wind farms are already a key component of views and this reduces sensitivity. Additional turbines of this size could increase the extent of turbines visible on key skylines on the Upper Water of Luce, tributary valleys and Duisk Valleys and seen from key roads. Views to and from the Galloway Hills, from minor roads and from the SUW could also be affected and the focus provided by small lochs, which provide visual interest within the predominant forest cover of this character type, could also be diminished. Although this typology would have less of an impact than the Very Large typology, views from the Galloway Hills would still be likely to be significantly affected due to the closer proximity of remaining undeveloped areas within this LCT.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology may be more likely to be sited close to settled areas and could therefore be more visible although turbines towards the lower height band may reduce visual impact.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
Landscape values			
<p><b>No landscape designations apply to this character type although the Galloway Hills RSA extends to include the Cree Valley and Water of Minnoch on the eastern boundary which are described in Technical Paper 6 as ...“forming the flanks of, and setting to, the Merrick Rugged Granite Uplands”.</b></p> <p><b>The Merrick Wild Land Area lies to the east of this character type.</b></p> <p><b>Glen Trool and the Galloway Forest Park include waymarked routes and 7Stanes cycle trails. Loch Heron, Loch Ronald and smaller lochs along the B7027 also have low-key facilities.</b></p>	<p>The absence of designations in the majority of the character type reduces sensitivity. However, development located within and close to the RSA would affect the <i>sweeping and dramatic views of the hills</i> and the setting provided by forested hill slopes to the <i>dramatic summits of the Galloway Hills</i>. Effects on the Merrick Wild Land Area may occur with turbines of this size likely to have significant effects particularly if located in the eastern part of this character type.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Development located within and close to the RSA would affect the <i>sweeping and dramatic views of the hills</i> and the setting provided by forested hill slopes to the <i>dramatic summits of the Galloway Hills</i>. The general absence of designations in the majority of the character type reduces sensitivity</p> <p>Effects on the Merrick Wild Land Area may occur particularly if turbines were located in the eastern part of this character type.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>There may be limited scope to accommodate very small clusters of lower turbines within or close-by the RSA without impacting on the setting of the <i>dramatic summits of the Galloway Hills</i> (ie. if located away from key views, where forestry and landform provides a degree of screening and in areas of simpler landform).</p> <p>The Merrick Wild Land Area remains a key sensitivity although turbines towards the lower height band of this typology would have a reduced effect on setting and qualities.</p> <p><b>Sensitivity rating: Medium-low</b></p>



Small pockets of farmland offer visual relief and diversity within extensive forestry



Wind farm development is a key characteristic of this landscape



Long views to the Galloway Hills are a feature from the open moorland within this landscape



Open areas have rich multi-layered archaeology and can also have a natural feel contrasting with commercial forestry and wind farm development



Occasional lochs are a key focus within this landscape



The Southern Upland Way increases visual and cumulative sensitivity

## 21. Plateau Moorland With Lochs (17B)

### 21.1 Introduction

This character type occurs in only one location at Mochrum in the Machars. Although located in a lowland context, this is a sparsely settled landscape where demand for smaller development typologies is likely to be limited. The sensitivity assessment therefore focuses on larger typologies with key constraints relating to smaller typologies described within the summary and guidance section.

#### 21.1.1 Cultural heritage overview

This landscape type is characterised as moorland/rough grazing and forestry with areas of relict pre-improvement (pre-19thc) land-use with the focus of the medieval Old Place of Mochrum and its later designed landscape. There are a few outstandingly significant and distinctive archaeological sites in the area.

#### 21.1.2 Operational/consented wind farm development

There are no operational or consented wind farms located in this landscape. A number of operational and consented wind farms are located in the Plateau Moorland with Forest (17a) character type within 10km to the north-west. The low-lying nature of this character type together with its containment by forestry and woodland limits visibility of these wind farms except from occasional open hill tops.

### 21.2 Description and summary of sensitivity

The key characteristics of this landscape comprise a gently undulating basin, edged by a rim of slightly higher ground in places, containing an intricate mosaic of lochs, shrubby trees and scrub, wetland, grassland and moorland but also featuring a notable designed landscape with associated policy woodlands and scattered islands on Mochrum and Castle Lochs. The sensitivity of this landscape is further increased by the sense of seclusion, relative sense of naturalness and the integrity of the pattern of land cover and lochs. Although this small area is sparsely settled and crossed only by narrow minor roads, visual sensitivity is increased by the perception of it being 'hidden' and the experience of surprise when encountering the landscape as a whole, as well as the revelation of the subtle sequence of lochs, and the Mochrum designed landscape.

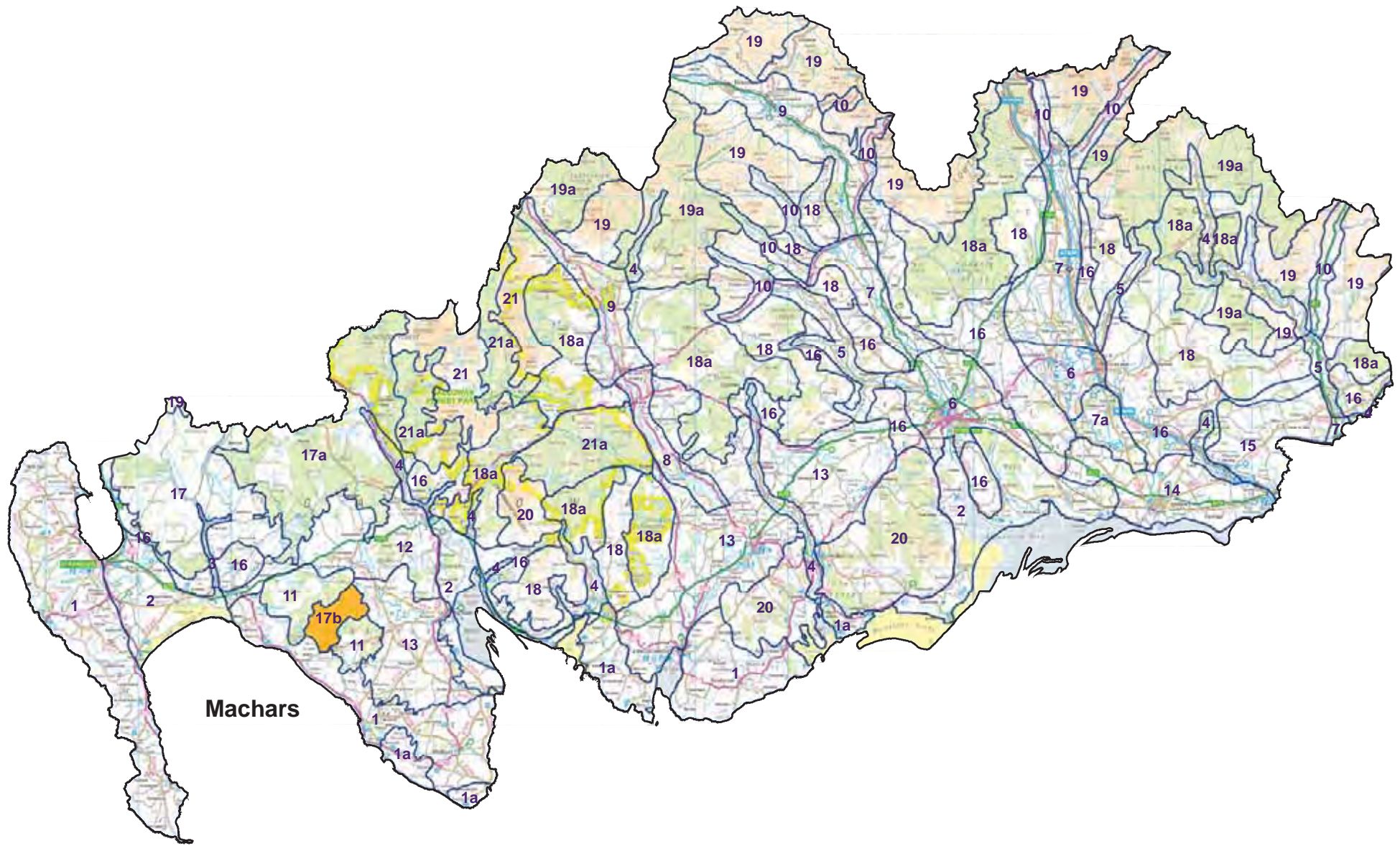
The Plateau Moorland with Lochs character type has a **High** sensitivity to the large and medium typologies (turbines >50m).

In terms of landscape values the score is **High-medium** for the large and medium typologies due to much of this landscape being designated a RSA.

### 21.1 Smaller typologies

The small-medium typology (30-50m) would dominate the small scale landform detail, intricate interlocking vegetation pattern and views within this landscape. It would also adversely affect the integrity, sense of naturalness and seclusion, in a similar way to the larger typologies. The small typology (turbines <20m) would appear out of scale within the larger areas of open moorland and wetland. Single small turbines could however be associated with the few existing farmsteads and domestic buildings which are very widely spaced in this landscape.

Character Type Key Map - 17b. Plateau Moorland with Lochs



Machars

### 21.2.2 Cumulative issues

Cumulative landscape and visual effects are likely to arise if larger typologies are located in the surrounding Moss and Forest Lowland (11). Multiple wind farm developments sited close to the boundary of this character type and visible above woodlands and forests (and potentially more openly visible should coniferous plantations be felled in future), would adversely affect the setting of this characteristically contained landscape.

### 21.2.3 Key constraints

- A rich, interlocking mosaic of wetlands, woodland, moorland, grassland and lochs which have a strongly natural character.
- Policy influenced woodlands and the designed landscape associated with Mochrum Loch, including the focal points of the wooded islands.
- The historic tower house of Old Place of Mochrum and its designed landscape and other archaeological features.
- The strong perception of seclusion and timelessness which contributes to the distinct sense of place that can be experienced in this landscape.
- The Mochrum Lochs RSA which covers this character type.

### 21.2.4 Opportunities

Widely dispersed farmsteads with which small turbines could be visually associated.

## 21.3 Guidance on development

There is no scope to locate large, medium or the small-medium typologies (turbines >20m) in this landscape character type due to the significant adverse impacts that would be likely to occur on a number of key sensitivities. The small typology (turbines <20m) could be accommodated but only in close association with existing buildings, avoiding open moorland/wetland and sensitive loch edges. Even then, scope is likely to be limited, with more than one turbine in each location likely to be difficult to accommodate.

This landscape would be highly sensitive to larger wind farm typologies sited in the adjacent Moss and Forest Lowland (11) where developments may be visible above forestry. Care should be taken in the location and design of any proposals in adjoining landscape character types to ensure that views within the Plateau Moorland with Lochs are not significantly and adversely affected. This may include long term retention of screening plantations where possible.

**Character Type 17B: Plateau With Lochs**

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>		
<p>Although this landscape comprises an open moorland loch basin its small geographic extent and strong containment by surrounding forest and woodlands limits scale to small-medium, which is reinforced by the subtle, undulating topography, small scale rock outcrops and the fragmentation of land cover introduced by the scattered lochs. Scale is further reduced at the head of Mochrum Loch by policy woodlands.</p>	<p>This typology would dominate the small extent of this landscape, the subtle small scale topography and intricate pattern of lochs, rock outcrops and semi natural woodland scrub as well as the small size of key features, such as the lochs.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would also dominate the small extent of this landscape, the subtle small scale topography and intricate pattern of lochs, rock outcrops and semi natural woodland scrub as well as the small size of key features, such as the lochs.</p> <p><b>Sensitivity rating: High</b></p>
<b>Landform</b>		
<p>A simple, gently undulating low-lying plateau patterned by knolly, often rocky, outcrops and contained within a rim of slightly higher ground. A series of lochs sit within a broad basin and have a distinctly irregular form patterned by small islands.</p>	<p>While this typology could relate to the overall simple landform of this character area, it would detract from the detail of the subtle knolly outcrops and their interlock with the lochs and wetland.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>While this typology could relate to the overall simple landform of this character area, it would detract from the detail of the subtle knolly outcrops and their interlock with the lochs and wetland.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Land cover and landmark features</b>		
<p>The heather moorland and mixed upland grassland, punctuated by rocky outcrops, clumps of shrubby trees and scrub and wetland forms a rich mosaic of interlocking vegetation, an intricate pattern further emphasised by the irregularly shaped lochs, which are a key landmark feature. Coniferous plantations border this landscape although more mixed policy-influenced woodlands edge Mochrum Loch.</p> <p>Small woodlands are associated with settlement and ornamental gardens surround Old Place of Mochrum at the head of Mochrum Loch.</p>	<p>The creation of the infrastructure and regularity of access roads and structures associated with this typology would fragment and severely impact the intricate pattern of interlocking vegetation types.</p> <p><b>Sensitivity rating: High</b></p>	<p>The creation of the infrastructure and regularity of access roads and structures associated with this typology would fragment and severely impact the intricate pattern of interlocking vegetation types.</p> <p><b>Sensitivity rating: High</b></p>



Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Settlement and Archaeology</b>		
<p>This area is very sparsely settled with the tower house of Old Place of Mochrum and a few isolated farms and cottages the only habitation. Archaeological features from prehistoric and historic times pepper the moorland and loch edges including cairns, crannogs and a ruinous castle.</p>	<p>Although sparsely settled, the limited extent of this character type would result in this typology dominating small dwellings and the Old Place of Mochrum. It would also be likely to adversely affect the setting of archaeological features.</p> <p><b>Sensitivity rating: High</b></p>	<p>Although sparsely settled, the limited extent of this character type would result in this typology dominating small dwellings and the Old Place of Mochrum. It would also be likely to adversely affect archaeological features.</p> <p><b>Sensitivity rating: High</b></p>
<b>Landscape context</b>		
<p>This character type is low-lying and strongly contained by woodland and therefore does not make a strong contribution to the wider landscape. It is small in extent however and thus lies in close proximity to the Peninsula character type (1) and the Moss and Forest Lowland (11).</p>	<p>This typology would be visible in relative proximity from nearby character types and could overwhelm the scale of more pronounced hills in the surrounding area, for example Knock Fell and Mochrum Hill, as well as the scale of adjacent dwellings.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology would be visible in relative proximity from nearby character types and could overwhelm the scale of more pronounced hills in the surrounding area, for example Knock Fell and Mochrum Hill, as well as the scale of adjacent dwellings.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Perceptual qualities</b>		
<p>The open moorland, widespread semi-natural vegetation including wetland, scrub and the lochs have a strong sense of naturalness. The strong containment by woodland and the richness of historic and archaeological features contribute to the impression of this being a timeless and 'hidden' landscape with a strong sense of place.</p>	<p>This typology would diminish the strong sense of naturalness and seclusion associated with this landscape by introducing large scale industrial elements into a seemingly unmodified landscape. Turbines would also disrupt the integrity of the strong and unified sense of place.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would diminish the strong sense of naturalness and seclusion associated with this landscape by introducing large scale industrial elements into a seemingly unmodified landscape.</p> <p><b>Sensitivity rating: High</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Views and visibility</b>		
<p><b>This landscape is sparsely settled. A narrow minor road, which is also a promoted cycle route, crosses this landscape. The openness of the moorland and loch basins allows long views from this road although views are contained by forestry on the boundary with character type (11) and around Mochrum Loch.</b></p> <p><b>Visual amenity is enhanced by the sudden revelation of this landscape type on arrival through the surrounding woodland, by encountering the sequence of lochs and by the equally sudden revelation of Mochrum Loch, which is surrounded by policy woodland. The visual composition of Mochrum Loch is additionally enhanced by the scattered, wooded islands.</b></p> <p><b>Views into this character type are restricted by a combination of its low-lying nature and containment by coniferous forestry within the adjoining Moss and Forest Lowland character type of (11). Parts of this landscape are visible from the nearby B7005, Mochrum Fell and the more distant Knock Fell.</b></p>	<p>This typology would detract from the revealed sequence of lochs, their visual setting and the overall visual composition as well as from key visual foci, such as the lochs themselves and their islands.</p> <p>Turbines of this size would be likely to be visible in close proximity from nearby hill summits and the B7005. Although the absence of nearby roads and settlement, together with screening by forestry, would limit visual impact to some degree, turbines this size would be highly visible from more settled parts of the Machars.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would detract from the more subtle encounter of the revealed sequence of lochs, their visual setting and the overall visual composition as well as from key visual foci, such as the lochs themselves and their islands.</p> <p>This typology would be likely to be visible in close proximity from nearby hill summits and the B7005. Although the absence of nearby roads and settlement, together with screening by forestry, would limit visual impact to some degree turbines this size would be visible from more settled parts of the Machars.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Landscape values</b>		
<p><b>This landscape falls within the Mochrum Lochs RSA. Technical Paper 6 describes this landscape as having an open exposed wild feel with a distinctive character unique in Dumfries and Galloway. The few signs of human activity and the atmospheric and scenic policy landscape of Old Place of Mochrum are particularly noted.</b></p>	<p>This typology would impact on the open, exposed and wild feel of this landscape. It would introduce obvious human activity and affect the setting and potentially the visual and scenic composition of the policy landscape of the Old Place of Mochrum.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would impact on the open, exposed and wild feel of this landscape. It would introduce obvious human activity and affect the setting of the policy landscape of the Old Place of Mochrum.</p> <p><b>Sensitivity rating: High-medium</b></p>



The Old Place of Mochrum and its designed landscape



Loch basins and wetlands have a strongly natural quality



This landscape is highly sensitive to intrusion from wind farm development visible above the low rim of hills and forestry which contain it



Mochrum Loch contributes to the distinct 'Sense of Place' associated with this landscape

## 22. Foothills (18)

### 22.1 Introduction

The Foothills have a very diverse character with individual landscape units varying from those with a complex landform and intimate scale to units with a simpler topography and land cover pattern and often larger scale. The seven individual landscape units identified within this character type are therefore individually assessed in this study. These are as follows:

- Annandale
- Beattock
- Cairnharrow
- Dalmacallan
- Fleet
- Keir
- Nithsdale

The Dalmacallan, Cairnharrow, Fleet, Keir and Beattock units are sparsely settled and demand for smaller turbines (<50m high) is likely to be limited. General sensitivity to smaller typologies is therefore considered within the guidance section only.

#### 22.1.1 Cultural heritage overview

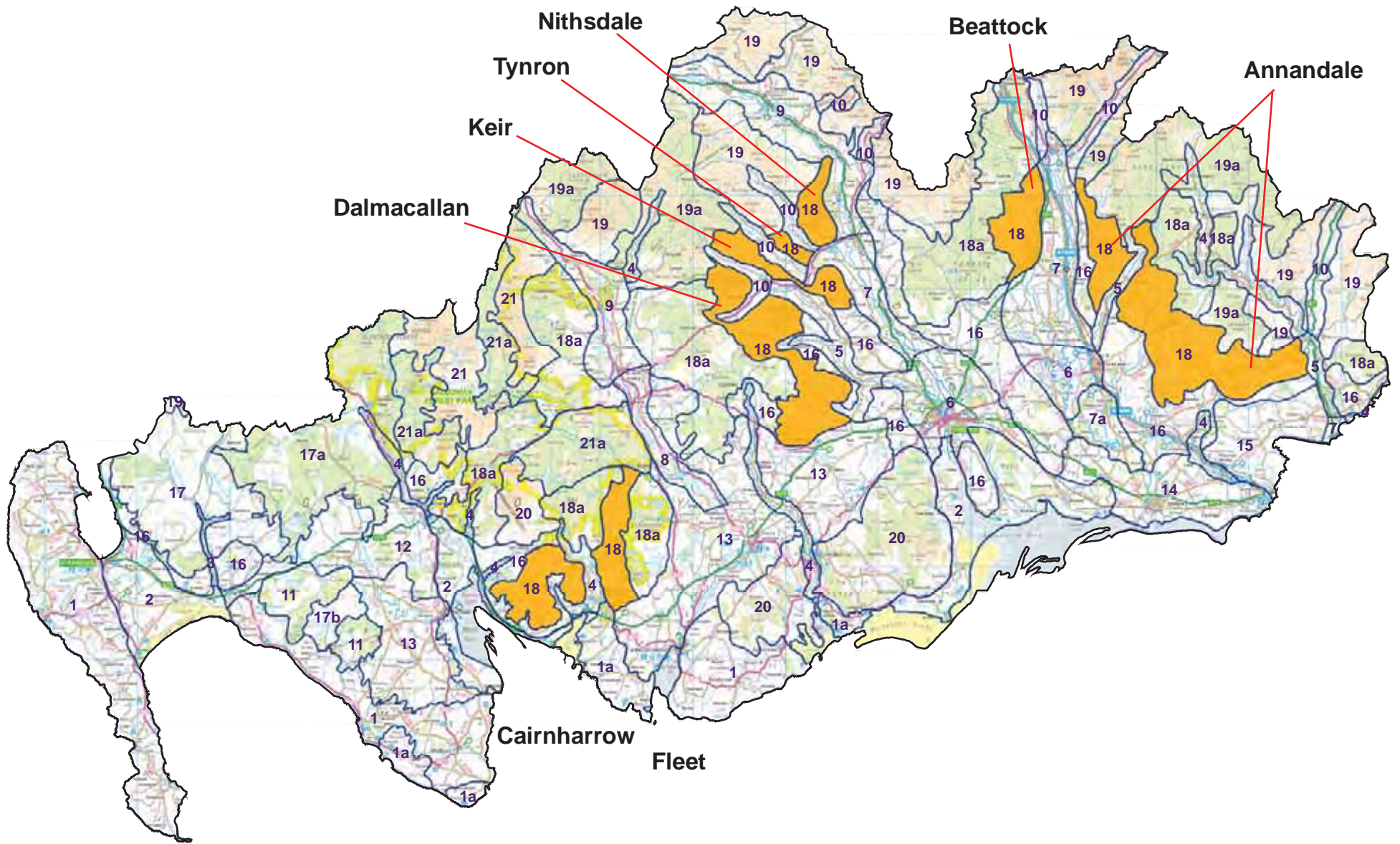
A landscape type characterised as moorland/rough grazing in the west, a land-use that is repeated in the central and eastern units along with some post-improvement fields and farming and patches of forestry/woodland. All are characterised by extensive relict pre-improvement (pre-19thc) land-use with their remains of buildings and distinct field shapes as well as numerous areas of pre-medieval features. The Cairnharrow, Fleet and Beattock landscape units have Archaeologically Sensitive Areas of which Fleet is particularly large. In addition, there are numerous archaeological sites of outstanding significance and distinctiveness, some of which are promoted for public benefit.

#### 21.1.2 Operational/consented wind farms

The operational Minsca and the consented Solwaybank wind farm are located in the Annandale unit of the Foothills (18) character type. The under-construction phased wind farm of Ewe Hill is also partially located in this unit. The under-construction Minnygap wind farm is located within the Beattock unit.

The operational Harestanes and Dalswinton wind farms are sited within the Ae unit of the Foothills with Forest (18a) which lies on the western side of Annandale and adjacent to the Beattock unit of the Foothills (18). Minnygap will visually form an extension to Harestanes. The under-construction Blackcraig wind farm and the consented Mochrum Fell wind farm are located in the Stroan unit of the Foothills with Forest (18a) which lies adjacent to the Dalmacallan unit of the Foothills (18). The operational Wether Hill wind farm lies to the north west of the Dalmacellan unit, within the Ken unit of the Southern Uplands with Forest (19a). The Nithsdale unit of the Foothills (18) additionally lies adjacent to consented wind farm development within the Southern Uplands (19).

Character Type Key Map - 18. Foothills



## 22.2 Annandale Foothills - Description and summary of sensitivity

The Annandale Foothills form a long band of low rolling hills cut by narrow valleys on the east side of Annandale. These foothills are broader in extent in the south but taper to form a narrow fringe in the north, backed by the higher Southern Uplands with Forest (19a) to the south of Moffat. These foothills have a diverse character with broader hill tops interspersed with more complex knolly landform and cut by narrow winding valleys. The western and southern edges of these foothills are particularly visible from surrounding well-settled lowlands of Annandale. Walled pastures cover rolling hill slopes while rough grazing and moorland occur on broader hill tops. Conifer woodlands and shelterbelts are a consistent feature with broadleaved woodlands found around more settled valleys. These foothills are relatively well-settled and they are also rich in archaeology. Wind farm development strongly influences the character of the southern part of these foothills.

While larger typologies could relate to the broad scale and less complex form of some hill tops and more expansive hill slopes at the transition with the Southern Uplands with Forest (19a) and Foothills with Forest (18a) character types to the east, the settled nature of these foothills and the presence of existing wind farm development limit

scope for additional development. Landscape sensitivity would be **High-medium** for both the large and medium typologies (turbines >50m). It would be **Medium** for the small-medium typology (turbines 20-50m).

In terms of landscape values the score is **Low** for all typologies as these foothills are not covered by any landscape designations.

### 22.2.1 Cumulative issues

The operational Minsca wind farm is sited within the southern part of the Annandale unit. This development lies close to the outer edge of these foothills and is visually prominent from the well-settled Upland Fringes (16), the broad lower dale of Annandale and the Flow Plateau (15). The consented Solwaybank wind farm occupies a similar position on the southern edge of these foothills and will be similarly prominent from adjacent low-lying and well-settled landscapes to the south. The Ewe Hill wind farm (6 turbines under-construction but with another 16 turbines consented) is partially located in the eastern part of this landscape unit and extends in the adjacent West Langholm unit of the Southern Uplands with Forest (19a). This development is likely to be less visually prominent than the Minsca and Solwaybank wind farms as it is set back further into the interior of the Foothills at the transition with the higher and more expansively scaled Southern Uplands with Forest (19a).

Key cumulative effects that could occur if additional development were located in the Annandale Foothills include:

- Further larger developments sited in the southern part of this unit of the Foothills, and particularly on outer southern and western edges, would be inter-visible and seen in close proximity to the Minsca, Ewe Hill and Solwaybank wind farms. Significant expansion of large wind turbines seen on the skyline of the Annandale Foothills could result in a dominant effect experienced in views from nearby well-settled landscapes.
- The siting of wind farms on every broad open hill top in this landscape would result in the spacing between operational/consented wind farms being reduced, thus exacerbating cumulative effects from settlement, roads and paths in the local area. The diversity and rural qualities of this landscape could also be diminished if all or the majority of open hill tops were developed.
- Simultaneous visibility between the significantly larger operational Harestanes and Clyde wind farms with wind farms located in the southern part of the Annandale unit of the Foothills (18) is limited (due to intermediate screening and distance) although multiple wind farm developments in this landscape could result in more sustained sequential cumulative landscape and visual effects experienced from major transport routes including the M74.

- The narrow extent of the northern part of these foothills, and the increased visibility of the Harestanes and Minnygap wind farms from this area, could result in cumulative effects, including creation of a potential 'corridor' of large wind turbines seen either side of Annandale.

### 22.2.2 Key constraints

- The more complex landform of small, steep-sloped, knolly hills that occasionally occur and which would be sensitive to all scales of wind energy development.
- The narrow small-scale settled valleys which weave their way through these foothills; most notably the Dryfe Water and Water of Milk, and their respective tributaries. The narrow extent and generally more intricate landform and land cover of the northern part of these foothills which reduces scale and increases sensitivity in relation to effects on the adjacent Middle Dale (7) of Mid-Annandale.
- A rich archaeology with numerous hill forts, cairns and early settlements sited on hill tops and upper slopes.
- The backdrop provided by the outer edge of these foothills to well-settled Upland Fringes (16), lowland areas such as the Flow Plateau (15) and Middle Dale - Annandale (7) and to the Intimate Pastoral Valley (5) - Dryfe valley.

- Potential cumulative effects with the Minsca, Ewe Hill wind farms and Solwaybank wind farms which are located in close proximity to each other in the broader southern part of this landscape and are seen sequentially and in combination from settled valleys and roads in the foothills immediately east of Lockerbie and in the wider Annandale area.
- Closer views of the extensive operational Harestanes and under-construction Minnygap wind farms from the northern part of these foothills.

### 22.2.3 Opportunities

- Broader hill tops and more expansive hill slopes with a relatively simple landform, set back from the more sensitive southern and western edges of these foothills which abut well-settled upland fringes and lowland areas.
- An absence of landscape designations.

## 22.3 Guidance for development

**It is considered that capacity has largely been reached for the Large and Medium development typologies (turbines >50m)** due to the constraints listed above and the density and dominance of operational and consented wind farms in the southern part of this landscape.

There is some scope for smaller typologies to be sited within these foothills, although cumulative effects will be a key constraint in the more

developed southern part of the unit. The small-medium typology (turbines 20-50m) could be associated with areas of less complex landform, on broader topped hills and slacker hill slopes and avoiding areas of more complex landform and distinctive knolly hills. While turbines of this size would be likely to have less of an overwhelming effect on the scale and character of settlement than larger turbines, they should still be sited away from more sensitive skylines at the transition with the Upland Fringe (16) and the Intimate Pastoral Valley (5). The setting of archaeological features should be carefully considered in the siting of turbines.

Small turbines <20m could be accommodated more successfully as multiple developments in these foothills as they could be visually associated with farms or small settlements. Supplementary Guidance is provided on the siting and design of turbines <50m high.

**Character Type 18 - Foothills - Annandale**

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Scale and openness</b>			
<p><b>This landscape comprises rolling hills, generally rising between 250-300m, tapering in the north to form a narrow band between the Upland Fringe (16) and the extensively forested higher uplands to the east. Occasional broad-topped ridges have a larger scale than areas of more complex smaller hills and the narrow valleys that wind their way through these foothills. Operational and consented wind farm developments already occupy some of these larger scaled areas in the south.</b></p>	<p>This typology could relate to the scale of broader topped hills but would overwhelm the scale of narrow valleys and the small complex hills that occur within parts of these foothills. Extensive developments &gt;20 turbines would be likely to dominate the fairly narrow extent of these foothills, particularly in the north.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could relate to the scale of broader topped hills but would overwhelm the scale of narrow valleys and the small complex hills that occur within parts of these foothills.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could relate to the scale of broader hill tops but also slacker and more open hill slopes. Turbines of this size would still dominate the scale of the smaller well-defined hills, areas of more rolling landform and narrow valleys.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landform</b>			
<p><b>Landform varies considerably with occasional broader hills with flatter gently undulating tops interspersed with more defined steep-sided knolly hills and irregular landform, often found close to main valleys and sometimes on the fringes with the Foothills with Forest (18a). Narrow, incised river valleys cut often convoluted courses through these foothills, or more dramatic gorges through steep-sided hills such as the Wamphrey Water.</b></p>	<p>This typology could relate to the simple landform of gently undulating ridge tops but would detract from more complex landform, deeply incised river valleys and small well-defined hills.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could relate to the simple landform of gently undulating ridge tops but would detract from more complex landform, deeply incised river valleys and small well-defined hills.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>There is greater scope for this typology to be sited on gently undulating ridges, slacker hill slopes and lower, flatter hill tops. Turbines of this size would still detract from narrow incised valleys and more complex irregular topography.</p> <p><b>Sensitivity rating: Medium-low</b></p>



Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Land cover and landmark features</b>			
<p>These foothills are farmed with pastures enclosed by stone dykes. More expansive areas of semi-improved and rough grazing and conifer plantations occur on broader hill tops. Broadleaved shelterbelts and clumps form rare, but distinctive, features around more settled valleys. Small angular conifer shelterbelts consistently pattern these smooth, rolling hills.</p>	<p>This typology could fit with the simple pattern of broader pasture and conifer plantations on broader hill tops. It would disrupt and overwhelm the scale of more distinct field enclosure pattern and broadleaved woodlands.</p> <p>Sensitivity rating: Medium</p>	<p>This typology could fit with the simple pattern of broader pasture and conifer plantations on broader hill tops. It would disrupt and overwhelm the scale of more distinct field enclosure pattern and broadleaved woodlands.</p> <p>Sensitivity rating: Medium</p>	<p>Single and small groups of turbines could fit with the generally simple land cover of pasture and plantations both on hill tops and slopes. They would still adversely affect the more distinct pattern of field enclosure and broadleaved plantings where these occasionally occur.</p> <p>Sensitivity rating: Medium-low</p>
<b>Settlement and Archaeology</b>			
<p>Small settlements and dispersed farms are located in narrow sheltered valleys and lower hill slopes although occasional settlements such as Corrie Common are more elevated. These foothills are rich in archaeology with numerous hill forts and settlements and occasional stone circles. Operational and consented wind farms influence character in the southern part of these foothills. A high voltage transmission line is routed through the south-western part of these foothills.</p>	<p>This typology would dominate the scale and setting of settlement if sited close to more settled valleys, although the more sparsely settled eastern fringes of these foothills at the transition with the largely unsettled 18a and 19a landscapes may be less sensitive in this respect. The setting of archaeological features, which are often located on more distinctive hills, could also be adversely affected.</p> <p>Sensitivity rating: High-medium</p>	<p>This typology would dominate the scale and setting of settlement if sited close to more settled valleys, although the more sparsely settled eastern fringes of these foothills at the transition with the largely unsettled 18a and 19a landscapes may be less sensitive in this respect. The setting of archaeological features, which are often located on more distinctive hills, could be adversely affected.</p> <p>Sensitivity rating: High-medium</p>	<p>While there would be greater scope to locate this typology to minimise impacts on the scale and setting of settlement and archaeological features, this typology would dominate buildings and should be sited away from the more settled valleys.</p> <p>Sensitivity rating: Medium</p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape context</b>			
<p>These foothills merge seamlessly with the Upland Fringe (16) to the west, although a more pronounced edge occurs to the south. The well-settled broad dale of Annandale (LCTs 6+7) lies to the west and the edge of these foothills (together with the Upland Fringe) provides a backdrop to settlements such as Lockerbie and Lochmaben. These foothills also provide prominent skylines to the Intimate Pastoral Valley (5) of the Dryfe valley. The more extensive and largely unsettled Foothills with Forest (18a) and Southern Uplands with Forest (19a) lie to the north-east.</p>	<p>The proximity of these foothills to the well-settled landscapes of Annandale, the Dryfe valley and the often prominent 'edge' of the <i>Upland Fringe</i> (16) increases sensitivity to this typology. There may be some limited scope to locate this typology at the transition with the less sensitive landscapes of 18a and 19a.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>The proximity of these foothills to the well-settled landscapes of Annandale, the Dryfe valley and the often prominent 'edge' of the <i>Upland Fringe</i> (16) increases sensitivity to this typology. There may be some limited scope to locate this typology at the transition with the less sensitive landscapes of 18a and 19a.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>The proximity of these foothills to the well-settled landscapes of Annandale, the Dryfe valley and the often prominent 'edge' of the <i>Upland Fringe</i> (16) increases sensitivity to this typology. There are greater opportunities to locate this smaller typology in less sensitive areas away from the southern and western edges of the foothills.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Perceptual qualities</b>			
<p>The farmed and settled character of these foothills limits the sense of naturalness and remoteness experienced although the rich archaeology and traditional rural character of parts of this landscape can instil a sense of timelessness.</p>	<p>While this typology would have limited effects on the qualities of wildness, further large scale wind farm development could diminish the perception of the rural qualities of this landscape and its archaeological heritage.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>While this typology would have limited effects on the qualities of wildness, further large scale wind farm development could diminish the perception of the rural qualities of this landscape and its archaeological heritage.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology would have limited effects on the qualities of wildness. Smaller single and small clusters of turbines of this size would be likely to have less of an effect on rural qualities and archaeological heritage provided they were sensitively sited.</p> <p><b>Sensitivity rating: Medium-low</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Views and visibility</b>			
<p><b>Small settlements and dispersed farms are mainly associated with the narrow valleys that cut through these foothills but with some settlements and farms more elevated. A network of minor roads provides access through these foothills and even small hills offer vantage points with views over much of this landscape unit.</b></p> <p><b>The Foothills with Forest (18a) and Southern Upland with Forest (19a) lie to the north-east. These largely unsettled and higher uplands visually contain the Annandale Foothills from settled valleys and glens to the east. The well-settled lowlands of Annandale lie to the west and these foothills (together with the Annandale unit of the Upland Fringe 16) form a low backdrop and fairly even long skyline to this landscape, with the higher uplands of LCT 19a more prominent further east beyond these foothills. The outer edge of these foothills is particularly pronounced when seen from the low-lying Flow Plateau (15) from the south. There are elevated views of these foothills from the Torthorwald Ridge and from key elevated viewpoints, such as Burnswark Hill Fort and the Repentance Tower at Hoddam to the south-east.</b></p>	<p>The settled nature of these foothills increases sensitivity to this typology. Views to these foothills are also extensive from lower-lying and well-settled landscapes to the west and south.</p> <p><b>Sensitivity rating: High</b></p>	<p>The settled nature of these foothills increases sensitivity to this typology. Views to these foothills are also extensive from lower-lying and well-settled landscapes to the west and south.</p> <p><b>Sensitivity rating: High</b></p>	<p>The settled nature of these foothills increases sensitivity although more sparsely settled eastern hill slopes offer greater opportunity to site this typology to minimise visual intrusion.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Landscape values</b>			
<p><b>These foothills are not covered by any landscape designations or other recognised interests.</b></p>	<p>Sensitivity is low in relation to landscape values.</p> <p><b>Sensitivity rating: Low</b></p>	<p>Sensitivity is low in relation to landscape values.</p> <p><b>Sensitivity rating: Low</b></p>	<p>Sensitivity is low in relation to landscape values.</p> <p><b>Sensitivity rating: Low</b></p>



The 'Annandale' unit of the Foothills features existing and consented wind farms



Areas of more complex small knolly hills and irregular landform occur within this landscape unit



Settlement is focused on valley sides with mixed shelterbelts enclosing farms and fields on lower slopes



The densely forested ridge of the Southern Uplands with Forest character type contain these Foothills in the south-east.



Broader hill tops are interspersed with more defined hills. Many hill tops feature hill forts and other archaeology



Narrow valleys weave their way through these gently rolling foothills

## 22.4 Beattock area (18) - description and summary of sensitivity

The Beattock Foothills vary greatly in character from the small-scale, strongly contained valley of the Kinnel Water and more complex rolling landform of lower hill slopes to the broader, more open upper slopes of grass moorland. The Inventory listed designed landscape of Raehills comprises extensive parkland and wooded policies focussed on the Kinnel valley. This designed landscape and a rich archaeology make a strong contribution to the character of these foothills.

There would be a **High-medium** landscape sensitivity to the large and medium typologies (turbines >50m).

The Inventory listed designed landscape of Raehills increases sensitivity with **High-medium** landscape values for both the large and medium typologies.

### 22.4.1 Smaller typologies

Demand for smaller typologies is likely to be limited due to the sparsely settled nature of these foothills. The small-medium typology (turbines 30-50m) may comprise single or small groups of turbines and could fit better with the scale of more gently rolling middle and lower hill slopes where a backdrop of rising ground would reduce their prominence and where landform, for example a natural terrace or slight concavity could provide a degree of containment to a small grouping. They could, however, have adverse effects on the

setting of the Raehills designed landscape and on the many archaeological features present on open hill slopes if sited nearby and also on the more complex knolly landform and incised valley of the Kinnel Water valley. Cumulative effects with the under-construction Minnygap wind farm will also be a key constraint. Turbines towards the lower height band of this typology would be less visually intrusive from Annandale and could relate better to the scale of buildings and woodlands if located on lower hill slopes.

The small typology (turbines <20m) would appear out of scale with, and introduce clutter to more expansive and open upper slopes but could relate to the scale of existing buildings and woodlands on lower hill slopes.

### 22.4.2 Cumulative issues

The under-construction Minnygap wind farm is located in this landscape and the operational Harestanes wind farm, located in the Ae Foothills with Forest (18a), lies very close-by. Both these wind farms will be likely to appear as a single development although in some views the Minnygap wind farm could be perceived as having a very different landscape context (open hill slopes orientated to the east and therefore clearly associated with Annandale, compared with the densely forested undulating plateau that accommodates the Harestanes wind farm)

The operational wind farm of Minsca and consented Solwaybank wind farms lie within the Annandale Foothills (18) on the eastern side of Annandale. The Minsca wind farm is sited relatively close to the western edge of these Foothills and is therefore visually prominent from parts of Annandale. The operational and under-construction wind farm of Clyde is located to the north-west of the Beattock Foothills within neighbouring South Lanarkshire and lies very close to main transport corridors and settlement within the narrow pass of the Evan and Daer Water.

Additional wind farm development sited within the Beattock Foothills could increase the 'tipping over' effect of the Minnygap development onto east-facing slopes with consequent impacts on the more settled landscape of Annandale (and on the more established association of large wind farms with correspondingly more extensive upland landscapes). Cumulative effects would include increasing visual intrusion on roads and settlement, with turbines appearing to be sited relatively close to the edge of the foothills and being prominent on the skyline, and the incremental loss of open upland areas which provide a backdrop and contrast to more diverse landscapes. There could also be an increase in sequential effects where additional wind farm developments were seen in combination with operational, under-construction and consented wind farms either side of Annandale from well-used transport routes.

### 22.4.3 Key constraints

- A more complex rolling landform of small knolly hills and steep slopes west of the Kinnel Water.
- The Inventory listed designed landscape of Raehills which extends over lower hill slopes and includes extensive parkland and wooded policies.
- Cumulative effects with the operational wind farm of Harestanes and under-construction Minnygap wind farm.
- Increased visual sensitivity associated with east-facing slopes in terms of views from the well-settled Annandale area and from major transport routes such as the A701 and M74.
- The richness of relict archaeological features, as recognised by the ASA designation in the northern part of these foothills.
- The proximity of these foothills to the well-settled landscapes of Annandale which increases visual sensitivity.

### 22.4.4 Opportunities

There are few remaining areas where larger typologies could be accommodated without significant landscape and visual effects arising.

## 22.5 Guidance on development

There may be some very limited scope to locate large and medium typologies (turbines >50m) within these foothills. The ASA, Raehills designed landscape and more complex and smaller scale landform on lower slopes and associated with the Kinnel Water are key constraints which will be likely to severely restrict the number of turbines that can be accommodated. Cumulative effects with the Harestanes and Minnygap wind farms will also be a major constraint.

There may be some limited scope to locate the small-medium typology (turbines 20-50m) on more open and less complex hill slopes to avoid intrusion on the Raehills designed landscape, archaeology and more sensitive small scale landform, vegetation cover and settlement within the Kinnel valley. Cumulative effects could however arise with the Minnygap and Harestanes wind farm and care should be taken in detailed siting to minimise these effects. Small turbines (turbines <30m) should be visually associated with existing buildings on less intricately patterned lower hill slopes.

## Character Type Foothills 18 - Beattock Area

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>		
<p><b>This foothill landscape comprises a broad and open moorland plateau on upper slopes although more complex landform and extensive woodland considerably reduces scale on lower slopes at the transition with the adjacent Middle Dale (7). The under-construction Minnygap wind farm occupies much of the more expansively scaled upper slopes.</b></p>	<p>This typology could relate to the more expansive open upper slopes of these foothills, although remaining undeveloped areas are limited. Turbines of this size would dominate the medium scale of middle slopes where more rolling landform field boundaries and woodland reduce scale and especially the lower hill slopes and valley of the Kennel Water where landform becomes even more complex and woodlands and settlement provide ready scale references.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology, which is more likely to comprise single and small groups of turbines, could fit with the scale of remaining more expansively scaled upper slopes and broader middle slopes away from more defined knolly hills. It would dominate the much smaller scale of the lower slopes where landform, woodlands and settlement provide scale references and contribute to the often intimate scale found in more contained areas.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landform</b>		
<p><b>Gently undulating upper slopes are occasionally punctuated by well-defined knolly hills; these becoming more common on lower hill slopes on the western edge of the valley of the Kinnel Water and above Beattock where landform is generally more rolling, complex and small scale. The Kinnel cuts a narrow gorge through the Raehills Estate</b></p>	<p>The more gently undulating plateau-like landform of upper slopes could accommodate large turbines, although these areas are limited in extent. More complex knolly hills and the incised valley of the Kinnel and its tributaries would be highly sensitive to this typology.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The more gently undulating plateau-like landform of upper slopes could accommodate this typology. More complex knolly hills and the incised valley of the Kinnel and its tributaries would be highly sensitive to this typology.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Land cover and landmark features</b>		
<p><b>Land cover varies from simple and expansive areas of upland pasture, coniferous forestry and open moorland on upper hill slopes to a more intricate pattern of policy woodlands and parkland within the Raehills designed landscape and wider estate. Distinctive clumps of Scots pine, larch and stone dykes occur above Beattock.</b></p>	<p>Simple grass moorland and coniferous forestry would be less sensitive although this typology would be likely to significantly diminish the openness of upper slopes which are important because of the contrast they provide with the adjacent densely forested foothills of Ae (18a). The intricately patterned policies of Raehills and more diverse land cover of small copses and stone dykes on lower slopes are highly sensitive.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Simple grass moorland and coniferous forestry would be less sensitive to this typology. Although this typology would also affect the openness of this landscape, its smaller size would be likely to limit effects. The intricately patterned policies of Raehills and more diverse land cover of small copses and stone dykes on lower slopes are highly sensitive.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Settlement and Archaeology</b>		
<p>This landscape is sparsely settled with dispersed farms located on lower and middle hill slopes and accessed by dead end tracks. Estate buildings and Raehill House are located close to the Kinnel Water. These foothills are rich in archaeology with numerous relict hill forts, cairns and settlements mainly sited on lower and middle slopes and with an ASA designated west of Beattock.</p>	<p>This typology could adversely affect the setting of the Grade A listed Raehills House and its designed landscape and dominate the scale of smaller buildings lying close to the Kinnel valley. It could also affect the rich archaeology of this landscape which is recognised by the ASA designation in the area west of Beattock.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could also adversely affect the setting of the Grade A listed Raehills House and dominate the scale of smaller buildings lying close to the Kinnel valley. It could also affect the rich archaeology of this landscape which is recognised by the ASA designation in the area west of Beattock.</p> <p><b>Sensitivity rating: High</b></p>
<b>Landscape context</b>		
<p>These foothills form the wider landscape context for the Middle Dale of Annandale (7). The Ae Foothills with Forest (18a) to the west are extensively forested, sparsely populated and visually contained by the Southern Uplands (19) to the north-west.</p>	<p>This typology could have effects on the wider setting to Annandale. Although the more elevated parts of these foothills do not make a strong contribution to wider scenic character, the Raehills policies and more diverse edge of smaller hills along the Kinnel Water add to the richness of character experienced within the broader Annandale area. Turbines seen on the skyline and in relative close proximity to Annandale could detract from this character.</p> <p>Effects on the <i>Ae Foothills with Forest</i> would be minimal as the operational Harestanes wind farm is a dominant characteristic of this landscape.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could have effects on the wider setting to Annandale. Although the more elevated parts of these foothills do not make a strong contribution to wider scenic character, the Raehills policies and more diverse edge of smaller hills along the Kinnel Water add to the richness of character experienced within the broader Annandale area. Turbines seen on the skyline and in relatively close proximity to Annandale could detract from this character although there may be greater scope for this smaller typology to be sited to minimise these effects.</p> <p>Effects on the <i>Ae Foothills with Forest</i> would be minimal as the operational Harestanes wind farm is a dominant characteristic of this landscape.</p> <p><b>Sensitivity rating: High-medium</b></p>



Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Perceptual qualities</b>		
<p>This landscape can feel secluded due to the absence of access roads and settlement. The open, less managed moorland of the upper slopes has some natural qualities especially where adjacent forestry is screened by higher ground. Lower slopes, which are largely covered by the extensive Raehills designed landscape, are more managed, although the rich archaeology characteristic of this area can instil a sense of timelessness.</p>	<p>This typology would adversely affect the sense of seclusion and naturalness that can be experienced in parts of this landscape. It could also diminish the perception of historic character if inappropriately sited.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology would adversely affect the sense of seclusion and naturalness that can be experienced in parts of this landscape. It could also diminish the perception of historic character if inappropriately sited.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Views and visibility</b>		
<p>This landscape is sparsely populated with most settlement located on lower hill slopes where visibility of the more elevated reaches of these foothills is limited by extensive woodland and more complex landform.</p> <p>Views to these foothill landscapes are limited by their subtle plateau-like landform of upper slopes and by intervening vegetation and ridges within Annandale. Glimpsed views are possible from minor elevated roads which cross the Middle Dale of Annandale (7) and the Foothills (18) on the eastern edge of Annandale.</p>	<p>The visibility of this typology would be limited to the west and from within the more settled but contained lower slopes of this landscape if sited on the higher slopes of the moorland plateau. Turbines would be prominent in views from the east if sited on lower or middle hill slopes where it could be more visible from settlement and transport routes in Annandale. This typology could impact on views across the Raehills designed landscape from the A701 where it could detract from the key focus of Raehills House set within its policies if seen on backdrop hill slopes or on the skyline. The upper slopes of this landscape visually contain low-lying forested basins within the <i>Ae Foothills with Forest</i> (18a) in views from elevated parts of Annandale (7) and the <i>Annandale Foothills</i> (18) and limit visibility of the operational Harestanes wind farm.</p> <p><b>Sensitivity rating: High</b></p>	<p>The visibility of this typology would be limited to the west and from within the more settled but contained lower slopes of this landscape if sited on the higher slopes of the moorland plateau. Turbines would be prominent in views from the east if sited on lower or middle hill slopes where it could be more visible from settlement and transport routes in Annandale although there may be greater scope to minimise visual impacts with this smaller typology. This typology could impact on views across the Raehills designed landscape from the A701 where it could detract from the key focus of Raehills House set within its policies if seen on backdrop hill slopes or on the skyline. The upper slopes of this landscape visually contain low-lying forested basins within the <i>Ae Foothills with Forest</i> (18a) in views from elevated parts of Annandale (7) and the <i>Annandale Foothills</i> (18) and limit visibility of the operational Harestanes wind farm.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<p><b>Landscape values</b></p> <p><b>No landscape designations cover these foothills.</b></p> <p><b>The Inventory listed designed landscape of Raehills is rated as outstanding in terms of its scenic and historical qualities. The Raehills designed landscape extends across the valley of the Kinnel Water.</b></p>	<p>While the backdrop provided by the open upper hill slopes of these foothills to the designed landscape is not noted in the Inventory listing, it can be appreciated from elevated views within Annandale and from the A701. This typology would affect the designed landscape if sited directly within the designated area but also if sited outside the designated area but visible in key views to it.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>While the backdrop provided by the open upper hill slopes of these foothills to the designed landscape is not noted in the Inventory listing, it can be appreciated from elevated views within Annandale and from the A701. This typology would affect the designed landscape if sited directly within the designated area but also if sited outside the designated area but visible in key views to it.</p> <p><b>Sensitivity rating: High-medium</b></p>



Upper hill slopes comprise broad areas of moorland and forest



The richly diverse designed landscape of Raehills on lower slopes within the Kinnel Valley.

## 22.6 Cairnharrow area (18) - description and summary of sensitivity

The Cairnharrow area of the Foothills comprises a distinctively rugged arc of hills with southern slopes falling steeply to the coast, knolly lower tops and defined higher peaks. Although the large scale and open character of these hills would be less sensitive to wind farm development, these hills are not extensive and this, together with their importance in providing a rugged open backdrop to settled coasts and valleys, severely limits opportunities for larger typologies. This landscape is highly visible from surrounding settled coasts and valleys.

Landscape sensitivity would be **High** in relation to the large typology and **High-medium** in relation to the medium typology.

The Fleet Valley NSA covers the eastern part of this landscape unit and the whole of this landscape unit is also included within the Galloway Hills RSA. In terms of landscape values the score is **High to High-medium** for the large and medium typologies.

### 22.6.1 Smaller typologies

Demand for smaller typologies (<50m high) is most likely to occur at the transition of these upland landscapes with the more settled adjacent Upland Fringe (16). These Upland Fringes predominantly have a small scale with an often complex rolling

landform, cut by narrow valleys, a diverse pattern of woodlands and small enclosed fields and a rich historic and archaeological character. The small-medium typology could dominate the scale of these adjacent fringes if sited on the steep slopes and smaller hill tops that backdrop these landscapes. It could also affect the wider setting of historic and archaeological features if poorly sited. Broader, less complex hill slopes away from key views to the main arc of the hills of the Cairnharrow unit would be less sensitive to this typology. The small typology (turbines <20m) would appear out of scale within much of this upland landscape but could relate to the scale of existing buildings. The sparseness of settlement would be likely to limit scope for cumulative landscape and visual effects to arise.

### 22.6.2 Cumulative issues

There are no operational or consented wind farms in this landscape and wind farms located in other landscape character types have a minimal influence. Sensitivity is low in relation to cumulative issues.

### 22.6.3 Key constraints

- A landmark arc of hills focussed on Cairnharrow but also including other high peaks and lower hill tops such as Mill Knock and Ben John which are important in providing an open rugged and scenic backdrop to Wigtown Bay, the Machars, coastal fringes and adjacent valleys.
- The rich archaeology with many relict features located both within these hills and within the adjacent Upland Fringe (16).
- The Fleet Valley NSA which includes the eastern hill slopes but also recognises the wider setting provided to the Fleet Valley by Cairnharrow Hill and the RSA which applies to the whole of this landscape unit.
- The high visibility of these hills from well-settled lowland coasts and valleys, including 'iconic' views from the A75, approaching the Fleet Valley, and crossing the Machars.
- Cumulative landscape and visual effects with existing transmitter masts sited on Cambret Hill.

### 22.6.4 Opportunities

- Slacker lower slopes away from key views to the main arc of hills and at the transition with the Upland Fringe where smaller typologies could potentially be located.

## 22.7 Guidance on development

There are no opportunities to accommodate the larger typologies (turbines >50m) in this landscape without significant adverse effects being likely to occur across a number of key sensitivity criteria.

The small-medium typology (turbines 20-50m) could potentially be sited within broader, less complex hill slopes away from key views to the main arc of hills and thus avoiding impacts on the sensitive steep, irregular slopes and rugged mass of Cairnharrow and associated hills which are important in forming the backdrop to the Fleet Valley NSA and well-settled coastal areas. These slopes lie to the north-west at the transition with the Upland Fringe (16). Turbines should be limited in number and should avoid intruding on more sensitive areas of complex landform, small scale field enclosures and archaeological features in this area. Turbines towards the lower height band of this typology would relate better to the scale of nearby settlement and would be likely to minimise effects on views from footpaths on Cairnsmore of Fleet.

The small typology (turbines <20m) should be sited to relate to (the few) existing buildings in this landscape but should avoid steep hill slopes and minor knolly hill tops which provide a setting to settlement and notable archaeological features in the adjoining Upland Fringe (16). Supplementary Guidance is provided on the siting and design of smaller turbines <50m.

## Character Type Foothills 18 - Cairnharrow

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<p><b>Scale and openness</b></p> <p>An arc of hills with Cairnharrow, the highest, rising to 456m. Large scale and with an open character although not an extensive range of hills. Scale decreases within valleys.</p>	<p>The large scale and open character of this landscape would be less sensitive to this development typology although it is not geographically extensive and substantial developments could dominate the area. Smaller hills would be dominated by turbines of this size.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>There is greater scope to locate single and small groups of this smaller typology to avoid dominating the horizontal scale of this upland area.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landform</b>		
<p>A complex outcrop of hills with defined peaks rising steeply and dramatically from the coastal edge. Slopes are often knolly, folded and deeply textured with only small areas of slacker ground occurring within some valleys.</p>	<p>This typology would impact on steep, knolly folded hill slopes and detract from defined peaks. While it could relate to slacker simpler landform, these areas are not extensive and turbines of this scale would have indirect impacts on adjacent more complex landform.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would have similar effects on the dramatic steep knolly slopes and defined peaks of these hills although there may be greater scope for this smaller typology to be sited on slacker slopes providing it does not indirectly impact on adjacent more complex landform.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Land cover and landmark features</b>		
<p>A mosaic of grass, bracken and heather and occasional scrubby woodland accentuates the hummocky landform and the rugged character of these hills, especially within the basin of Skyre burn and its fan of tributaries.</p>	<p>While the simple land-cover and absence of strong vegetation pattern reduces sensitivity to wind farm development, the integrity of grass, bracken and heather moorland and woodland would be affected by turbines and associated development.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The smaller numbers of turbines associated with this typology would reduce physical effects on land cover although disturbance could still occur.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Settlement and Archaeology</b>		
<p>This character type is very sparsely settled with few roads. A number of archaeological features occur within the higher valleys within these hills and at the transition with the <i>Upland Fringe</i> (16). These include stone circles, cairns and standing stones. Disused mine shafts and an old military road are also present. Telecom masts are prominently sited on top of Cambret Hill.</p>	<p>The sparsely settled nature of this landscape would enable this typology to be sited without dominating the scale of domestic buildings although this typology could affect the setting of archaeological features and would contribute to the visual clutter of masts on hill tops.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>The uninhabited nature of this landscape would enable this typology to be sited without dominating the scale of domestic buildings. There may be greater scope to locate this smaller typology to avoid impacts on archaeology and inter-visibility with existing masts on hill tops but the setting of archaeological sites remains sensitive.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Landscape context</b>		
<p><b>Cairnharrow Hill is important in forming a scenic backdrop to Wigtown Bay, the Fleet valley (4) and Upland Fringe (16). It is a landmark feature in views from the eastern Machars, the settled coastal areas and valley. The knolly diverse form of these hills (and particularly Cairnharrow) contrasts with the smoother, bolder landform of Cairnmore of Fleet and contributes to the richness of the wider landscape context where lowland landscapes are juxtaposed with open rugged uplands.</b></p>	<p>This typology would be highly visible from surrounding settled landscapes. It would significantly diminish the contrast and contribution these rugged hills make to wider scenic quality.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would also to be visible from surrounding settled landscapes. It could significantly diminish the contrast and contribution these rugged hills make to wider scenic quality although there may be very limited scope to locate turbines towards the lower height band in less prominent locations where effects on wider scenic quality could be minimised.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Perceptual qualities</b>		
<p><b>Although masts on Cambret Hill (62.5m), past mining and some forestry on the northern fringes of this unit reduce the sense of naturalness, Cairnharrow Hill in particular has some wildland qualities particularly given its close proximity to more well-settled and modified lowland landscapes. Archaeological features contribute a sense of timelessness to this landscape.</b></p>	<p>This typology would adversely affect the naturalness and sense of history associated with this landscape.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would adversely affect the naturalness and sense of history associated with this landscape</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Views and visibility</b>		
<p><b>This landscape is sparsely settled and with limited road access. It is however widely visible from the Fleet valley and coastal areas of Galloway. There are close views of Cairnharrow from the A75 where its southern slopes fall steeply to the coast and provide a distinctive backdrop and focus to views. These hills also form the backdrop and setting to the Fleet valley, Gatehouse of Fleet and Creetown and they are highly visible from Wigtown and the eastern Machars and Carrick coasts.</b></p> <p><b>Cairnharrow is highly visible from footpaths on Cairnsmore of Fleet and from elevated views from the surrounding area, for example from the Fleet NSA promoted viewpoint at Knocktinckle. The lower slopes and hill tops also form a backdrop and setting to the rich archaeology and settlement within the adjacent <i>Upland Fringe</i> (16).</b></p>	<p>This typology would be highly visible from the surrounding well-settled coasts and valleys of Galloway where it would significantly detract from the largely uncluttered rugged focus of Cairnharrow Hill and the associated arc of hills (which are more visible from the Fleet valley to the east). The existing transmitter mast (amongst others) on Cambret Hill is 62.5m high and appears large in relation to the scale of this hill and is visually prominent from the surrounding coast and valleys. This typology would greatly exacerbate this effect.</p> <p>The proximity of this landscape to settled coasts, hill fringes and valleys increases visual sensitivity.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would be highly visible from the surrounding well-settled coasts and valleys of Galloway where it would significantly detract from the largely uncluttered rugged focus of Cairnharrow Hill and the associated arc of hills (which are more visible from the Fleet valley to the east). The existing transmitter mast (amongst others) on Cambret Hill is 62.5m high and appears large in relation to the scale of this hill and is visually prominent from the surrounding coast and valleys. This typology would exacerbate this effect.</p> <p>The proximity of this landscape to settled coasts, hill fringes and valleys increases visual sensitivity.</p> <p><b>Sensitivity rating: High</b></p>
<b>Landscape values</b>		
<p><b>The south-eastern slopes of this landscape fall within the Fleet Valley NSA. The NSA is noted as being dominated by the mass of Cairnharrow Hill on its western side. The hills of Ben John and Mill Knock are also defined as ‘landmark hills’.</b></p> <p><b>This landscape unit is covered by the Galloway Hills RSA. Technical Paper 6 notes the strong relationship between hills and adjacent lowlands which... “give rise to sweeping and dramatic views”. The importance of Cairnharrow in providing the setting to the Fleet Valley, the Cree Estuary and the <i>Coastal Granite Uplands</i> (20).</b></p>	<p>This typology would adversely affect some of the special qualities of the NSA if sited within or on the arc of hills visible from the Fleet Valley.</p> <p>This typology would also adversely affect the setting these hills provide to the Fleet Valley, Cree Estuary and Cairnsmore of Fleet and the sweeping and dramatic views between hills and adjacent lowlands.</p> <p><b>Sensitivity rating: High to High-Medium</b></p>	<p>This typology would adversely affect some of the special qualities of the NSA if sited within or on the arc of hills visible from the Fleet Valley.</p> <p>This typology could also adversely affect the setting these hills provide to the Fleet Valley, Cree Estuary and Cairnsmore of Fleet and the sweeping and dramatic views between hills and adjacent lowlands.</p> <p><b>Sensitivity rating: High to High-Medium</b></p>





The landmark hill of Cairnharrow seen across Wigtown Bay



This group of hills contributes to the rich diversity of the coast



Telecom masts are prominent – much larger wind turbines would dominate the scale of these hills



Rugged hills provide an important backdrop to the Fleet Valley NSA

## 22.8 Dalmacallan area (18) - description and summary of sensitivity

The Dalmacallan foothills form a gently undulating basin with occasional more pronounced and isolated small hills. This landscape has a medium to large scale and a simple land cover of rough grassland, coniferous woodland and some enclosed pasture. Loch Urr forms a focus and is fringed by some more diverse wetland. It is a sparsely settled landscape with a few widely dispersed hill farms. These foothills lie adjacent to settled lowland landscapes where they are important in providing a backdrop of often rugged open hills to these more patterned, managed and smaller scale landscapes.

The presence of landmark hills with a more pronounced landform, Loch Urr, which is a focus within the more gently undulating and lower-lying basin within the interior of these foothills and cumulative effects with other wind farm development all increase sensitivity to larger typologies. Landscape sensitivity is **High** for the large typology and High-medium for the medium typology.

Parts of these foothills are covered by RSA designations with landscape values consequently ranging from **High-medium** to **Low** for larger typologies.

### 22.8.1 Smaller typologies

Demand for smaller typologies is likely to be limited in this sparsely settled area. The small/medium typology (turbines 20-50m) would have similar adverse effects on landmark hills and ridges which form a backdrop to adjacent settled landscapes although opportunity exists to site turbines on lower hill slopes, on the edge of broader basins and on lower hill tops. The small typology should be closely associated with existing settlement to better fit with their scale.

### 22.8.2 Cumulative issues

There is no wind farm development located in this landscape. The under-construction Blackcraig wind farm sited in the Stroan area of the Foothills with Forest (18a) character type, will significantly affect views and influence character in the Dalmacallan Foothills. This development is sited on a prominent ridge of hills with turbines located on Moneybuie Fell and Fell End likely to be particularly intrusive in views around Loch Urr. The consented Mochrum Fell wind farm may also be visible from this landscape although it would be seen at some distance reducing its influence. Further wind farm development located in this landscape and adjacent foothills could cumulatively affect the setting of key features including Loch Urr and the landmark hills.

Smaller typologies (<50m) sited in small clusters in less visually prominent parts of these foothills would be more likely to minimise potential cumulative effects.

### 22.8.3 Key constraints

- The open rugged backdrop and setting provided by the landmark hills of these foothills to adjacent settled valleys and lowland areas. These hills include Bishop Forest Hill, Turner's Monument, Larglanglee Hill, Big Morton Hill and Dargarroch Hill.
- Loch Urr which forms a focus within the simple shallow basin in the interior of these foothills.
- The sense of openness, naturalness and seclusion that can be experienced in this upland landscape, the relative ease of accessibility from more settled areas and their contrast with more densely forested foothills in the surrounding area.
- Archaeological features including remnant field patterns and settlement in parts of this landscape, especially around Loch Urr and Glenesslin. The Inventory listed designed landscape of Brooklands lies on the southern edge of the foothills. The rocky heathery slopes of Bishop Forest Hill, Glenkiln Reservoir and the open sculptural ridge of Big Morton Hill which are recognised as special qualities in the RSA designation covering parts of these foothills.

### 22.8.4 Opportunities

- The medium to large scale of this landscape, its generally simple land-cover and sparse settlement.
- The higher perimeter hills which could provide containment for smaller typologies located within the lower lying 'interior' plateau of these foothills.

## 22.9 Guidance on development

There is no scope for the large typology (turbines 80-150m) to be sited without incurring significant impacts on a number of key sensitivity criteria including cumulative impacts with the under-construction Blackcraig wind farm.

There may be some very limited opportunities for the medium typology (turbines 50-80m) provided these were sited to avoid close inter-visibility with the under-construction Blackcraig wind farm. This typology, which is more likely to comprise single and small groups of turbines, should be located well away from the landmark hills and Loch Urr and from settlement, archaeological features, notably intact field walls and areas with a more diverse natural vegetation pattern. Turbines should be sited to avoid the more pronounced hills and prominent skylines of these foothills seen from the Drumlin Pastures (13), the Upland Glen (10) of the Castlefairn and Dalwhat, the Intimate Pastoral Valley (5) of the Cairn Water and Upland Fringe (16).

The small-medium and small typology (turbines <50m) could be accommodated if located to take advantage of a backdrop of rising ground and avoid key containing ridges or landmark hills and impact upon the setting of archaeological features. The small typology could additionally be located to relate to existing buildings. Cumulative effects could potentially arise between medium and small-medium typologies and the number of developments will need to be closely monitored. Supplementary Guidance is provided on the siting and design of turbines <50m high.

## Character Type 18 Foothills - Dalmacallan

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>		
<p>A medium to large scale elevated and open, undulating plateau and loch basin with Loch Urr at its core and with a number of distinct hills generally rising to between 340 to 417m.</p>	<p>Although this typology could relate to the broader scale of the more expansive plateau areas it would dominate the vertical scale of landmark hills.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>The smaller turbines of this typology could also relate to the broader scale of the more expansive plateau areas and lower hill slopes. Turbines towards the lower height band of this typology would have less of an effect on the appreciation of the vertical scale of landmark hills.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landform</b>		
<p>This area generally forms an undulating upland plateau of smoothly rounded hills interspersed with shallow basins containing lochs and punctuated with more distinctive, often craggy-topped or deeply folded hills such as Bishop Forest Hill (392m), Castramon Hill (358m) and Big Morton Hill (417m).</p>	<p>Turbines sited on or close to landmark hills would detract from their distinctive form. More gentle hill slopes (some of these forested) or rounded less distinct lower hills and gently undulating broader basins would be less sensitive.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Turbines sited on or close to landmark hills would detract from their distinctive form. More gentle hill slopes (some of these forested) or rounded less distinct lower hills and gently undulating broader basins would be less sensitive.</p> <p><b>Sensitivity rating Medium</b></p>
<b>Land cover and landmark features</b>		
<p>Land cover is generally simple with broad areas of grass moorland interspersed with coniferous plantations but with some areas of pasture enclosed by stone walls within valleys and basins. Clumps of broadleaved trees are sited around farms and in valleys and occasional patchy scrub and wetlands pattern rougher pasture. The rocky slopes of Bishop Forest Hill are patterned with heather moorland and scrub. Loch Urr and Glenkiln Reservoir form landmark features in this landscape.</p>	<p>Although the general absence of strong pattern reduces sensitivity to this typology, the openness of this upland landscape is an unusual feature in a context where adjacent foothills are extensively forested. This typology would detract from the landmark features of Loch Urr and Glenkiln Reservoirs if sited within the basins they sit in. Distinctive walled field enclosures and areas of more diverse native scrub, woodland and wetlands would also be sensitive to this development.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Although the general absence of strong pattern reduces sensitivity to this typology, the openness of this landscape is an unusual feature in a context where adjacent foothills are extensively forested- this smaller typology could have less of an effect on openness. This typology could also detract from the landmark features of Loch Urr and Glenkiln Reservoirs although there may be greater scope to site lower turbines to minimise impact. Distinctive walled field enclosures and areas of more diverse native scrub, woodland and wetlands would be sensitive to this development.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Settlement and Archaeology</b>		
<p>This landscape is sparsely settled with isolated farms located within valleys and the Loch Urr basin. There is evidence of past settlement in remnant archaeology and distinctive walled field enclosures occur in places. Glenkiln Reservoir and Bishop Forest Hill forms the setting for sculpture.</p>	<p>There would be very limited scope to locate this typology so as to avoid dominating the scale and setting of buildings and archaeology which although widely dispersed are highly visible features within this open landscape.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>There would be increased scope to locate smaller turbines within this typology so as to avoid dominating the scale and setting of buildings but the setting of archaeological sites remains sensitive.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landscape context</b>		
<p>These foothills are located within the heart of the settled lowlands of Dumfriesshire and key hills and ridges are important in forming landmarks from surrounding valleys, for example Bishop Forest Hill which provides a backdrop to the valley of the Cairn Water (5) and widely seen across the <i>Drumlin Pastures</i> (13) or Big Morton Hill seen at the head of the three glens above Moniave.</p>	<p>Ridges which overlook adjacent valley types and hills which frame the heads of glens, for example Big Morton Hill, and form landmark features are key sensitivities. This typology would be likely to be visible on the skyline of these landmark hills and higher ground seen from adjacent settled valleys and lowlands.</p> <p><b>Sensitivity rating: High</b></p>	<p>Ridges which overlook adjacent valley types and hills which frame the heads of glens, for example Big Morton Hill, and form landmark features are key sensitivities. There may however be some limited scope to site this typology to minimise the effect on the wider landscape context due to the more subdued landscape set back from landmark perimeter hills.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Perceptual qualities</b>		
<p>These foothills, which are sparsely settled and accessed by a few narrow single track roads, can feel secluded. While a degree of naturalness can presently be experienced within the expansive open moorland and loch basins the under-construction Blackcraig wind farm will be likely to diminish this.</p>	<p>This typology would diminish the remaining sense of seclusion and naturalness that can be experienced in this landscape as tracks and built infrastructure were introduced.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This smaller typology, which is more likely to comprise single and small groups of turbines, could be sited to minimise effects on perceptual qualities - turbines towards the lower height band would further reduce effects.</p> <p><b>Sensitivity rating: Medium-low</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<p><b>Views and visibility</b></p> <p>This is a sparsely settled landscape with narrow minor roads providing access across its interior. Footpaths are concentrated in the Glenkiln area and while many appear to offer fairly contained views there are more elevated paths to hills such as Bishop Forest Hill giving open views. Loch Urr is also a focus from the minor roads which provide access to this area.</p> <p>In terms of views to this landscape, the interior of these foothills is visually contained by perimeter hills and ridges, for example the undulating ridge of small hills north of the A75 centred on Larghlee Hill. However, many of these perimeter hills form highly visible foci in views from the surrounding well-settled lowland valleys (4+5) and <i>Drumlin Pastures</i> (13) and <i>Upland Glens</i> (10).</p>	<p>This typology would be likely to be visible from minor roads, footpaths and settlement sited within the generally open landscape of these foothills. The height of these large turbines limits scope to minimise visual impact on settlement in these foothills and in adjoining valleys.</p> <p>Turbines sited on more elevated ridges and higher hills within these foothills would be highly visible from the surrounding well-settled lowlands and valleys.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would be likely to be visible from minor roads, footpaths and settlement sited within the generally open landscape of these foothills although there may be opportunities to site smaller turbines within lower, less accessible areas to limit visual intrusion.</p> <p>Turbines perched along the skylines on the edge of valley sides or at the heads of glens would be visually dominant although, again, there are greater opportunities to site this typology away from key focal hills and sensitive skylines to minimise impact on views from surrounding settled areas.</p> <p><b>Sensitivity rating: High-medium</b></p>
<p><b>Landscape values</b></p> <p>The Terregles Ridge RSA covers a small part of this unit encompassing Bishop Forest Hill and the Glenkiln Reservoir. Technical Paper 6 describes the attractive steep slopes, rocky heather moorland and wild character of these foothills and their juxtaposition with varied valley landscapes. The Thornhill Uplands RSA covers a small part of this unit in the north around Big Morton Hill. The open sculptural ridges of the foothill landscapes are noted in Technical Paper 6.</p> <p>The network of single track roads are enjoyed for quiet recreation, Loch Urr is a focus for scenic driving and cycle touring, and there are some notable elevated footpaths with panoramic views, such as Bishops Forest Hill and to Turners Monument.</p>	<p>This typology would adversely affect the character of Bishop Forest Hill and Glenkiln Reservoir if sited within or close-by the RSA.</p> <p>The setting provided by the open sculptural ridges of these foothills to the Upland Glens of Dalwhat, Castlefairn and Moniaive would be adversely affected by this typology located within the RSA.</p> <p><b>Sensitivity rating: High-medium to Low</b></p>	<p>This typology would adversely affect the character of Bishop Forest Hill and Glenkiln Reservoir if sited within or close-by the RSA.</p> <p>The setting provided by the open sculptural ridges of these foothills to the Upland Glens of Dalwhat, Castlefairn and Moniaive would be adversely affected by this typology located within the RSA.</p> <p><b>Sensitivity rating: High-medium to Low</b></p>



Semi-improved grassland is interspersed with wetland and small coniferous plantations



Distinctive hills punctuate the gently undulating plateau and often form landmark features seen from surrounding landscapes



Loch Urr forms a key focus within the wide open upland plateau of these foothills



These foothills form the backdrop to striking views of the 'Three Glens' above Moniaive

## 22.10 Fleet area (18) - description and summary of sensitivity

The strongly contained upland valley of this landscape unit has a diverse, often rugged landscape and an open and natural quality, which contrasts with adjacent extensively forested foothills. It is sparsely settled but highly visible from the Fleet valley where the knolly, south-western hills of these foothills form an enclosing edge and backdrop.

The limited extent and small-medium scale of this landscape, the often complex landform and the presence of well-defined focal hills, which provide the backdrop to the highly scenic Fleet Valley, increases sensitivity. There would be a **High** sensitivity to both the large and medium typologies (turbines >50m)

The Fleet Valley NSA applies to a small part of this landscape while the entire unit is covered by a RSA designation and, results in a landscape values score of **High to High-medium** for both the large and medium typologies.

### 22.10.1 Smaller typologies

Demand for smaller typologies (turbines <50m) is likely to be limited due to the sparsely settled nature of this landscape. The small-medium typology (20-50m) would have similar effects to larger typologies on more complex landform and on the backdrop to the Fleet Valley and effects on the NSA. This typology could also dominate the scale of this upland valley and adversely affect the openness and wildland character of this landscape. The integrity of the ASA and wider setting of historic and archaeological features could also be affected. The small typology (turbines <20m) would appear out of scale with upper slopes and hill tops and could also detract from the ruggedness of the larger containing hills. They could however relate better to the scale of existing buildings. The sparseness of settlement would be likely to limit scope for cumulative landscape and visual effects to arise.

### 22.10.2 Cumulative issues

There are no operational or consented wind farms sited in this landscape and wind farm development sited in other landscapes has minimal influence on character and views. Sensitivity in relation to cumulative issues is low.

### 22.10.3 Key constraints

- The rugged and open backdrop provided by these foothills to the small scale, highly patterned Fleet Valley and which contribute to the scenic diversity of the NSA.
- The rich archaeology of this upland valley recognised in the ASA designation.
- The openness of this valley which contrasts with the densely forested foothills nearby.
- A complex landform of the often craggy and well-defined hills which contain this valley.
- The limited extent of this landscape where larger development typologies would be likely to dominate the scale of containing hills and the relatively narrow valley.

### 22.10.4 Opportunities

- There are opportunities to accommodate small typologies (<30m high) closely associated with farms.



## 22.11 Guidance on development

There are no opportunities to accommodate the large, medium and small-medium typologies (turbines >20m) because of the significant impacts likely to occur across a wide spectrum of sensitivity criteria.

The small typology (turbines <20m) could be accommodated on lower slopes where turbines could be visually associated with the (the few) buildings in this landscape. They should be sited away from the distinctive woodlands which shelter farm buildings and from archaeological features. They could relate to slightly broader and flattened knolls often occurring close-by farm buildings or natural terraces on lower slopes above the flat valley floor. Turbines should not intrude on views from the promoted NSA Knocktinckle viewpoint and should be sited to avoid sensitive skylines seen from the Fleet Valley and elevated viewpoints above Gatehouse of Fleet. Supplementary Guidance is provided on the siting and design of smaller turbines <50m high.

## Character Type 18 Foothills - Fleet

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>		
<p>This landscape unit is fairly limited in extent, comprising an upland valley edged by low hills rising to between 250-291m. Although the valley has an open character, it is strongly contained and this gives it a small-medium scale overall.</p>	<p>This typology would dominate the relatively low relief of the hills that contain this valley (there is only about a 100m differential between the valley floor and the hill tops). Multiple turbines of this size would also 'fill' the relatively narrow extent of this valley.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would also appear very large in relation to the low hills that contain this valley and the narrow extent of the valley floor.</p> <p><b>Sensitivity rating: High</b></p>
<b>Landform</b>		
<p>The floor of the valley is relatively smooth and level in places although lower slopes are increasingly hummocky. A mix of smoother and more knolly hills contain the valley - all have well defined and often craggy tops. The hills to the west are particularly rugged and include Castramont and Fell of Laghead which form a 'pinch-point' in the valley.</p>	<p>There are no flatter or less complex broader hills able to accommodate this typology. Turbines of this size would significantly detract from the generally rugged character of these uplands.</p> <p><b>Sensitivity rating: High</b></p>	<p>While there may be slightly increased scope to locate this smaller typology, which is also more likely to comprise single or small numbers of turbines, on smoother hill slopes, it would also conflict with the generally rugged character of these uplands.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Land cover and landmark features</b>		
<p>Improved pastures enclosed by stone dykes extend across the valley floor and lower hill slopes. Patchy heather, grass and bracken cover hills. Small woodlands are associated with farms and are increasingly diverse on the smaller knolly hills that form the edge of the Fleet valley.</p>	<p>This typology would dominate the smaller scale pattern of woodlands and fields at the transition with the Fleet valley although it could relate to simpler land cover pattern in the upper valley.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology would dominate the smaller scale pattern of woodlands and fields at the transition with the Fleet valley although it could relate to simpler land cover pattern in the upper valley.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Settlement and Archaeology</b>		
<p>This landscape is sparsely settled with dispersed farms elevated just above the valley floor and in the lower hills on the edge of the Fleet valley. A narrow minor road is aligned through the lower part of the valley. The area is rich in archaeology with an ASA covering much of the area.</p>	<p>This typology could physically affect archaeology and/or the integrity of the ASA. It would also overwhelm the scale of farmsteads which although dispersed are readily visible as small point features in this landscape.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could physically affect archaeology and/or the integrity of the ASA. It would also overwhelm the scale of farmsteads which although dispersed are readily visible as small point features in this landscape.</p> <p><b>Sensitivity rating: High</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Landscape context</b>		
<p>The rugged western hills of this unit are important in providing the backdrop to the highly scenic Fleet Valley and the setting to Gatehouse of Fleet. This open and relatively unmodified valley is also important in the contrast it provides to surrounding extensively forested <i>Foothills with Forest</i> (18a).</p>	<p>Turbines would be likely to be located on hill tops and as such would be highly visible from the Fleet valley. This typology would dominate the limited extent of this landscape and thus diminish its openness and contrast with adjacent forested foothills.</p> <p><b>Sensitivity rating: High</b></p>	<p>Turbines would be likely to be located on hill tops and as such would be highly visible from the Fleet valley. This typology would dominate the limited extent of this landscape and thus diminish its openness and contrast with adjacent forested foothills.</p> <p><b>Sensitivity rating: High</b></p>
<b>Perceptual qualities</b>		
<p>A distinct sense of naturalness can be experienced within this upland valley, heightened by the context of more modified densely forested foothills. It can feel secluded due to its strong containment by hills.</p>	<p>This typology would adversely affect the sense of seclusion and naturalness associated with this landscape.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would adversely affect the sense of seclusion and naturalness associated with this landscape.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Views and visibility</b>		
<p>This upland landscape is sparsely settled and accessed by a narrow minor road in the lower reaches of the valley. A track provides access through the upper valley connecting to a dismantled railway in <i>Cullendoch</i> area of (18a) promoted as a cycle route. There is sense of surprise experienced when entering this open upland valley from the densely forested <i>Laurieston Foothills</i> (18a) to the east. The minor road is used by classic car rallies.</p> <p>Although in general this landscape is not highly visible from key transport routes and more densely settled areas, the western hills form the edge to the Fleet Valley and the setting to Gatehouse of Fleet. The promoted viewpoint of Knocktinckle in this landscape unit focuses on the Fleet Valley NSA. Airie Hill is visible from the Loch Ken area.</p>	<p>This typology would be highly visible from settlement, minor roads and upland tracks within this landscape unit.</p> <p>Turbines of this height would be likely to be sited on hills and would therefore be highly visible on the skyline in views from the Fleet Valley and potentially deflect from the focus of Gatehouse of Fleet seen in elevated views from monuments and promoted viewpoints to the west. Turbines of this size sited on hills within this area would also be likely to be visible from the east, including from viewpoints such as the monument at Barstobrick.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would be highly visible from settlement, minor roads and upland tracks within this landscape unit.</p> <p>Turbines of this height would also be likely to be sited on hills and would therefore be highly visible on the skyline in views from the Fleet Valley and potentially deflect from the focus and setting of Gatehouse of Fleet seen in elevated views from monuments and promoted viewpoints to the west. Turbines of this size sited on hills within this area would also be likely to be visible from the east, including from viewpoints such as the monument at Barstobrick.</p> <p><b>Sensitivity rating: High</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<p><b>Landscape values</b></p> <p><b>The western edge of this landscape unit fall within the Fleet Valley NSA. The enclosure given by the ridge of small hills to the east of the Fleet valley which culminates in Barr Hill south of Gatehouse of Fleet is noted as a special quality of the NSA.</b></p> <p><b>All of this landscape also falls within the Galloway Hills RSA. Technical Paper 6 notes the setting provided by the foothills landscapes to the Fleet Valley and/or the attractive upland character they have in their own right.</b></p>	<p>This typology would be likely to have a significant effect on the Fleet Valley NSA.</p> <p>It would also significantly detract from the attractive upland character of this valley and the wider setting to the Fleet Valley in relation to the special qualities of the RSA.</p> <p><b>Sensitivity rating: High to High-medium</b></p>	<p>This typology would be likely to have a significant effect on the Fleet Valley NSA.</p> <p>It would also significantly detract from the attractive upland character of this valley and the wider setting to the Fleet Valley in relation to the special qualities of the RSA.</p> <p><b>Sensitivity rating: High to High-medium</b></p>



The Fleet foothills form part of the setting to Gatehouse of Fleet



Small, often craggy, hills contain an upland valley



A sparsely settled landscape with small farms sited at the foot of hills and sheltered by woodland



The openness of this landscape contrasts with the densely forested foothills surrounding it

## 22.12 Keir/Tynron (18) - description and summary of sensitivity

The Keir Hills and the narrow bands of foothills lying between the Scar, Shinnel and Dalwhat glens have an often irregular landform with well-defined peaks. They provide the backdrop to these glens but also to the Cairn valley and middle Nithsdale, where their open rugged slopes are scenically juxtaposed with these more intricately patterned and settled landscapes.

The low relief and complex landform of these foothills are key factors increasing sensitivity to larger turbines. The proximity of these foothills to well-settled glens, valleys and dales also increases visual sensitivity from surrounding settlement, roads and footpaths within the hills themselves. Sensitivity to both the large and medium typologies (turbines >50m) is **High**.

The majority of the Keir/Tynron units are covered by the Thornhill Uplands RSA designation (the Green Hill area in the Keir unit lies just outside). An Inventory listed designed landscape also lies close to the Keir Hills. There would be a **High-medium** sensitivity in terms of landscape values for both the large and medium typologies.

### 22.12.1 Smaller typologies

Demand for smaller typologies (<50m) is likely to be limited due to the sparsely settled nature of these foothills. While small-medium typologies (20-50m) would fit better than larger typologies with the scale of these foothills, they would have similar adverse effects on landmark hills, particularly complex landform and on the setting of archaeological features, designed landscapes and settlement as larger typologies. They would also be likely to be visually prominent, especially if sited on open hill tops and upper slopes, as can be seen by the existing telecommunication mast on the Keir Hills which although approximately 40m high appears large in relation to the scale of the hills. The small typology (<20m) would have a better scale relationship with farmland and buildings on lower slopes although more complex landform and the setting of archaeological features remain sensitive to all scales of development.

### 22.12.2 Cumulative issues

The northern extent of this character type lies close to the operational Wether Hill wind farm located within the Southern Uplands with Forest (19a) character type. The under-construction Whiteside Hill wind farm and the consented Twenty-Shilling Hill wind farm located in the Nithsdale area of the Southern Uplands (19) are also likely to be visible from upper slopes and summits within the Keir and Tynron hills. Large turbines sited on these hills could contribute to cumulative effects experienced from adjacent settled glens and valley.

### 22.12.3 Key constraints

- The irregular landform and occasional distinctive individual peaks, such as Tynron Doon.
- The setting and contrast these open rugged hills provide to the Upland Glens (10), Intimate Pastoral Valleys (5) and Dales (7) and to the small settlements of Moniaive and Tynron.
- Views from hills with popular walking routes; notably Tynron Doon, Auchengibbert, and the Keir Hills.
- Archaeologically rich with a number of landmark features including Tynron Doon Iron Age fort, and the extended policies of Maxwellton House and its Inventory listed designed landscape.
- A strong sense of naturalness and seclusion, particularly valuable in a context where these foothills lie close to well-settled valleys and dales.
- The RSA designation, which covers the whole of these foothill landscapes in recognition of the value of their open sculptural ridges and scenic juxtaposition with the upland glens.

### 22.12.4 Opportunities

- There may be some limited opportunities to accommodate the small typology (turbines <30m) on less sensitive lower hill slopes.

## 22.13 Guidance on development

There are no opportunities to accommodate the larger typologies due to the significant adverse impacts likely to occur across a wide spectrum of sensitivity criteria.

There are very limited opportunities for the small-medium and small typology (turbines <50m) due to the constraints listed above. This typology should avoid the open rugged upper hill slopes and summits of these notably shapely foothills. There may be some scope to accommodate this typology on slacker lower slopes and lower tops at the transition with the valleys, dales and glens. Careful consideration should however be given to the size of these turbines relative to the built and natural features in the adjacent dales, valleys and glens with smaller turbines more likely to be able to be successfully accommodated.

The small scale and scenic value of these landscapes make them sensitive to extended and multiple developments in surrounding upland landscapes which seen in combination can easily dominate skylines, or successively, surround these foothills.

All turbines should be sited away from prominent ridge lines seen from the adjacent glens and valleys. They should also be sited to avoid intrusion on particularly distinctive buildings and designed landscapes, archaeological features and the setting of settlements. Supplementary Guidance is provided on the siting and design of smaller wind turbines below 50m high.

## Character Type 18 Foothills - Keir And Tynron

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>		
<p>A small group of well-defined hills (the two units separated by the narrow valley of the Shinnel Water) with Auchengibbert Hill rising to 372m. These hills are open and of medium scale.</p>	<p>This typology would overwhelm the scale of these hills, appearing very large in relation to the relatively low height of the hills and dominating their limited geographic extent.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would also dominate the scale and limited geographic extent of these hills.</p> <p><b>Sensitivity rating: High</b></p>
<b>Landform</b>		
<p>The Keir Hills form a broader topped outcrop but with steep and sometime irregular slopes with knolly lower tops. Two bands of small, shapely, rugged foothills separate the glens of the Dalwhat and the Shinnel Water; one of these terminated by the distinctive sheer-sided cone of Tynron Doon.</p>	<p>Steep hill slopes would be physically disrupted by infrastructure and construction of access tracks. This typology would detract from the irregular landform and distinctive rugged peaks of these foothills.</p> <p><b>Sensitivity rating: High</b></p>	<p>Steep hill slopes would be physically disrupted by infrastructure and construction of access tracks. This typology would detract from the irregular landform and distinctive rugged peaks of these foothills.</p> <p><b>Sensitivity rating: High</b></p>
<b>Land cover and landmark features</b>		
<p>Rough grassland, patchy heather and bracken and occasional angular, coniferous plantations cover upper hill slopes. The policies of Maxwellton House extend on the lower slopes of the Keir Hills.</p>	<p>The predominantly simple land cover of these foothills would be less sensitive to wind farm development although this typology would detract from more diverse policies on lower slopes.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The predominantly simple land cover of these foothills would be less sensitive to wind farm development although this typology would detract from more diverse policies on lower slopes.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Settlement and Archaeology</b>		
<p>Sparsely settled with dispersed farms associated with the narrow valleys which cut into lower hill slopes or at the foot of the hills. Rich in archaeology with, for example, the striking Iron Age fort on Tynron Doon, the Preaching Stone on the Keir Hills and numerous cairns and forts sited within these foothills. Maxwellton House sits at the foot of the south-western slopes of the Keir Hills.</p>	<p>Although sparsely settled overall, the narrowness of these bands of hills and their proximity to well-settled glens and valleys, with settlement occasionally extending up lower hill slopes, increases opportunity for adverse comparisons of scale between large turbines and small buildings in the landscape. This typology could also adversely affect the setting of archaeological and historic features.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Although sparsely settled overall, the narrowness of these bands of hills and their proximity to well-settled glens and valleys, with settlement occasionally extending up lower hill slopes, increases opportunity for adverse comparisons of scale between large turbines and small buildings in the landscape. This typology could also adversely affect the setting of archaeological and historic features.</p> <p><b>Sensitivity rating: High-medium</b></p>



Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Landscape context</b>		
<p>These hills lie adjacent to small scale settled <i>Upland Glens (10)</i>, <i>Intimate Pastoral Valleys (5)</i> and <i>Dales (7)</i> where the rugged and open upland backdrop they provide contributes to the rich scenic diversity of the wider landscape.</p>	<p>Wind farm development would significantly impact on the setting of the small settlements of Tynron and Moniaive, the designed landscape and house at Maxwellton and would adversely affect the rugged backdrop and contrast these hills provide to the small scale diverse character of the upland glens, valleys and Nithsdale.</p> <p><b>Sensitivity rating: High</b></p>	<p>Wind farm development would significantly impact on the setting of the small settlement of Tynron, the designed landscape and house at Maxwellton and would adversely affect the rugged backdrop and contrast these hills provide to the small scale diverse character of the upland glens, valleys and Nithsdale.</p> <p><b>Sensitivity rating: High</b></p>
<b>Perceptual qualities</b>		
<p>The open rugged character of these hills gives a sense of naturalness and they can feel secluded despite being close to settled and managed valleys and glens. The rich historical and archaeological dimension to these foothills can also heighten the sense of timelessness.</p>	<p>This typology would adversely affect the sense of naturalness and seclusion associated with these foothills.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would adversely affect the sense of naturalness and seclusion associated with these foothills</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Views and visibility</b>		
<p>These foothills are sparsely settled. Footpaths and tracks provide access to hill tops, such as Auchengibbert and Tynron Doon, which have dramatic panoramic views. A narrow minor road crosses the band of foothills between Tynron and Moniaive providing spectacular views over the 'three glens' and a close experience of these uplands.</p> <p>These hills are limited in extent and visible all round and in close proximity from settlement and roads in Nithsdale, the Cairn valley and the glens of the Shinnel and Scar Water.</p>	<p>The narrowness of these bands of foothills and their proximity to well-settled dales, valleys and glens increases sensitivity. This typology would be highly visible from roads, footpaths and settlement where it would interrupt presently open skylines.</p> <p><b>Sensitivity rating: High</b></p>	<p>The narrowness of these bands of foothills and their proximity to well-settled dales, valleys and glens increases sensitivity. This typology would be highly visible from roads, footpaths and settlement where it would be likely to interrupt presently open skylines.</p> <p><b>Sensitivity rating: High</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<p><b>Landscape values</b></p> <p><b>These foothills lie within the Thornhill Uplands RSA and are noted as having strong sculptural relief, being scenically juxtaposed with deep steep-sided glens and forming a contrast to main valleys. Maxwellton House is listed in the Inventory of Historic Gardens and Designed Landscapes.</b></p> <p><b>The popular hill walks to Tynron Doon, Auchengibbert and the Keir Hills have dramatic long range views taking in local valley landscapes, and wider Lowther and Nithsdale views.</b></p>	<p>This typology would impact on the special qualities of the RSA by adversely affecting the contrast these hills provide to glens and main valleys. This typology sited on the south-western slopes or summits of the Keir Hills would be likely to adversely affect the wider landscape setting to the designed landscape of Maxwellton House.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would impact on the special qualities of the RSA by adversely affecting the contrast these hills provide to glens and main valleys. This typology sited on the south-western slopes or summits of the Keir Hills would be likely to adversely affect the wider landscape setting to the designed landscape of Maxwellton House.</p> <p><b>Sensitivity rating: High-medium</b></p>



A narrow band of foothills dividing the upland glens of the Scar, Shinnel and Dalwhat



The Keir hills are patterned with coniferous plantations and, on lower slopes, the policies of Maxwellton House



The distinctive conical form of Tynron Doon is a landmark feature seen from Nithsdale



The rugged irregular form of these small foothills contrast with the surrounding settled glens

## 22.14 Nithsdale area (18) - Description and summary of sensitivity

The Nithsdale Foothills have a complex landform of small hills cut by narrow valleys. An intricate pattern of policy woodlands and small fields, interspersed with scrub and species-rich grassland on steep hill slopes, gives a diverse land cover while dispersed farms and houses, set within valleys and on lower hill slopes, have a distinctive 'estate' style. Although much of this landscape is hidden from view from adjacent areas, outer hill tops and ridges are highly visible from the adjacent Middle and Lower Dales of the Nith (7+9) and the Upland Glen (10) of the Scar Water.

Landscape sensitivity would be **High** for the large and medium typologies (turbines >50m), **High-medium** for the small-medium typology (turbines 20-50m) and **Medium-low** for the small typology (turbines <20m).

In terms of landscape values the score is **High-medium** for the large, medium and small-medium typologies with sensitivity increasing where the RSA designation coincides with the Inventory listed designed landscape of Drumlanrig Castle, which is also a key recreational asset and visitor attraction in the Region, with way-marked routes and hosting events. Landscape values would be reduced to **Medium** for the small typology.

### 22.14.1 Cumulative issues

Cumulative impacts could arise where the operational Dalswinton wind farm was seen in conjunction with any larger scale wind farm typologies sited in this character type. The under-construction and consented wind farms of Whiteside and Twenty-shilling Hill located within the adjacent Southern Uplands Type (19) may be visible from elevated parts of this landscape and could be inter-visible with any development located in these Foothills seen from the Scar Glen or from elevated views from the Lowther Hills.

### 22.14.2 Key constraints

- The complex landform of rolling hills cut by winding, narrow incised valleys.
- The predominantly intimate to small-scale of this landscape where landform and dense woodland cover combine to provide strong containment.
- A diverse land cover pattern of policy woodlands, scrub and small pastures enclosed by walls and hedges where the balance of open space to woodland is finely tuned.
- The settled and strong archaeological character of these foothills and the rich architectural integrity of estate influenced buildings.
- The designed landscape of Drumlanrig Castle which covers part of this landscape unit and the RSA designation.

- While much of this landscape is hidden from view from adjacent areas, hill tops and ridges are visible from nearby Nithsdale (7+9) and the Upland Glen (10) of the Scar Water.

### 22.14.3 Opportunities

- Broader hill slopes at the transition with the Southern Uplands Type (19) with a more simple landform and open character where smaller turbines could potentially be sited.

## 22.15 Guidance on development

There is no scope for siting larger typologies (turbines >50m) in the Nithsdale Foothills without incurring significant impacts across a range of key sensitivity criteria.

While the small-medium typology (turbines 20-50m) could fit better with the scale and less complex landform of broader hill slopes at the transition with the Southern Uplands (19) in the north-west of this character type, turbines towards the higher height band of this typology would be likely to conflict with the scale of existing buildings and would be visually prominent in this small scale and strongly contained landscape. Potential cumulative landscape and visual effects with under-construction and consented wind farms within the Nithsdale area of the Southern Uplands (19) are a key constraint however and should be carefully considered.

The small typology (turbines <20m) would fit better with the reduced scale of more settled lower slopes and valleys. Turbines should be sited to avoid key containing ridges and to utilise the backdrop provided by hill slopes in order to minimise visual intrusion on skylines.

The small scale and scenic value of these foothills make them sensitive to extended and multiple developments in surrounding uplands which could easily dominate skylines and detract from their diverse character.

All turbines should also be sited to avoid more intricate patterns of policy woodlands and impact on notable buildings and archaeology. It will be important to select well designed small turbines in order to avoid adverse effects on the character of existing buildings and cumulative visual effects. Overhead lines should be avoided as these could increase visual clutter in this small scale, distinctively rural landscape. Supplementary Guidance is provided on the siting and design of smaller turbines under 50m high.

**Character Type 18 Foothills - Nithsdale**

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Scale</b>			
<p>The Nithsdale Foothills range from 170m to 250m and comprise small scale complex rounded hills and ridges which limit openness and provide strong containment. Extensive woodland cover accentuates this containment and creates an intimate scale within valley floors. Scale increases slightly and the landscape becomes more open on the ridge of small hills which form the western boundary of this unit and at the transition with the <i>Southern Uplands</i> (19) to the north-west.</p>	<p>Turbines of this height would overwhelm the scale of small hills and narrow incised valleys and would dominate the relatively limited extent of this landscape unit.</p> <p>Sensitivity rating: High</p>	<p>Turbines of this height would also dominate the scale of small hills and narrow incised valleys.</p> <p>Sensitivity rating: High</p>	<p>Turbines of this height would have a better relationship to the scale of the larger hills but would still dominate the narrow valleys, woodlands, individual trees and other small landscape features which contribute to the often intimate scale of these foothills. This typology could relate to broader more open areas at the transition with the Southern Uplands where landscape scale increases.</p> <p>Sensitivity rating: High- medium</p>
<b>Landform</b>			
<p>The hills are generally smoothly rounded with occasional knolls and more rugged peaks on the western boundary. Long undulating ridges enclose narrow winding valleys. This area has a complex and tightly configured landform.</p>	<p>This typology would conflict with the complexity of the landform which is a consistent characteristic of this landscape area.</p> <p>Sensitivity rating: High</p>	<p>This typology would also conflict with the complexity of the landform which is a key characteristic of this landscape area.</p> <p>Sensitivity rating: High</p>	<p>This typology would conflict with the complexity of the landform which is a key characteristic of this landscape unit although it could fit with smoother, slacker hill slopes at the transition with the <i>Southern Uplands</i> (19).</p> <p>Sensitivity rating: High- medium</p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Land cover and landmark features</b>			
<p>Land cover is richly diverse with obviously designed policy woodlands creating strongly interlocking patterns over ridges and hills. The balance of open space to woodland cover is critical to the landscape composition of these policies. Well defined hedges enclosing small pastures are a feature particularly on lower hill slopes. A diverse land use and settlement pattern adds richness and reinforces the small scale of this landscape.</p>	<p>Multiple turbines would fill open spaces, affecting the present balance between open space and woodland cover. This large typology would also conflict with the intricate pattern of woodlands, fields and settlement becoming a dominant feature within a landscape where complex and diverse land cover patterns are finely balanced.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would have a similar effect on the integrity of land-cover pattern and on the finely balanced composition of woodland and open space.</p> <p><b>Sensitivity rating: High</b></p>	<p>Multiple turbines would fill open spaces, affecting the present balance between open space and woodland cover. This typology would also conflict with the intricate pattern of woodlands, fields and settlement becoming a dominant feature within a landscape where complex and diverse land cover patterns are finely balanced. Open hills with a simpler vegetation pattern would be less sensitive to this typology.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Settlement and archaeology</b>			
<p>The landscape is well settled with dispersed farms and individual houses located largely along lower hill slopes, tucked within hill folds or small valleys alongside a range of archaeological and historic features. There is a strong estate influence evident in the architectural style of buildings throughout the unit.</p>	<p>Large turbines would conflict with the scale and integrity of the strongly traditional architectural style of settlement and archaeological and historic features within this landscape unit.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would have a similar effect on the character of settlement and archaeological and historic features within this landscape unit.</p> <p><b>Sensitivity rating: High</b></p>	<p>Turbines of this size could still dominate the small scale of buildings and archaeological sites in this well- settled landscape although turbines towards the lower height band of this typology may minimise effects.</p> <p><b>Sensitivity rating: High</b></p>
<b>Landscape context</b>			
<p>Although generally hidden from view and surrounded by higher hills to the west and south, these foothills form part of the wider setting to <i>Nithsdale</i> (9) and the designed landscape of <i>Drumlanrig Castle</i> and also to the <i>Upland Glen</i> (10) of the <i>Scar Water</i>.</p>	<p>Turbines sited on upper slopes, ridges and hilltops would significantly impact on the setting of settlement within parts of <i>Nithsdale</i>, the <i>Drumlanrig</i> designed landscape and the <i>Scar</i> glen.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would also be likely to have a similar effect on adjoining settled landscapes although there may be some scope to locate single and very small clusters of turbines towards the lower height band of this typology at the transition with the <i>Southern Uplands</i> (19) where visual impact on adjacent landscapes could potentially be reduced.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Turbines of this size would still be prominent features if sited on ridges and hilltops and could affect the landscape setting of settlement within parts of <i>Nithsdale</i>, the <i>Drumlanrig</i> designed landscape and the <i>Scar Water</i> glen. There may be scope to minimise effects on adjacent landscapes if turbines were sited at the transition with the <i>Southern Uplands</i> (19) or where turbines towards the lower height band benefitted from screening by landform and woodland.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Perceptual qualities</b>			
<p><b>The farmed and settled nature of this landscape limits the sense of remoteness although the intimate scale and absence of major roads can make it feel secluded in places. The absence of major built infrastructure gives an impression of a timeless quality and strong landscape integrity.</b></p>	<p>Although the sense of wildness is not pronounced in this landscape, large turbine development would introduce utilitarian structures into this landscape which could detract from its traditional and perceived 'undeveloped' character.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology would have a similar effect on perceptual qualities.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Although the sense of wildness is not pronounced in this landscape, large turbine development would introduce utilitarian structures into this landscape which could detract from its traditional and perceived 'undeveloped' character.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Views and visibility</b>			
<p><b>Views from roads and settlement within this unit are often contained by landform and woodland although many properties are elevated on lower hill slopes and have more open views.</b></p> <p><b>Views to this landscape are limited apart from the ridges and hill tops which are prominent from Nithsdale.</b></p>	<p>Although landform and woodland limits views from within this landscape, large turbines sited on occasionally glimpsed ridges and hilltops would be likely to have a dominant and distracting effect on the viewer from settlement and roads within and nearby to this landscape unit.</p> <p>This typology could detract from the focus of Drumlanrig Castle if visible on the skyline of western hills which provide a backdrop to the designed landscape. It could also be visually prominent in views from the Scar Valley if visible on the skyline.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could also have a dominant and distracting effect on the viewer from settlement and roads within this landscape unit.</p> <p>This typology could detract from the focus of Drumlanrig Castle if visible on the skyline of western hills which provide a backdrop to the designed landscape. It could also be visually prominent in views from the Scar Valley if visible on the skyline.</p> <p><b>Sensitivity rating: High</b></p>	<p>Although landform and woodland limits views from within this landscape, turbines perched along the skylines seen from Nithsdale and the Scar glen would be likely to be visually distracting and could form dominant features although could potentially be accommodated at the transition with the Southern Uplands away from more settled areas.</p> <p>This typology could detract from the focus of Drumlanrig Castle if visible on the skyline of western hills which provide a backdrop to the designed landscape.</p> <p><b>Sensitivity rating: High- medium</b></p>



Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape values</b>			
<p>The 'Thornhill Uplands' RSA covers this landscape unit. The landscape characteristics of the Nithsdale Foothills are not specifically described in Technical Paper 6.</p> <p>The Inventory listed designed landscape of Drumlanrig Castle extends to cover the eastern part of this landscape unit. This designed landscape is rated in the Inventory as outstanding against all assessment criteria. These key recreational assets and visitor attractions, provide way-marked routes and hosted events.</p>	<p>Sensitivity is increased where the RSA and designed landscape of Drumlanrig coincide.</p> <p>Sensitivity rating: High- medium</p>	<p>Sensitivity is increased where the RSA and designed landscape of Drumlanrig coincide.</p> <p>Sensitivity rating: High- medium</p>	<p>Sensitivity is increased where the RSA and designed landscape of Drumlanrig coincide.</p> <p>Sensitivity rating: High- medium</p>



A complex landform of interlocking rolling hills cut by narrow valleys



Dispersed farms at the transition with the adjacent Southern Uplands offer opportunities for smaller turbines



A diverse vegetation pattern of small fields, woodlands and scrub on steep slopes complements the intimate scale of these foothills



The wider policies of Drumlanrig Castle extend into this landscape

## 23. Foothills With Forest (18A)

### 23.1 Introduction

Nine landscape units of the Foothills with Forest character type are considered in this study. Although the predominantly dense coniferous forest cover of this landscape character type gives a strongly unified character, the scale and the context of some of these landscape units is distinctly different. The following units are therefore considered individually in the sensitivity assessment:

- Ae
- Cairnsmore
- Cullendoch
- Lauriston
- Rhinns of Kells
- Stroan

The remaining units of Oer, Eskdale and Tinnisburn are considered together in the sensitivity assessment.

Due to the sparsely settled nature of this upland landscape, demand for smaller turbines is likely to be limited and smaller scale typologies (turbines <50m) are therefore only considered within the guidance section of the assessment.

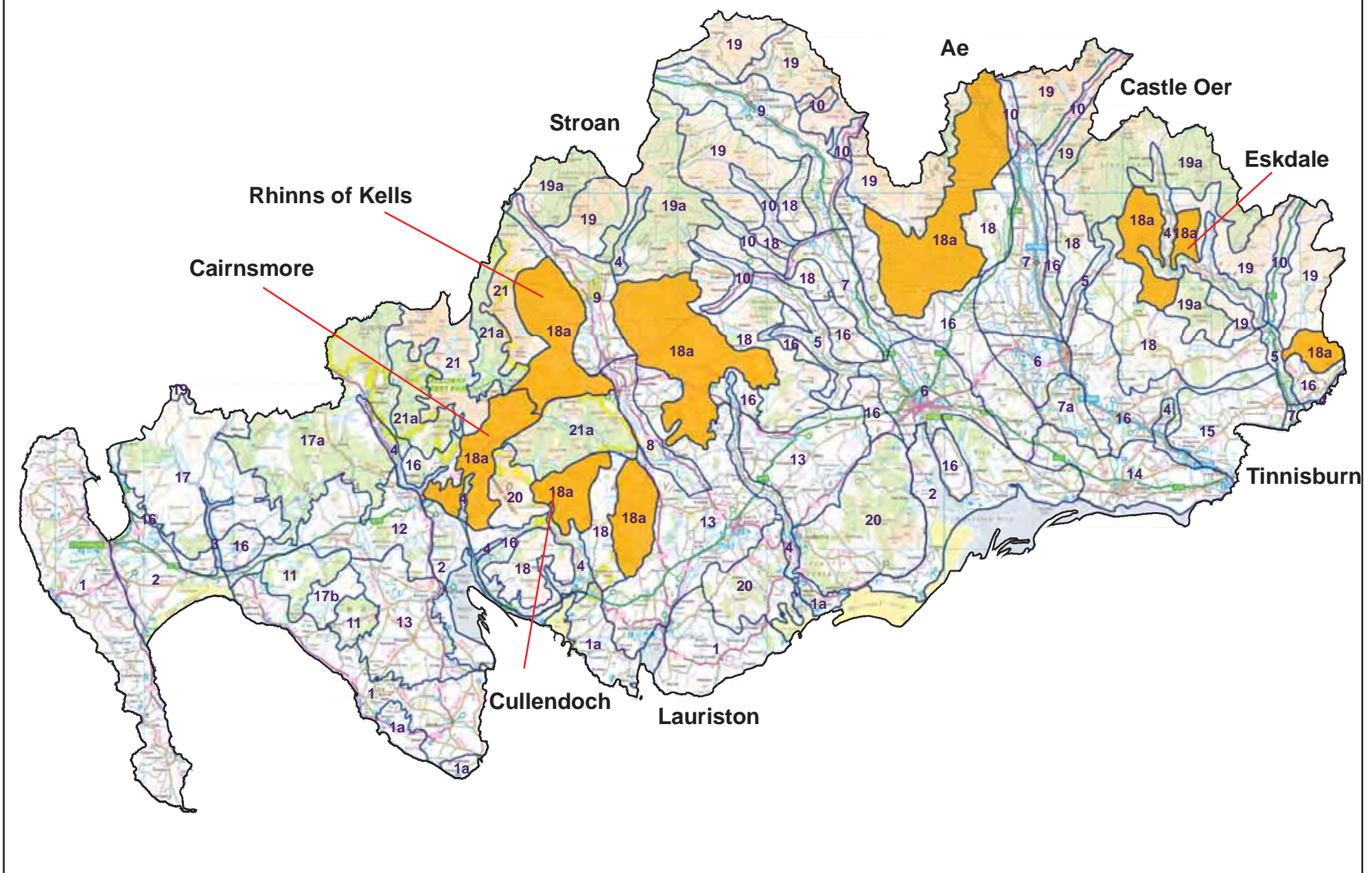
#### 23.1.1 Cultural heritage overview

This landscape character type is characterised as forestry with some post-improvement field systems in the Stroan and Rhinns of Kells units. Relict pre-improvement (pre-19thc) land-use with their remains of buildings and distinct field shapes, as well as areas of pre-medieval features are noted in the Stroan, Ae, Lauriston and Rhinns of Kells units, with Archaeologically Sensitive Areas in the last three. There are some archaeological sites of outstanding significance and distinctiveness, some of which are promoted for public benefit.

#### 23.1.2 Operational/consented wind farms

The operational Dalswinton and Harestanes wind farm are located within the Ae landscape unit of this character type. The consented Torrs Hill wind turbines are located within the Rhinns of Kells unit. The under-construction Blackcraig wind farm and the consented Mochrum Fell wind farm is located in the Stroan landscape unit.

Character Type Key Map - 18a. Foothills with Forest



## 23.2 Ae (18a) - Description and summary of sensitivity

This unit of the Foothills with Forest forms an expansive long undulating upland plateau lying to the south and east of the Lowther Hills. The hills are generally smooth with rounded summits with few pronounced peaks although some more well-defined small hills occur on the southern and western edges of this landscape. Extensive commercial forestry covers much of this landscape with open ground limited to some fringing hill pastures and wetter moorland areas in the west. Extensive wind farm development is a key characteristic of this landscape and wind farm development in neighbouring South Lanarkshire additionally influences character in the north. This landscape is very sparsely settled although Ae Forest is popular for recreation with promoted paths and cycle routes particularly well-used in the southern part of this unit which includes a 7Stanes mountain biking centre. Extensive forest cover restricts views from within this landscape and, although these foothills border well-settled Nithsdale and Annandale, visibility of the interior plateau is limited.

There would be a **High** sensitivity to the Very Large typology (turbines >150m high). Landscape sensitivity to the Large typology (turbines 80-150m) is **High-medium**. Sensitivity to the **Medium** typology (turbines 50-80m), which is more likely to comprise single and small groups of turbines on farmland, is also **High-medium**.

The sensitivity score in terms of landscape values is **Medium** for all typologies.

### 23.2.1 Cumulative issues

The operational Dalswinton wind farm is located on open moorland pasture on the south-western edge of this landscape unit. This wind farm is prominent in views over a wide area from Dumfries, Nithsdale and the surrounding area, due to its location on the outer edge of the Ae Foothills. The operational Harestanes development, in contrast, is much more set back into a more expansive upland area and is also partially contained by some higher hills to the south, limiting visibility from surrounding well-settled areas.

The under-construction Minnygap wind farm lies to the east of Harestanes, on the more prominent edge of mid Annandale within the Beattock unit of LCT18. The operational Clyde wind farm and its under-construction extension abuts the northern boundary of this landscape unit. This extensive development is a dominant feature seen from major transport routes and settlement within the Evan valley.

The following cumulative effects may arise if additional wind farm development is located in the Ae Foothills:

- An extension of the dominant 'corridor' effect of large wind turbines experienced from major transport routes and settlement within the Evan valley - this could also extend south into Annandale if development were also located in the northern parts of this landscape and the Annandale Foothills (18).
- An increase in the extent and accentuation of the prominence of the Dalswinton wind farm seen from the well-settled Nithsdale area if further large turbines were located on the western and southern edges of this landscape.
- Views from hill summits such as the Moffat Hills, where further development within the northern part of the Ae Foothills would consolidate wind farm development, appearing as a concentrated and, potentially conjoined, band of turbines extending along much of Annandale and the upper Clyde valley.
- The introduction of substantially larger turbines as part of new wind farm developments or extensions which could incur cumulative effects with operational wind turbines which are around 125m high. These effects would comprise obvious differences in turbines size and blade rotation.

### 23.2.2 Key constraints

- Recreational use of the Forest of Ae by walkers and cyclists, including the SUW, the 7Stanes and associated routes.
- The incised Water of Ae valley with its more diverse policy woodlands and focus of visitor facilities in the southern part of this landscape unit.
- The pronounced conical summit of Queensberry Hill on the eastern edge of the Lowthers which forms a landmark, and the distinct rugged edge of the Lowther Hills extending north of this hill (including Harestanes Heights) which are visible across Annandale.
- The 'pinch point' of these foothills at the Evan valley where settlement and major transport routes lie in closer proximity to these foothills.
- The Devil's Beef Tub landmark feature which lies at the head of upper Annandale close to the northern boundary of this landscape unit.
- Operational and under-construction wind farm development within this landscape unit, in the Beattock Foothills (18) and in neighbouring South Lanarkshire.
- The perimeter hills on the southern and western boundaries of this unit which are prominent from Nithsdale, Annandale and from the Torthorwald Ridge and which also provide a degree of containment to the operational Harestanes wind farm in some views.
- Extensive archaeological remains in non-planted areas.

### 23.2.3 Opportunities

- The large scale and gently undulating plateau-like landform of this landscape.
- The higher ground of the adjacent Lowther unit of the Southern Uplands (19) lying to the north and west which restricts views of this lower-lying plateau-like landscape unit from upper Nithsdale, where the Thornhill Uplands RSA and designed landscape of Drumlanrig greatly increase sensitivity.
- The predominantly simple land cover of commercially managed forestry and the sparsely settled nature of this unit.
- The screening effects of intermediate woodland and localised rolling landform within Annandale which limits the extent of visibility of this landscape from settlement and roads.

## 23.3 Guidance for development

The Ae Foothills with Forest are a geographically extensive landscape unit stretching in a long band from lower Nithsdale to north of Moffat. The southern and northern parts of this unit are addressed separately in the following guidance (the 'northern' part referring to the area north of Harestanes wind farm and Lochan Burn.

### 23.3.1 The southern part of the Ae Foothills with Forest

There are no opportunities for the Very Large typology (80-150m) to be accommodated in this area as additional turbine developments. This is because operational wind farm development already occupies the least sensitive interior plateau and very large turbines sited to the west and north-east would be likely to incur significant effects on more sensitive nearby landscapes and cumulative effects with operational wind farms. Repowering projects involving replacement of operational turbines with larger models could potentially be accommodated provided turbines were set well back from the more sensitive settled Annandale and Nithsdale areas and avoided overwhelming the landmark hill of Queensberry and the Lowthers in key views. In this respect, the Harestanes wind farm site offers greater scope than the Dalswinton wind farm site for potentially accommodating larger turbines.

There may be some very limited scope to accommodate further turbines within the Large typology (turbines 80-150m). Some small extensions to operational wind farms may be possible although will be constrained by the need to avoid the more sensitive outer edges of this landscape unit and open moorland. Any additional development should also not encroach on the steep upper slopes of Queensberry Hill and the rugged upland edge that extends north of this hill (both lying within the adjacent Lowther unit of the Southern Uplands 19) as this would further diminish their focus in views from Annandale.

### **23.3.2 The northern part of the Ae Foothills with Forest**

There are no opportunities for the Very Large typology (>150m) to be accommodated in this area due to the cumulative effects that may occur with operational wind farms sited in this and adjacent landscapes together with effects on the dramatic open Lowther hills of the Southern Uplands (19).

There may be some very limited scope to accommodate additional large turbines (80-150m) although cumulative effects with the operational Clyde I and II wind farm sited on the Southern Uplands within neighbouring South Lanarkshire and effects on the narrow Evan valley are key constraints. Additional wind farm development should not breach the strong visual containment provided by the Lowther Hills (the Southern Uplands LCT 19) in order to both conserve their open and more natural character and to minimise landscape and visual impacts experienced within Nithsdale. Restricting the number of turbines within any new development or extension would ensure separation is retained between the operational Clyde and Harestanes wind farms which would minimise cumulative impacts on Annandale and the Evan valley.

### **23.3.3 Scope for smaller turbines in all of the Ae Foothills**

There is likely to be very limited demand for smaller typologies in this sparsely settled area. The small/medium typology (30-50m) should be sited well away from operational wind farms in order to avoid conflicts of scale, design and blade rotation speed. There may be opportunities to locate single or small groups of smaller turbines on slacker slopes at the transition with the Upland Fringes (16) and the Foothill (18) landscapes where they would relate better to the smaller scale of woodlands and dispersed farms, locating them on hill slopes where backdrop screening may limit visual interaction with larger wind farms sited within the more extensive higher plateau areas. Key skylines on the more prominent hills on the outer edge of this landscape should be avoided. Small turbines <20m high should be located so visually associated with farms and other buildings. Supplementary Guidance is provided on the siting and design of turbines <50m high.

**Character Type 18A - Foothills With Forest - Ae**

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>			
<p><b>This landscape unit forms an expansive undulating upland plateau generally lying between 290-400m above and west of Annandale. It has a large scale although this is significantly reduced in tightly contained valleys such as the Water of Ae and its tributaries plus the Evan Water. Smaller well-defined hills occur on the southern and western edges of this landscape.</b></p>	<p>This typology could relate to the large scale of this landscape (although much of the more expansive interior plateau is already occupied by the Harestanes wind farm). The limited remaining extent would limit adequate set back from incised valleys and smaller hills lying on the outer edges of these foothills which would be sensitive to very large turbines.</p> <p><b>Sensitivity rating: High-Medium</b></p>	<p>This typology could relate to the large scale of this landscape (although much of the more expansive interior plateau is already occupied by the Harestanes wind farm). The limited remaining extent would limit adequate set back from incised valleys and smaller hills lying on the outer edges of these foothills which would be sensitive to large turbines.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could also relate to the general expansiveness of this landscape although it would dominate incised valleys which have a smaller scale. There is greater scope for this smaller typology, which is more likely to comprise single or small groups of turbines, to be accommodated.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Landform</b>			
<p><b>The hills are generally smooth with rounded summits. There are few pronounced peaks although some more well-defined small hills occur on the southern and western edges of this landscape. The landform is more subtly undulating to the north where broad wet basins are interspersed with more defined rounded ridges. Extensive forestry masks the underlying landform although steeply incised burns and more complex interlocking landform is evident particularly the Evan valley and the south of this unit.</b></p>	<p>This typology could relate to the predominantly gently undulating landform of this landscape although occasional more well-defined small hills and complex topography have an increased sensitivity.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>This typology could relate to the predominantly gently undulating landform of this landscape unit although occasional more well-defined small hills and complex topography have an increased sensitivity.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>This typology could relate to the predominantly gently undulating landform of this landscape unit although occasional more well-defined small hills and complex topography have an increased sensitivity.</p> <p><b>Sensitivity rating: Medium-low</b></p>



Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Land cover and landmark features</b>			
<p><b>Extensive commercial forestry covers much of this landscape. There is little open ground within the forest although this unit includes some fringing hill pastures and wetter moorland areas which are important in providing diversity.</b></p>	<p>The simple land cover of extensive forest reduces sensitivity to wind farm development. Open moorland and fringing pastures are more sensitive.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The simple land cover of extensive forest reduces sensitivity to wind farm development. Open moorland and fringing pastures are more sensitive</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The simple land cover of extensive forest reduces sensitivity to wind farm development. Open moorland and fringing pastures are more sensitive</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Settlement and archaeology</b>			
<p><b>There is little settlement within this largely forested landscape. The settlement of Ae sits on the southern boundary of the unit and some buildings are associated with the valley of the Evan Water which cuts through the 'pinch point' formed by these foothills north-west of Moffat. The M74, electricity transmission lines and West Coast railway are aligned through this valley. Archaeological and historic features occur on the open hill fringes of this landscape, a relict of past land-use. There are designated ASAs at Whitestanes Moor in the south and Coats Hill in the north.</b></p>	<p>The less visually prominent interior plateau is already largely occupied by wind farm development and this typology could dominate the setting of Ae and other settlement and adversely affect the setting of archaeological features if sited in remaining undeveloped parts of this landscape.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>The less visually prominent interior plateau is already largely occupied by wind farm development and this typology could dominate the setting of Ae and other settlement and adversely affect the setting of archaeological features if sited in remaining undeveloped parts of this landscape. There may be scope to site a small number of turbines as an extension to an operational wind farm to minimise these effects.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>There is scope for this typology to be accommodated to minimise effects on settlement providing turbines were kept well back from sensitive valley edges. The setting of archaeological sites remains sensitive</p> <p><b>Sensitivity rating: Medium-low</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Landscape context</b>			
<p>These foothills lie adjacent to open <i>Foothills (18)</i>, and near to the <i>Middle Dale (7)</i> of Annandale although views of the interior plateau are restricted from the more sensitive valley. The dramatic and open <i>Lowther Hills (Southern Uplands 19)</i> abut this character type. The conical summit of <i>Queensberry Hill</i> is a landmark feature seen across Annandale.</p> <p>This landscape also abuts the smaller scale <i>Upland Fringe (16)</i> LCT covering the <i>Torthorwald Ridge</i> and the eastern side slopes of <i>Nithsdale</i>.</p>	<p>Turbines of this size, and particularly those around 200m, would have a dominant effect on surrounding more diverse and smaller scale landscapes. The <i>Torthorwald Ridge</i> and <i>Nithsdale</i> would be sensitive especially given that remaining undeveloped areas in this landscape lie closer to these landscapes.</p> <p>The setting of the <i>Lowther Hills</i> and the landmark <i>Queensberry Hill</i> is already adversely affected by the <i>Harestanes</i> wind farm and very large turbines could exacerbate these effects, dominating the scale of these hills is sited nearby.</p> <p>Additional wind farm development sited to the north of the <i>Harestanes</i> wind farm could affect the narrower northern part of Annandale and the wider setting to <i>Moffat</i>.</p> <p><b>Sensitivity rating: High</b></p>	<p>The <i>Torthorwald Ridge</i> and <i>Nithsdale</i> would be sensitive to turbines of this size sited on the outer western and southern edges of this landscape.</p> <p>The setting of the <i>Lowther Hills</i> and the landmark <i>Queensberry Hill</i> is already adversely affected by the <i>Harestanes</i> wind farm and very large turbines could exacerbate these effects.</p> <p>Additional wind farm development sited to the north of the <i>Harestanes</i> wind farm could affect the narrower northern part of Annandale and the wider setting to <i>Moffat</i>.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This smaller typology, which is assumed to form single and small groups of turbines, is more likely to be sited on farmland on the fringes of this landscape and therefore may be seen more readily from adjacent landscapes. Turbines towards the lower height band of this typology would have less of an effect on adjacent landscapes.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Perceptual qualities</b>			
<p>While the interior of these landscapes can feel remote due to the distance from settlement and public roads, the presence of extensive commercially managed forestry and operational wind farm development in much of this area precludes a strong sense of wildness. Rare open areas of moorland lying close to the <i>Lowther Hills</i> have more natural qualities</p>	<p>This typology would have a minimal effect on perceptual qualities providing open moorland was avoided.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>This typology would a minimal effect on perceptual qualities providing open moorland was avoided.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>This typology, which is more likely to comprise single and small groups of turbines, would be likely to have no significant adverse effect on perceptual qualities.</p> <p><b>Sensitivity rating: Low</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Views and visibility</b>			
<p>Views within this character type are restricted by extensive forestry. It is very sparsely settled and there are few public roads. The SUW is aligned through the northern part of this unit. Ae Forest is popular for recreation with promoted paths and cycle routes particularly well-used in the southern part of this unit.</p> <p>These landscapes comprise gently rolling foothills surrounded by Nithsdale and Annandale and the 'Torthorwald' Upland Fringe (16). Views are restricted by the Lowther Hills to the north, although Queensberry Hill has panoramic views over the unit. These foothills are surrounded by well-settled landscapes but visibility is reduced in Annandale where they are set well back, separated by the Foothills (18) and where woodland cover, intermediate ridges and rising slopes contain views. The subdued plateau-like landform of this landscape unit also serves to restrict visibility. The perimeter hills of this unit in the south and west are more visible lying closer to settled landscapes.</p>	<p>Views from cycle and walking routes in Ae Forest are generally restricted by forest cover. The operational Harestanes wind farm occupies much of the interior of this landscape which is remote from roads and settlement. Turbines of this size sited on remaining undeveloped land in the west and south in closer proximity to Nithsdale and Annandale would be likely to have a significant and dominant impact on views from key transport routes and settlement.</p> <p>This typology would be highly visible, with 200m high turbines particularly dominant, from the M74 and from settlement if sited so visible on the skyline of forested hills seen from the Evan valley in the north of this landscape.</p> <p><b>Sensitivity rating: High</b></p>	<p>Views from cycle and walking routes in Ae Forest are generally restricted by forest cover restricts visibility. The operational Harestanes wind farm occupies much of the interior of this landscape which is remote from roads and settlement. Turbines of this size sited on remaining undeveloped land in the west and south in closer proximity to Nithsdale and Annandale would be likely to have a significant impact on views from key transport routes and settlement. There may be some very limited scope to site a few turbines of this size as an extension to an existing wind farm to minimise these effects.</p> <p>This typology would be highly visible from the M74 and from settlement if sited so visible on the skyline of forested hills seen from the Evan valley in the north of this landscape.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>There is scope for this typology to be located within these foothills without widespread significant visual impact occurring due to the sparse population and absence of roads within core forested areas.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Landscape values</b>			
<p><b>This character type is substantially free of landscape designations although the Thornhill Uplands RSA extends slightly over the western boundary of Ae Forest where it forms..." peripheral areas within the visual envelope of the upper section of the Nith Middle Dale".</b></p> <p><b>Open moorland and wetland on the western edges of this landscape are valuable in providing a contrast with dense forestry.</b></p> <p><b>Recreational value is high for the Ae Forest, which comprises a large proportion of the unit and lies adjacent to the popular hill walk of Queensberry. SUW crosses the north of the unit.</b></p>	<p>Turbines of this size located on the western parts of this landscape could affect the setting of the RSA and rare areas of open moorland. Sensitivity is reduced elsewhere in this landscape.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Turbines of this size located on the western parts of this landscape could affect the setting of the RSA and rare areas of open moorland. Sensitivity is reduced elsewhere in this landscape</p> <p><b>Sensitivity rating: Medium</b></p>	<p>There is increased scope to site this typology, which is more likely to comprise single and small groups of turbines, to avoid significant intrusion on the Nith Middle Dale and effects on rare areas of open moorland and wetland.</p> <p><b>Sensitivity rating: Medium</b></p>

## 23.4 Cairnsmore area (18a) - description and summary of sensitivity

The Cairnsmore landscape area of the Foothills with Forest comprises an upland glen where an often rugged landform combines with well-designed forest cover and open moorland to create a diverse and scenic character. The shapely massif of Cairnsmore of Fleet provides the backdrop to this landscape. Visual sensitivity is increased because of the recreational use of this landscape and the presence of the promoted tourist route of the A712.

This landscape area would be of **High** sensitivity to the large typology (turbines 80-150m) and **High-medium** sensitivity to the medium typology (turbines 50-80m).

This landscape lies within the Galloway Hills RSA and the Galloway Forest Park and would have a **High-medium** sensitivity in terms of landscape values to the larger typologies.

### 23.4.1 Smaller typologies

The small/medium typology (20-50m) would have similar effects on the often rugged irregular landform of this landscape unit, the smaller scale of more dramatically contained sections of the glen and on areas of notably mature, naturalistic forest cover. There is scope however to locate this typology on broader open, lower hill slopes where it could relate to the scale of larger enclosed

pastures and smaller woodlands. The small typology (turbines <20m) could be accommodated providing turbines were visually associated with existing farms and settlement.

### 23.4.2 Cumulative issues

There is no wind farm development located in this character area and wind farm development sited in surrounding landscapes does not significantly influence views and character due to the containment provided by landform and woodland. Demand for multiple small turbines is also likely to be limited in number due to the sparsely settled character of this landscape. Sensitivity is low in relation to cumulative issues.

### 23.4.3 Key constraints

- The high recreational use of this landscape which features cycle and walking trails and a number of promoted places of interest for visitors as part of the Galloway Forest Park including the Dark Sky Park.
- The relatively high visibility of this area which although covered in dense coniferous forestry, is seen from the A712 and in elevated views from Cairnsmore of Fleet.
- The steep slopes and characteristic craggy landforms of this landscape which increase sensitivity to wind farm development and are also important in containing the Bargaly Glen.
- Mature and diverse mixed woodlands which contribute to the attractiveness of the landscape.

- The proximity of this landscape to Cairnsmore of Fleet and its role in providing the wider setting and a visual contrast with this bold rugged and exposed massif.

### 23.4.4 Opportunities

- Broader open hill slopes on the fringes of the forest where smaller typologies could relate to the scale of farmland and settlement.

## 23.5 Guidance on development

There is no scope for siting large or medium typologies (turbines >50m) within this landscape without incurring significant adverse landscape and visual impacts on a number of key sensitivity criteria.

There are some limited opportunities to accommodate the small/medium typology (turbines 20-50m) and the small typology (turbines <20m) on broader open lower hill slopes, away from the more complex landform and forest cover of the upper Bargaly Glen, and preferably sited to benefit from a backdrop of upper hill slopes. Turbines should be sited to avoid impacting on views to Cairnsmore of Fleet, on the small scale Palnure Valley (LCT 4) and on the setting of Newton Stewart. Turbines towards the lower height band of this typology are more likely to minimise impacts in this respect. Small turbines below 20m could be associated with existing buildings. Supplementary Guidance is provided on the siting and design of smaller turbines <50m.

**Character Type 18A - Foothills With Forest - Cairnsmore Area**

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>		
<p>This landscape area comprises the upland Bargaly Glen. The burn is incised to the south-west, constricted by steep hill slopes; its intimate scale accentuated by mature woodland. Scale increases to medium to large on broader, more open hill slopes although dense forest cover limits openness in many areas.</p>	<p>This typology would ‘fill’ the width of the glen and dominate the scale of smaller peaks and the incised Bargaly Burn. It could however relate to the broader scale of hills set back from the more strongly contained glen and the lower west-facing slopes of Cairnsmore of Fleet.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>There are greater opportunities for this smaller typology to relate to broader hill slopes although it would similarly dominate the scale of the more incised Bargaly Glen.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Landform</b>		
<p>The glen is contained by steep-sided rugged hills rising to around 350m with slopes patterned with scree and rocky outcrops. The bold granite massif of Cairnsmore of Fleet abuts the glen to the south and east. The craggy hill tops of Murray’s Monument, Craigdews and the Fell of Talnotry form intermediate peaks backed by the more extensive uplands of the Galloway Hills to the north.</p>	<p>This typology would detract from distinctive craggy hill tops, rugged irregular slopes and the strongly containing steep slopes of Cairnsmore of Fleet. It would significantly affect the dramatic landform of the ‘pinch points’ of Glen of the Bar and the Wild Goat Park.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would detract from distinctive craggy hill tops, rugged irregular slopes and the strongly containing steep slopes of Cairnsmore of Fleet. It would significantly affect the dramatic landform of the ‘pinch points’ of Glen of the Bar and the Wild Goat Park.</p> <p><b>Sensitivity rating: High</b></p>
<b>Land cover and landmark features</b>		
<p>The Cairnsmore area is notable for its diversity of forest cover, which although largely plantation conifers, includes stately mature trees, Scots pine and broadleaves. Small pastures occur along the narrow floodplain of the Bargaly Burn and heather/grass moorland covers hill tops - both are important in providing a contrast with the forested area. Clatteringshaws Loch is a landmark feature.</p>	<p>This typology could affect the integrity of the forest cover which although comprises commercially managed spruce in many areas, also features mature retentions which complement the rugged upland character of this landscape.</p> <p>Areas of open ground would be particularly sensitive to development.</p> <p><b>Sensitivity rating: High- medium</b></p>	<p>This typology could affect the integrity of the forest cover which although comprises commercially managed spruce in many areas, also features mature retentions which complement the rugged upland character of this landscape.</p> <p>Areas of open ground would be particularly sensitive to development.</p> <p><b>Sensitivity rating: High- medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Settlement and Archaeology</b>		
<p><b>Sparsely settled with small pockets of farmland and very dispersed isolated farms and cottages within extensive forest. There is a small range of archaeological sites outwith the forested land and Murray's Monument is a key landmark feature set on a craggy hill top.</b></p>	<p>There are opportunities to locate this typology to avoid scale comparisons with domestic buildings although it could impact on the setting of Murray's Monument if located within the upper section of the glen.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>There are opportunities to locate this typology to avoid scale comparisons with domestic buildings although it could impact on the setting of Murray's Monument if located within the upper section of the glen. This smaller typology could be sited to minimise such effects.</p> <p><b>Sensitivity rating: Medium- Low</b></p>
<b>Landscape context</b>		
<p><b>This landscape area is important in providing a backdrop to Newton Stewart and the <i>Narrow Wooded River Valley</i> of 'Palnure' (4). It also provides the setting to the dramatic bold granite outcrop hill of Cairnsmore of Fleet (LCT 20)</b></p>	<p>The tall turbines of this typology would overwhelm the intimate scale of the Palnure valley if located on the hill slopes which contain it. It could also impact on the setting the low Larg Hill provides to Newton Stewart. Large turbines situated on the lower forested hill slopes of Cairnsmore of Fleet would detract from the dramatically rugged form of this landmark hill.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could also overwhelm the intimate scale of the Palnure valley if located on the hill slopes which contain it. It could also impact on the setting the low Larg Hill provides to Newton Stewart. Large turbines situated on the lower forested hill slopes of Cairnsmore of Fleet would detract from the dramatically rugged form of this landmark hill.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Perceptual qualities</b>		
<p><b>While parts of this landscape can feel secluded and the terrain is rugged in character, the dominance of intensively managed plantation forestry precludes a marked sense of wildness.</b></p>	<p>There may be some effects on the sense of seclusion although sensitivity is generally reduced in relation to the perception of wildness</p> <p><b>Sensitivity rating: Medium</b></p>	<p>There may be some effects on the sense of seclusion although sensitivity is generally reduced in relation to the perception of wildness</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Views and visibility</b>		
<p><b>Kirroughtree Forest is popular with cyclists and walkers, although open views tend to be limited. The Queens Way (A712) is also a well-used tourist route with many points of interest located close-by providing elevated open views over this landscape.</b></p> <p><b>The forested lower hill slopes on the western side of Cairnsmore of Fleet are highly visible from Kirroughtree visitor centre, parts of Wigtown Bay and the Machars and also from the A75. This landscape is also visible from the Galloway Hills and Cairnsmore of Fleet.</b></p>	<p>Although this landscape is not widely visible in the surrounding area due to the containment of the Glen, high recreational use increases visual sensitivity to this typology which would be likely to be prominent in views from the A712 and from elevated viewpoints such as Murray's Monument. This typology would also be highly visible from elevated viewpoints on Cairnsmore of Fleet and the Merrick group of hills.</p> <p><b>Sensitivity rating: High</b></p>	<p>Although this landscape is not widely visible in the surrounding area due to the containment of the Glen, high recreational use increases visual sensitivity to this typology. There may be some limited opportunities to locate this smaller typology (and particularly turbines towards the smaller height band of 50m) to avoid significant impacts from key routes and hill summits.</p> <p><b>Sensitivity rating: High- medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<p><b>Landscape values</b></p> <p><b>This landscape unit lies within the Galloway Hills RSA. Technical Paper 6 describes the forested foothills as being included in the RSA because they form the setting to the valued areas of the Galloway Hills, or have an attractive upland forested character in their own right. The Cairnsmore area of 18a, where particular attention is being paid to forest design, is noted as being included on the basis of its own merits.</b></p>	<p>This typology would affect the attractive upland forested character of this part of the RSA and the setting it provides to Cairnsmore of Fleet.</p> <p><b>Sensitivity rating: High- medium</b></p>	<p>This typology would affect the attractive upland forested character of this part of the RSA and the setting it provides to Cairnsmore of Fleet.</p> <p><b>Sensitivity rating: High - Medium</b></p>



## 23.6 Cullendoch 18a - description and summary of sensitivity

The Cullendoch area of the Foothills with Forest comprises a low, gently undulating and densely forested basin, contained by higher ground to the north, east and west. While the large scale, simple landform and uniform land cover of this landscape could in principle relate to larger typologies, the proximity of this landscape to the landmark hill of Cairnsmore of Fleet and the diverse Fleet Valley increases sensitivity.

There would be an overall **High-medium** landscape sensitivity to the Very Large typology (turbines 150m+) and a **Medium** sensitivity to the Large typology (turbines 80-150m). Sensitivity would also be **Medium** to the Medium typology (turbines 50-80m) as this typology is assumed to be more likely to comprise single and small groups of turbines sited on open farmed fringes in the more sensitive southern part of this landscape.

Landscape values would range from **High** where the NSA and RSA designation coincided to **High-medium** within the majority of this landscape area which falls within the Galloway Dark Skies Park.

### 23.6.1 Cumulative issues

There are no wind farms sited within this character area. Visibility of wind farms located in surrounding landscapes is restricted in this visually contained landscape and there are therefore likely to be no significant cumulative landscape and visual issues arising. Sensitivity is low in relation to cumulative issues.

### 23.6.2 Key constraints

- The proximity of this landscape to the bold, rugged massif of Cairnsmore of Fleet.
- The Fleet Valley NSA designation which includes the open hills of Doon of Culreoch and Rig of Drumruck which are important in providing a backdrop and contrast to the intimately scaled farmed and wooded valley.
- The Galloway Forest Park, Galloway Hills RSA and Galloway Dark Sky Park which cover much of this landscape.
- The Big Water of Fleet viaduct which forms a rare landmark feature on the western edge of this landscape unit and various archaeological and historic sites that have survived afforestation.

### 23.6.3 Opportunities

- The simple, relatively low-lying landform of this landscape which is screened by higher hills such as Cairnsmore of Fleet to the west and the Fell of Fleet to the north. There is also some containment by slightly higher hills within the Fleet area of the Foothills (18).
- The sparse population and limited promoted recreational activity within the more extensive area of intensively managed coniferous forestry to the north of the unit.
- Smoother and gentler hill slopes, basins and broad hill tops and the generally large scale of this landscape.
- The simple land cover of commercial coniferous forestry.

## 23.7 Guidance for development

There are no opportunities for the Very Large typology (turbines 150m+) due to the limited extent of this landscape and its proximity to more sensitive landscapes including the landmark hill of Cairnsmore of Fleet and the Fleet Valley NSA.

There are some limited opportunities to accommodate the Large typology (turbines 80-150m) in this landscape. This typology could relate to the scale of this landscape and its simple landform and forest land cover although this area is not extensive and turbines of this size would be likely to impact on views to and from the landmark hill of Cairnsmore of Fleet. There may be some limited scope to avoid significant intrusion on views from the highly sensitive Fleet Valley NSA by avoiding the higher ground. This typology could adversely affect perceptual qualities including the sense of seclusion experienced in this sparsely settled area and the Galloway Dark Skies Park, if turbines were illuminated.

There are very limited opportunities to accommodate the Medium typology (turbines 50-80m). It is assumed that this typology would comprise single or very small turbine groupings associated with the few farms located in the southern part of this landscape. Turbines should be sited to avoid significant impact on the Fleet Valley NSA in this area.

Any development should avoid being sited close to key landmark features such as the Clints of Dromore and the Big Water of Fleet railway viaduct and should take account of the setting of archaeological and historic features and recreational interests focussed around the Visitor Centre at Dromore. Care should also be taken to avoid visual intrusion on the adjacent Fleet landscape unit of the Foothills (18) which comprises a sensitive and rare open valley surrounded by craggy hills between more densely forested uplands. Illumination of large wind turbines would be likely to conflict with the qualities of the Galloway Dark Sky Park.

## Character Type 18A - Foothills With Forests - Cullendoch

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>			
<p>This gently undulating landscape has a medium to large scale, with subtle hills rising to around 200m which are dissected by broad river basins. Extensive forest cover limits the degree of openness. There are few scale references such as buildings and farmland in this sparsely settled landscape.</p>	<p>The large scale of broader hill slopes and basins within this landscape reduces sensitivity although this is not an extensive landscape and multiple turbines closer to 200m high would dominate.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could relate to the scale of broader hill slopes and basins within this landscape.</p> <p><b>Sensitivity rating: Low</b></p>	<p>This typology could relate to the scale of broader hill slopes and basins within this landscape.</p> <p><b>Sensitivity rating: Low</b></p>
<b>Landform</b>			
<p>Landform is gently undulating with elongated hills forming subtle rounded summits. Dense forest cover masks the detail of the landform. The Little Water of Fleet and the Benmeal Burn form broad basins on shallow hill slopes with complex fanned tributaries. The Clints of Dromore comprise a rare rocky scarp.</p>	<p>The gently undulating and simple landform could relate to this typology. Clear-felling of forestry to accommodate this typology may expose some under-lying complexities of the landform although these are not likely to form significant constraints.</p> <p><b>Sensitivity rating: Low</b></p>	<p>The gently undulating and simple landform could relate to this typology. Clear-felling of forestry to accommodate this typology may expose some under-lying complexities of the landform although these are not likely to form significant constraints.</p> <p><b>Sensitivity rating: Low</b></p>	<p>The gently undulating and simple landform could relate to this typology. Clear-felling of forestry to accommodate this typology may expose some under-lying complexities of the landform although these are not likely to form significant constraints.</p> <p><b>Sensitivity rating: Low</b></p>
<b>Land cover and landmark features</b>			
<p>Dense coniferous forest covers much of this area with the only open space being the hill tops of Doon of Culreoch and the southern end of the Rig of Drumruck which lie at the head of the lower Fleet Valley.</p>	<p>The often uniform and commercially managed forest land cover of this landscape would be less sensitive although development on open hill tops would diminish the contrast these provide to densely forested areas.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>The often uniform and commercially managed forest land cover of this landscape would be less sensitive although development on open hill tops would diminish the contrast these provide to densely forested areas.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>The often uniform and commercially managed forest land cover of this landscape would be less sensitive although development on open hill tops would diminish the contrast these provide to densely forested areas.</p> <p><b>Sensitivity rating: Medium-low</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Settlement and Archaeology</b>			
<p>This landscape is very sparsely settled with only occasional farms located on its fringes or within the valley of the Big and Little Water of Fleet valleys. There is a small range of archaeological and historic sites in unafforested areas, including the Big Water of Fleet viaduct which forms a landmark feature at Cullendoch.</p>	<p>While the sparsely settled nature of this predominantly forested landscape reduces sensitivity, this typology could overwhelm the scale of the Big Water of Fleet viaduct and the setting of archaeological sites are also sensitive.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>While the sparsely settled nature of this predominantly forested landscape reduces sensitivity, this typology could dominate the scale of the Big Water of Fleet viaduct particularly if sited nearby and the setting of archaeological sites are also sensitive.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The sparsely settled nature of this predominantly forested landscape reduces sensitivity to wind farm development. There is likely to be greater scope to site this typology to avoid impacting on the setting of the Big Water of Fleet viaduct but the setting of archaeological sites remains sensitive.</p> <p><b>Sensitivity rating: Medium-Low</b></p>
<b>Landscape context</b>			
<p>These forested foothills border the distinctive rugged hill of Cairnsmore of Fleet to the west. The southern hills of Doon of Culreoch and Rig of Drumruck within this character type also provide an upland backdrop to the <i>Fleet Valley</i> (4).</p>	<p>This typology would impact on the wider setting to Cairnsmore of Fleet although there may be scope for smaller developments to be sited sufficiently far from key landform features, such as the Clints of Dromore on the eastern slopes of this hill, and away from key views to the hill to minimise impacts. This typology could be visible on the skyline from parts of the highly sensitive Fleet Valley.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would impact on the wider setting to Cairnsmore of Fleet although there may be scope for smaller developments to be sited sufficient far from key landform features, such as the Clints of Dromore on the eastern slopes of this hill, and away from key views to the hill to minimise impacts. This typology could be visible on the skyline from parts of the highly sensitive Fleet Valley.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology is more likely to comprise single and small groups of turbines sited on open hill slopes. These areas are restricted to the southern part of this landscape and as such are more sensitive in terms of their proximity to more sensitive landscapes.</p> <p><b>Sensitivity rating: High</b></p>
<b>Perceptual qualities</b>			
<p>An absence of built development, lighting, public roads and extensive forest cover can give a sense of seclusion and even a degree of remoteness in more difficult to access areas. The perception of naturalness is compromised however by extensive commercially managed forestry however. Restructuring may improve the character of the forest in the future.</p>	<p>The introduction of wind farm development to these areas would accentuate the man-modification of this landscape and could also affect the sense of seclusion experienced by some people.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>The introduction of wind farm development to these areas would accentuate the man-modification of this landscape and could also affect the sense of seclusion experienced by some people.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>This typology is assumed to comprise single and small groups of turbines associated with more farmed landscapes and as such they are unlikely to be sited in the more remote core of this landscape.</p> <p><b>Sensitivity rating: Low</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Views and visibility</b>			
<p>A number of promoted forest walks and cycle routes are aligned through this area. Dense forestry limits views from these routes and the area is also sparsely settled. The B796 is aligned on the southern edge of this landscape unit and a minor road provides access to the Cairnsmore of Fleet visitor centre and Big Water of Fleet viaduct at Dromore. Both routes provide open views over the south-western part of this landscape unit.</p> <p>Much of this landscape is visually contained from outside view by the higher ground of Cairnsmore of Fleet to the west and the higher ground of the <i>Fleet Foothills</i> (18) to the east. The southern hills of Doon of Culreoch and Rig of Drumruck are visible from the Fleet valley.</p>	<p>This typology would be highly visible from the B796 and visitor facilities at Dromore. It could impact on views from the Fleet valley depending on the location and height of turbines. Turbines of this size would be likely to significantly impact on views from footpaths on Cairnsmore of Fleet and would be likely to detract from the focus this hill provides in views from the B796.</p> <p>Sensitivity rating: High</p>	<p>This typology would be highly visible from the B796 and visitor facilities at Dromore. It may impact on views from the Fleet valley depending on the location and height of turbines. It would also be visible from footpaths on Cairnsmore of Fleet (although not within the key focus of these panoramic views) and could detract from the focus this hill provides in views from the B796.</p> <p>Sensitivity rating: High-medium</p>	<p>Although comprising smaller turbines, this typology may be more visible as it is assumed more likely to comprise single and small groups of 'farm' turbines. Open farmland is only present on the more visually sensitive southern parts of this landscape close to the Fleet Valley. There may, however, be increased scope to site these smaller turbines to minimise visual impact from ridges and summits of Cairnsmore of Fleet and from key views to this landmark hill from other areas (for example, the Fleet Valley NSA viewpoint at Knocktinkle).</p> <p>Sensitivity rating: Medium</p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Landscape values</b>			
<p>The southern fringes of this unit are designated as the Fleet Valley NSA. Special qualities include the open moorland and wilder feel of enclosing hills and their juxtaposition with the narrow farmed and wooded valley.</p> <p>The Galloway Hills RSA also covers this area and a small area around Loch Skerrow to the north-eastern. Technical Paper 6 describes the forested foothills as being included in the RSA because they form the setting to the valued areas of the Galloway Hills, or have an attractive upland forested character in their own right. The reasons for designation of the part of the Cullendoch unit covered by the RSA are not specifically noted in Technical Paper 6. This landscape lies within the Galloway Forest Park and the Galloway Dark Skies Park.</p>	<p>This typology could have a significant adverse effect on the hills which provide a backdrop and contrast to the diverse Fleet Valley. It could also adversely affect the setting of Cairnsmore of Fleet despite the majority of the unit not being covered by the RSA.</p> <p>The experience of recreational users could be adversely affected by wind farm development in this landscape. This typology, especially if illuminated, could also affect the Dark Skies Park.</p> <p>Sensitivity rating: High to High-Medium</p>	<p>This typology could have a significant adverse effect on the hills which provide a backdrop and contrast to the diverse Fleet Valley. It could also adversely affect the setting of Cairnsmore of Fleet despite the majority of the unit not being covered by the RSA.</p> <p>The experience of recreational users could be adversely affected by wind farm development in this landscape. This typology, especially if illuminated, could also affect the Dark Skies Park.</p> <p>Sensitivity rating: High to High-Medium</p>	<p>This typology could have a significant adverse effect on the hills which provide a backdrop and contrast to the diverse Fleet Valley. It could also adversely affect the setting of Cairnsmore of Fleet despite the majority of the unit not being covered by the RSA.</p> <p>The experience of recreational users could be adversely affected by wind farm development in this landscape.</p> <p>Sensitivity rating: High to Medium</p>

## 23.8 Laurieston area 18a - description and summary of sensitivity

This landscape comprises gently rounded hills cut by occasional small valleys and punctuated with occasional knolly hill tops within the higher plateau area to the west. Landform is more complex and contained on the eastern and southern fringes of this area where a cluster of craggy knolls and more defined steep-sided hills occur around Meikle Culcaigrie Hill. Much of this landscape is forested with commercially managed spruce predominating on the higher gently rolling upland plateau area although some remnant mixed policy woodland occurs on the eastern fringes of Laurieston Forest. Small pockets of pasture and moorland are present within the forest and more extensive pasture and, often wet, moorland extends on the lower east-facing slopes; this patterned with scrubby mixed woodland. The elongated and strongly contained Woodhall Loch and Loch Mannoich lie on the eastern fringes of these foothills. This landscape is sparsely settled within the higher forested plateau but with small farms and cottages located within farmland and on the edge of moorland within the lower open areas below the forest. This area provides a backdrop to the Drumlin Pastures (13) and to Loch Ken (8) where it is generally seen as a relatively low forested gently undulating plateau.

There would be a **High-medium** landscape sensitivity to the large typology (turbines 80-150m) and a **Medium** sensitivity to the medium typology (50-80m), reflecting the greater scope to site the smaller turbines within this typology to minimise impacts on more complex landform and small scale features and on adjacent sensitive landscapes.

A small part of the Laurieston landscape area is covered by an RSA designation. Sensitivity in terms of landscape values for the larger typologies is concluded to range from **High-medium** to **Low** within the majority of the landscape unit where no designation applies.

### 23.8.1 Smaller typologies

The small-medium typology (turbines 20-50m) would have similar effects to the larger typologies if sited in the more sensitive complex landscapes that characterise the northern, eastern and south-eastern fringes of this unit or close to landmarks such as Woodhall and Mannoich Lochs, archaeological features or more intricately patterned woodlands, remnant policies and settlement. There is scope however to locate this typology on broader lower hill slopes and terraces on open farmland and moorland to the east but avoiding more sensitive areas of moorland, wetland and scrub which contribute to the diversity of the open parts of this landscape. The small typology (turbines <20m) could be accommodated providing turbines were visually associated with existing farms and settlement and take account of the setting of archaeological and historic features.

### 23.8.2 Cumulative issues

There are no operational or consented wind farms located in this landscape. The consented Mochrum Fell wind farm located in the Stroan area of the Foothills with Forest (18a) will be theoretically visible from east-facing slopes although dense forest cover will limit views. This development may also be seen together with the under-construction Blackcraig wind farm from elevated views but although this development is sited on a prominent ridge, it will be distant from this landscape area thus limiting impact. New wind farm development introduced to this landscape could incur cumulative impacts with these consented wind farms potentially affecting the backdrop to the diverse Loch Ken area and the Drumlin Pastures (13).

### 23.8.3 Key constraints

- More complex landform found on the fringes of this landscape with a distinctive cluster of craggy knolls found in the south and east including the Meikle Culcaigrie Hill area.
- The recreational use of Glengap Forest, Laurieston Forest on its eastern fringes and the Loch Mannoich area.
- The presence of small scale settlement and the richness of archaeological features and monuments (offering elevated views) particularly found in the south-eastern part of this landscape.

- Small lochs and areas of open moorland, wetlands and woodlands occurring on the eastern margins of the forested area which contribute to the diversity of the more open parts of this landscape.
- The visibility of the eastern edge of these foothills from Loch Ken (LCT 8) and the Drumlin Pastures (13) and potential impacts on character and views from the highly sensitive Fleet Valley NSA and other areas where the foothills form a backdrop.

#### 23.8.4 Opportunities

- A broad gentle landform and uniform land-cover of commercially managed coniferous forestry on the higher 'plateau' foothills of this unit.

### 23.9 Guidance on development

There is no scope for siting the large typology (turbines 80-150m) within this landscape due to the scale of these foothills and their likely prominence from adjacent sensitive landscapes.

There is some potential to accommodate the medium scale typology (turbines 50-80m) within broader gently undulating forested areas but avoiding the open moorland, lochs and more complex topography which are key attributes of this landscape. Development would need to be limited in spread and set back from the edge of the higher forested plateau which forms a backdrop to the open east-facing hill slopes in

order to minimise adverse effects on sensitive skylines seen from adjacent highly sensitive settled landscapes.

Greater opportunities exist for the Small-medium typology (turbines 20-50m). These could be located on open lower hill slopes but should avoid more complex topography and areas which have an intricate pattern of small woodlands, wetlands and field enclosures. Broader open hill slopes and terraces at the transition between enclosed farmland and the uplands offer opportunities for siting this typology. Small turbines <20m could also be associated with the few farms and other dwellings which are located within open areas in and on the fringes of forestry. The siting of smaller typologies should take into account the setting of archaeological and historic features.



## Character Type Foothills With Forest 18A - Laurieston Area

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>		
<p>This landscape has a generally medium to large scale with hills rising to around 300m although scale is reduced where the landform is more complex and contained on the eastern and southern fringes of the unit.</p>	<p>This typology could relate to the scale of broader hill slopes although these are not extensive and the number of turbines that could be accommodated in these areas would be limited. This typology would dominate the scale of more complex knolly hills and the settled fringes of this landscape.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>While this typology would also dominate the scale of more complex knolly hills and the settled fringes of this landscape there is increased scope for this typology to be associated with the scale of broader hill slopes and rounded hill tops.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Landform</b>		
<p>Landform is more complex on the lower hill slopes on the eastern and southern fringes of this unit with a cluster of craggy knolls and more defined steep-sided hills occurring to the south around Meikle Culcaigrie Hill. Broader upper hill slopes and rounded tops are interspersed with occasionally more interlocking small scale valleys and knolly hill tops within the higher plateau area to the west.</p>	<p>This typology would conflict with more complex landform on the lower fringes of this landscape and would overwhelm the scale of small but distinctive knolls in the south-east even if sited in smoother topography nearby. It would also detract from more irregular topography occasionally found within the higher foothills. It could relate to slacker hill slopes within the lower-lying forested upland plateau although these are not extensive which would limit the number of turbines that could be accommodated.</p> <p><b>Sensitivity rating: High- medium</b></p>	<p>This typology would similarly detract from more complex topography. There may be some increased scope to site this typology on slacker hill slopes and the lower-lying upland forested plateau.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Land cover and landmark features</b>		
<p>Much of this landscape is forested and largely comprises commercially managed spruce mainly on the higher gently rolling upland plateau area. Some remnant mixed policy woodlands occur on the eastern fringes of Laurieston Forest. Small pockets of pasture and moorland occur within the forest. More extensive pasture and, often wet, moorland extends on the lower east-facing slopes; this patterned with scrubby mixed woodland. The elongated and strongly contained Woodhall Loch and Loch Mannoich lie on the eastern fringes of these foothills.</p>	<p>This typology would disrupt the integrity of moorland and wetland and adversely affect the setting of the landmark lochs if sited on the open eastern hill slopes. It would also affect the intricate pattern of small woodlands and scrub and the policy woodlands which occur on the settled fringes of this landscape. Commercially managed forest cover would however be less sensitive in this respect.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could disrupt the integrity of moorland and wetland and could adversely affect the setting of the landmark lochs, particularly if sited on the lower open eastern hill slopes. It would also affect the intricate pattern of small woodlands and scrub and the policy woodlands which occur on the settled fringes of this landscape. Commercially managed forest cover would however be less sensitive in this respect.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Settlement and Archaeology</b>		
<p><b>Sparsely settled within the higher forested plateau but with small farms and cottages located within farmland and on the edge of moorland within the lower open areas below the forest where there are also archaeological and historic sites. An ASA lies within this unit. The small clustered settlement of Laurieston sits at the transition with LCT 13 at the eastern foot of this landscape.</b></p>	<p>While there are opportunities to locate this typology within less settled areas of forestry to avoid scale comparisons with domestic buildings, small farms and the settlement of Laurieston increase sensitivity on the northern and eastern fringes of this landscape, particularly to the very tall turbines towards the top of the height band (150m) as does the ASA and the setting of other archaeological features.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>While there is greater scope to locate this smaller typology within forestry to avoid scale comparisons with domestic buildings, small farms and the settlement of Laurieston increase sensitivity on the northern and eastern fringes of this landscape, as does the ASA and the setting of other archaeological features.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landscape context</b>		
<p><b>This area provides a backdrop to the <i>Drumlin Pastures</i> (13) and to <i>Loch Ken</i> (8) where it is generally seen as a relatively low forested gently undulating plateau. The southern forested slopes of Glengap Forest form a distant backdrop to Gatehouse of Fleet (visible from the monument lying west of the town) with the Hill of Bengray being particularly noticeable.</b></p>	<p>Development within the southern parts of this unit would impact on the highly sensitive small scale knolly landform which extends into LCT 13 and includes the Neilson Monument at Barstobrick and archaeological features between Back Fell and Meikle Culcaigrie Hill. This typology may also be seen in relatively close proximity from open elevated locations within the Fleet Valley NSA if sited in the Glengap Forest and could adversely affect the contrast provided by the backdrop of hills to this intimately scaled and diverse landscape. Turbines visible on the edge of the adjacent <i>Fleet</i> area of LCT 18 would dominate the scale and diminish the notable seclusion of this valley.</p> <p><b>Sensitivity rating: High</b></p>	<p>There may be more scope to site this typology, and particularly turbines towards the lower height band, to minimise effects on adjacent highly sensitive landscapes.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Perceptual qualities</b>		
<p><b>While parts of this landscape can feel secluded, the presence of plantation forestry and farmland precludes a sense of wildness.</b></p>	<p>Effects on the perception of wildness would be limited.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>Effects on the perception of wildness would be limited.</p> <p><b>Sensitivity rating: Medium-low</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Views and visibility</b>		
<p>There is some recreational use within the forest and former policy woodlands on the eastern edge of Laurieston Forest. Footpaths are aligned around Loch Mannoch and the monuments in the south-east of this unit. The A762 is aligned close to the eastern boundary of this landscape unit. Views are fairly contained from this road to the north where steep slopes and vegetation provide containment but are more open to the south of Lauriston. A narrow minor road provides access through Laurieston Forest to the Fleet valley with views presently restricted by forestry.</p> <p>Views of the forested higher plateau of this area are limited from the village of Laurieston although there are more open views from dispersed settlement across the <i>Drumlin Pastures</i> (13) from the east and south. There is visibility from the B795 and from sections of the A75 to the south.</p>	<p>The proximity of these foothills to settled lowland landscapes and valleys increases visual sensitivity. This typology would be likely to be highly visible from settlement, roads and footpaths across a wide area to the south and east. It could also be visible from the Fleet Valley to the south-west.</p> <p>Sensitivity rating: High</p>	<p>There may be greater scope to locate the smaller turbines of this typology away from the edge of these Foothills to minimise visual impact on more populated and sensitive areas.</p> <p>Sensitivity rating: High-medium</p>
<b>Landscape values</b>		
<p>The northern part of this landscape area lies within the Galloway Hills RSA. Technical Paper 6 describes the forested foothills as being included in the RSA because they form the setting to the valued areas of the Galloway Hills, or have an attractive upland forested character in their own right. The reasons for designation of the part of the Laurieston unit covered by the RSA are not specifically noted in Technical Paper 6.</p>	<p>There is likely to be scope to locate developments to avoid impacting on the smaller scale landscape centred on Woodhall Loch which is covered by the RSA or to views of the Galloway Hills seen across the designated area.</p> <p>Sensitivity rating: High-medium to Low</p>	<p>There is likely to be greater scope to locate this smaller typology to avoid impacting on the smaller scale landscape centred on Woodhall Loch which is covered by the RSA or to views of the Galloway Hills seen across the designated area.</p> <p>Sensitivity rating: Medium to Low</p>

## 23.10 Rhinns of Kells area 18a - description and summary of sensitivity

The broad rolling hills of this landscape lie between 200 and 380m and merge with the upper slopes of the high Rhinns of Kells ridge. They have a medium to large scale although scale is reduced within the many incised valleys which cut through often steep slopes. Hill tops are generally rounded and slopes fairly broad and gentle but with occasional craggy hill tops and steep slopes (some of these masked by forestry) reflecting the more dramatic granite geology and ruggedness of the adjacent Rhinns of Kells. The extensive forest cover of this area limits the degree of openness and limits views from this landscape. Grass moorland covers lower hill slopes and small woodlands and shelterbelts are prominent features within the lower reaches of the Polharrow Burn. Occasional small lochs sit within the folds of hills while the impounded Clatteringshaws Loch is a key landmark feature in the south-western part of this character area.

Although these forested foothills have a medium to large scale and simple land cover which could relate to larger development typologies, their proximity to the dramatic ridge of the Rhinns of Kells increases sensitivity. The sensitivity assessment therefore found this landscape to have an overall **High-medium** sensitivity to both the large and medium typologies (turbines >50m).

This landscape area is located within the Galloway Hills RSA and is of **High-medium** sensitivity in terms of landscape values.

### 23.10.1 Smaller typologies

There is likely to be limited demand for smaller turbines in this very sparsely populated landscape area. Small/medium turbines (20-50m) could relate to slacker lower hill slopes where they would have some visual association with smaller scale elements and settlement and would be less likely to appear 'lost' within more expansively scaled upper slopes. Both small/medium and small typologies would adversely affect more distinctive craggy-topped hills and could detract from the dramatic Rhinns of Kells ridge if sited on upper hill slopes or in the line of key views to this ridge from the surrounding area.

### 23.10.2 Cumulative issues

The consented Torrs Hill wind turbines are located within this landscape area. This development comprises two large turbines, 100m high. The operational Wether Hill and Windy Standard wind farms are located approximately 12km to the north-east of this landscape area. The Wether Hill wind farm is generally more visible from this landscape than Windy Standard due to the screening provided to the latter by the hill of Cairnsmore of Carsphairn from lower elevations. The under-construction Blackcraig and the consented Mochrum Fell wind farms would be sited within the Stroan area of the Foothills with

Forest (18a) east of the Ken valley and would be likely to be visible within a range of 7-8km from this landscape.

The Torrs Hill wind farm is likely to be seen over a wider part of the Glenkens landscape (from roads and settlement) than Wether Hill which is only glimpsed intermittently. The Blackcraig wind farm would be inter-visible with the Torr Hill turbines. A concentration of larger typologies located close to the transition with the Glenkens area of the Upper Dale (9) and seen on the skyline either side of the dale could result in significant cumulative landscape and visual effects on views and on the setting of settlements such as Dalry and New Galloway.

### 23.10.3 Key constraints

- The dramatic backdrop of the long shapely ridge of the Rhinns of Kells which is a landmark feature seen across the Glenkens and on entering Dumfries and Galloway from Ayrshire on the A713.
- Clatteringshaws Loch and the scenic backdrop of hills that surround it.
- Key recreational access routes through these forested foothills to the Rhinns of Kells and in the vicinity of Clatteringshaws Loch.
- Small lochans, corries and more complex landform which, while presently obscured by dense coniferous forestry, would be revealed through any felling to accommodate larger wind farm typologies.

- The incised diverse lower valley of the Polharrow Burn which features a mix of policy and native woodlands.
- The various archaeological and historic sites that have survived afforestation.

#### 23.10.4 Opportunities

The predominantly large scale of this landscape and its simple land cover of commercially managed forestry and moorland.

### 23.11 Guidance on development

While the large scale, simple land cover and sparsely populated nature of this landscape are less sensitive to larger wind farm typologies (turbines >50m), the proximity of these foothills to the dramatic ridge of the Rhinns of Kells increases sensitivity to such development, both in terms of landscape context but also visibility and landscape values. Larger typologies would have significant adverse impacts on the landscape setting of the Rhinns of Kells and could affect views of this dramatic mountainous ridge in views from the Glenkens area (LCT 9). The consented Torrs Hill windfarm (2 turbines, 100m high) is likely to affect the landscape setting to these hills and detract from key views to them, mainly from the east. Further larger scale wind farm development in this landscape area would accentuate these adverse effects.

There may be some limited scope to locate smaller turbines towards the lower height band of the medium typology (50-80m) and the small/medium typology (30-50m) on broader lower hill slopes away from key views of the Rhinns of Kells. These smaller turbines should relate to ledges/breaks in slope in order to appear 'rooted' within more open landscapes or be visually associated with farms or other buildings but should take account of the settings of archaeological and historic sites. Turbines should also be sited to avoid impacts on the setting of settlements such as New Galloway. Small turbines (<20m) could also be accommodated by siting so they are clearly associated with existing buildings. Supplementary Guidance is provided on the siting and design of smaller turbines <50m high.

## Character Type 18A Foothills With Forest - Rhinns Of Kells

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>		
<p>The broad rolling hills of this landscape lie between 200 and 380m and merge with the upper slopes of the Rhinns of Kells ridge. They have a medium to large scale although scale is reduced within the many incised valleys which cut through often steep slopes. Extensive forest cover limits the degree of openness.</p>	<p>This typology could relate to the medium to large scale found within the majority of this landscape although it would dominate the narrower incised valleys.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could relate to the medium to large scale found within the majority of this landscape although it would dominate the narrower incised valleys.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landform</b>		
<p>These rolling foothills are dissected by incised river valleys that fan out from the Polharrow and Polmaddy Burns. The hills have a stronger interlocking character south-west of Forrest Lodge. Hill tops are generally rounded and slopes fairly broad and gentle but with occasional craggy hill tops and steep slopes (some of these masked by forestry) reflecting the more dramatic granite geology and ruggedness of the adjacent Rhinns of Kells.</p>	<p>Occasional steep slopes and craggy hill tops would be highly sensitive although the smoother and broader hill tops and slacker hill slopes would relate better to this typology.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology would have similar effects to the large typology on more complex landform although there are greater opportunities to accommodate this smaller typology on gentler lower slopes.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Land cover and landmark features</b>		
<p>Dense coniferous forest covers the majority of this unit, extending high onto the upper slopes of the Rhinns of Kells ridge, within the Polmaddy valley to the north and on the west-facing slopes of Bennan Hill north-east of Clatteringshaws Loch. Grass moorland covers lower hill slopes and small woodlands and shelterbelts are prominent features within the lower reaches of the Polharrow Burn. Occasional small lochs sit within the folds of hills while the impounded Clatteringshaws Loch is a key landmark feature due to its size and location.</p>	<p>Occasional open hill tops within dense forestry provide interest and contrast with the uniformity of commercially managed spruce plantation. Development which was sited upon, or visually intruded on, these hill tops would diminish this contrast. The setting of landmark lochs and more naturalistic pattern of wooded river valleys which increase diversity could also be affected by nearby development. This typology could however relate to the overall simple pattern of moorland and commercial forestry which dominates this landscape.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Occasional open hill tops within dense forestry provide interest and contrast with the uniformity of commercially managed spruce plantation. Development which was sited upon, or visually intruded on, these hill tops would diminish this contrast. The setting of landmark lochs and more naturalistic pattern of wooded river valleys which increase diversity could also be affected by nearby development. This typology could however relate to the overall simple pattern of moorland and commercial forestry which dominates this landscape.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Settlement and Archaeology</b>		
<p>This landscape area is sparsely settled with buildings associated with the Forest estate concentrated at the head of the main Polharrow valley and very occasional farms. Extensive historic / archaeological features associated with lower reaches of the Polharrow valley and other minor valleys. ASAs at Polharrow Burn and Bardewnnoch-Garryhorn.</p>	<p>The sparsely settled nature of this predominantly forested upland landscape reduces sensitivity to wind farm development in general but the setting of archaeological sites in unafforested areas remains sensitive.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>The sparsely settled nature of this predominantly forested upland landscape reduces sensitivity to wind farm development in general but the setting of archaeological sites remains sensitive.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Landscape context</b>		
<p>These forested hill slopes lie in close proximity to the dramatically rugged and highly scenic long ridge of the Rhinns of Kells and are important in providing the landscape setting to these highly sensitive uplands. The more settled landscape of the Upper Dale (9) of the Upper Glenkens lies to the east of this unit</p>	<p>This typology would impact on the setting of the Rhinns of Kells ridge and could further diminish the integrity of the wider upland area of the Galloway Hills.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would also impact on the setting of the dramatically rugged Rhinns of Kells ridge and could further diminish the integrity of the wider upland area of the Galloway Hills. There may be limited scope for turbines towards the lower height band of this typology to be located on lower hill slopes, away from the more sensitive ridge of the Rhinns of Kells and thus minimise impacts on its setting.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Perceptual qualities</b>		
<p>Although the perception of naturalness is compromised by extensive commercially managed forestry in this area, the proximity of the Rhinns of Kells and the Merrick Wild Land Area increases the sense of wildness in some areas.</p>	<p>The proximity of these landscapes to uplands with a pronounced sense of wildness increases sensitivity to this typology. The introduction of this development typology would further reduce the sense of wildness which is already compromised by commercial forestry and could affect the experience of walkers accessing the Rhinns of Kells.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>The proximity of these landscapes to uplands with a pronounced sense of wildness increases sensitivity to this typology. The introduction of this development typology would further reduce the sense of wildness which is already compromised by commercial forestry and could affect the experience of walkers accessing the Rhinns of Kells.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<p><b>Views and visibility</b></p> <p>The Rhinns of Kells are a popular destination for walkers and access to the ridge is possible through the Forrest Estate. Dense forest limits open views from footpaths. The SUW is also aligned on the north shore of Clatteringshaws Loch and along the Garroch Burn in the southern part of this unit. Clatteringshaws Loch is an important focus for recreation within the Galloway Forest Park.</p> <p>The A712, 'The Queen's Way', provides open views across Clatteringshaws Loch. The craggy-topped Bennan Hill (381m) lying on the south-western edge of this character type is a key feature in these views. This landscape unit is highly visible from the B7000, which allows elevated open views across to the Rhins of Kells, and from settlement within the Glenkens. It is also visible at distance from the A712 (Balmaclellan) and intermittently from the A713. The landscape unit is visually contained by the Rhinns of Kells to the west although is visible in close proximity from the ridge itself.</p>	<p>This typology could impact on views from footpaths to the Rhinns of Kells and the SUW. It would have significant visual impacts from visitor facilities and the A712 if sited on the south-western hills which contain Clatteringshaws Loch or if seen on the skyline (if sited on hill slopes to the north-east). Tall turbines would interrupt or detract from the distinctive profile and backdrop of the Rhinns of Kells which are a focus in views mainly seen from the east. They would also impact on the Rhinns of Kells if located so visible from the A713 to the north on the approach to Dumfries and Galloway from East Ayrshire where these hills form an important threshold feature and key focus.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could impact on views from footpaths to the Rhinns of Kells and the SUW. It would have significant visual impacts from visitor facilities and the A712 if sited on the south-western hills which contain Clatteringshaws Loch or if seen on the skyline (if sited on hill slopes to the north-east). Turbines around the smaller height band of this typology may minimise visual impacts if they were located on lower hill slopes and away from key views to the Rhinns of Kells.</p> <p><b>Sensitivity rating: High</b></p>
<p><b>Landscape values</b></p> <p>The Galloway Hills RSA covers this entire landscape unit. Technical Paper 6 describes the forested foothills as being included in the RSA because they form the setting to the valued areas of the Galloway Hills, or have an attractive upland forested character in their own right. It notes that parts of this unit along the A712 'Queensway' through the Galloway Forest Park are included on their own merits while the northern parts are included because they form an important part of the setting to the Galloway Hills. The Galloway Forest Park extends across part of this character type.</p>	<p>This typology would have a significant and adverse effect on the special qualities of the RSA and in particular the dramatic and scenic Rhinns of Kells ridge and their contribution to the wider setting of the Galloway Hills.</p> <p>Wind farm development could affect the experience of people using recreational facilities within the Galloway Forest Park and potentially also the Dark Sky Park, particularly if large turbines were illuminated.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could have similar effects on the setting of the Rhinns of Kells although there may be scope for smaller and limited numbers of turbines within this typology sited on lower hill slopes to minimise potential impacts.</p> <p>Wind farm development could affect the experience of people using recreational facilities within the Galloway Forest Park</p> <p><b>Sensitivity rating: High-medium</b></p>



## 23.12 Stroan (18a) - Description and summary of sensitivity

The Stroan area of the Foothills with Forest forms an undulating upland plateau of generally smoothly rounded hills which is punctuated by occasional, higher and more well-defined ridges and hills. Blackcraig ridge lies at the centre of this area and divides the unit into distinct northern and southern sections. The long south-east facing slopes of the ridge, cumulate in a shallow basin around Monybuie Flow. Numerous water courses cut shallow channels into this landscape and small lochans sit at the foot of hills. More complex, small scale hummocky landform occurs on the eastern fringes of this area close to the Drumlin Pastures (13). This landscape is predominantly forested although areas of moorland and moss occur in places with some walled semi-improved pastures present on lower slopes at the transition with surrounding more settled lowland landscapes. The unit contains some smaller scale areas of local distinctiveness, and local landscape features such as the Lochinvar area and Mochrum Fell. The A702 and A712 are aligned through this landscape and a few narrow minor roads provide access to isolated farms. This landscape is sparsely settled particularly in the more densely forested area north of the Blackcraig ridge. Under-construction and consented wind farm development will be a key influence on the character of this landscape.

This landscape would be of High sensitivity to the Very Large typology due to effects on the scale of this landscape and on surrounding smaller scale settled landscapes and in addition, cumulative effects with under-construction and consented wind farms. There would be a High-medium sensitivity to the Large typology (turbines 80-150m) with potential indirect effects on adjoining smaller scale settled landscapes being a key constraint. Sensitivity would be High-medium to the medium typology (turbines 50-80m) as although these turbines are more likely to comprise single and small groups of turbines, they could have cumulative effects with larger turbines within wind farm developments.

Landscape values would be Low for both typologies due to an absence of landscape designations, formally recognised interests and other values.

### 23.12.1 Cumulative issues

The under-construction Blackcraig wind farm is located in this landscape unit as is the consented Mochrum Fell wind farm. The operational Wether Hill wind farm is located approximately 4km to the north-east of this landscape unit within the adjacent Ken unit of the Southern Uplands with Forest (19a). Operational and consented wind farms within Nithsdale and Carsphairn units of 19a have limited visibility from this area.

The Blackcraig wind farm adopts a largely linear layout with turbines located on a prominent ridge between Fell Hill (417m) and Troquhain Hill and sited at elevations of around 400m. The Blackcraig ridge offers a degree of separation and potential partial screening that could limit cumulative landscape and visual impacts between consented and additional wind farm developments from lower level views. The consented Mochrum Fell wind farm is located to the south of the Blackcraig wind farm. This development will be more clustered in form and be sited at a lower elevation than Blackcraig, reducing prominence and potential cumulative issues to some degree.

Although this landscape has some upland characteristics including a simple land cover pattern and sparse settlement, it lies very close to smaller scale and diverse settled landscapes in the south including the Flooded Valley (8), Upper Dale (9) and Drumlin Pastures (13). Key cumulative effects may include:

- A concentrated build-up of wind farms within this landscape forming a consistent and dominant feature seen on the skyline of low hills which backdrop the sensitive Flooded Valley (8), Upper Dale (9) and Drumlin Pastures (13).
- Cumulative effects with wind farms located in the adjacent Southern Uplands with Forest (19a) could comprise a feeling of coalescence and dominance in views from settlement, roads and recreational routes within the Glenkens

- Sequential views from major roads including the A713, A712 and A702.
- Cumulative effects on key views including those from recreational areas such as the Galloway Forest Park and Galloway Hills RSA, important viewpoints such as High and Low Bennan, the SUW and from settlements with more elevated areas revealing multiple developments.
- Concentrated wind farm development in this landscape (and particularly into the southern area) would contrast with the predominant pattern of more extensive wind farm development associated with larger upland landscapes remote from more settled areas.

### 23.12.2 Key constraints

- The narrowness of this band of forested hills and their location within more settled and small scale landscapes in the lowlands of Dumfries and Galloway which increases sensitivity to larger typologies.
- The small scale knolly landform which occurs on the fringes of these Foothill landscapes particularly at the transition with the adjacent Drumlin Pastures (13) character type and which would be sensitive to larger wind farm typologies.
- The visibility of these foothills from the adjacent smaller scale and more diverse settled landscapes of the Flooded Valley (8), Drumlin Pastures (13), Corsock unit of the Upland Fringe

(16) and Upper Dales (9) of the Ken valley to the west (8) and the Castlefairn unit of the Upland Glens (10) to the north-east.

- Cumulative effects with the under-construction Blackcraig and consented Mochrum Fell wind farms.

### 23.12.3 Opportunities

- The medium to large scale of this landscape, its generally simple land cover of forestry and moorland and sparse population.

## 23.13 Guidance for development

There are no opportunities for the Very Large typology (turbines 150m+) due to the limited extent of this landscape and its proximity to smaller scale settled landscapes and the cumulative effects that would arise with under-construction and consented wind farms sited in this landscape.

There are some very limited opportunities for the Large typology (turbines 80-150m) to be sited on broader less prominent hills and ridges set well back from the edge of more settled landscapes such as the Drumlin Pastures (13), Flooded Valley (8) and Upland Glens (10) landscape types. The northern part of this landscape unit is generally less visible from roads and settlements, although there are recreational receptors, such as the SUW, Lochinvar, and minor roads plus the Galloway Forest Park. Additional turbines should be limited in number with scope greatest for one or two small clustered groupings or very small extensions

to consented developments in order to avoid a dominant effect on adjacent smaller scale settled landscapes. Development should avoid areas of more complex smaller scale landform commonly found at the transition with the Drumlin Pastures (13) and the Narrow Wooded Valley (4) of the Urr character types and more sensitive mosses and remnant broadleaved woodlands and other planted features. Construction access should utilise existing forestry tracks and avoid the highly sensitive network of narrow minor roads within the adjacent Drumlin Pastures (13).

There are very limited opportunities to accommodate the Medium typology (turbines 50-80m). It is assumed that this typology would comprise single or very small turbine groupings associated with farms on lower hill slopes. Cumulative effects with consented wind farms will be a key constraint although there may be scope for turbines towards the lower height band of this typology and the Small-medium typology (30-50m) to be sited on areas of broader, gently sloping moorland and pastures on the fringes of forestry, preferably taking advantage of a backdrop of higher ground to minimise visual impact, and located closer to dispersed farms and the more settled lowland landscapes and valleys. Supplementary Guidance is provided on the siting and design of turbines <50m high.

## Character Type 18A Foothills With Forest - Stroan

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>			
<p>A medium to large scale undulating upland plateau generally lying between 200-320m but with occasional higher hills. Extensive forestry limits the openness of this landscape. Scale is reduced within more open incised valleys and where the landform forms complex knolls generally to the west and south.</p>	<p>Very tall turbines closer to 200m tall would dominate the scale of small hills and the narrow extent of this upland landscape. Turbines around 150m high would also have a dominant effect on more well-defined small hills and areas of more complex landform although more extensive shallow basins would be less sensitive in terms of scale.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could relate to the scale of broader rounded hills and shallow basins although tall turbines would dominate valleys and well-defined small hills and the more complex knolly landscape that occurs on the fringes of this unit if sited on or close-by these features.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could relate to the scale of broader rounded hills and shallow basins although tall turbines would dominate valleys and well-defined small hills and the more complex knolly landscape that occurs on the fringes of this unit if sited on or close-by these features</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landform</b>			
<p>This area forms an undulating upland plateau of generally smoothly rounded hills but with the more distinctly rugged 'Blackcraig' ridge extending from the prominent cone of Fell Hill (417m) to Troquhain Hill (340m) in the centre of the unit and the distinct peak of Mochrum Fell (317m) in the south. The long south-east facing slopes of the Blackcraig ridge cumulate in a shallow basin around Monybuie Flow. The area is cut by numerous water courses and contains many lochans; Lochinvar being the largest. The Blackmark Burn forms the most incised valley between the elongated Stroan Hill and Blackcraig Ridge. More complex, small scale hummocky landform occurs on the eastern fringes of this unit close to the Drumlin Pastures (13).</p>	<p>Turbines sited on or close to well-defined hills would detract from their distinctive form and diminish the appreciation of their vertical scale. Development could potentially be accommodated on slacker hill slopes and gently undulating broader basins. More complex hummocky landforms lochans and valleys have an increased sensitivity.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Turbines sited on or close to well-defined hills would detract from their distinctive form and diminish the appreciation of their vertical scale. Development could potentially be accommodated on slacker hill slopes and gently undulating broader basins. More complex hummocky landforms, lochans and valleys have an increased sensitivity.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Turbines sited on or close to well-defined hills would detract from their distinctive form and diminish their vertical scale. This typology could be accommodated on slacker hill slopes and gently undulating broader basins. More complex hummocky landforms lochans and valleys have an increased sensitivity.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Land cover and landmark features</b>			
<p>Land cover is generally simple with extensive coniferous forestry covering the majority of the unit but with some broad areas of grass moorland, wetter moss areas and occasional walled pastures fringing forestry more prominent at the transition with the Drumlin Pastures (13) and the Narrow Wooded River Valley of the Urr (4). Remnant broadleaved field trees and beech copses are evident on the fringes of forestry or partially subsumed into conifer plantations. Small lochans sit at the foot of hills although are largely hidden by forestry.</p>	<p>The absence of strong pattern could associate well with large turbines. Commercially managed forestry would be less sensitive to development while the setting of lochans and areas of moss, heather moorland and remnant broadleaves which enrich landscape character would be more sensitive to this typology.</p> <p>Sensitivity rating: Medium</p>	<p>The absence of strong pattern could associate well with large turbines. Commercially managed forestry would be less sensitive to development while the setting of lochans and areas of moss, heather moorland and remnant broadleaves which enrich landscape character would be more sensitive to this typology.</p> <p>Sensitivity rating: Medium</p>	<p>The absence of strong pattern could associate well with large turbines. Commercially managed forestry would be less sensitive to development while the setting of lochans and areas of moss, heather moorland and remnant broadleaves which enrich landscape character would be more sensitive to this typology. There is greater scope to accommodate this smaller typology to avoid impacts on more sensitive vegetation cover.</p> <p>Sensitivity rating: Medium-low</p>
<b>Settlement and archaeology</b>			
<p>This landscape is sparsely settled with isolated farms and archaeological / historic sites in unafforested areas located within valleys and along the minor roads which cross the area.</p>	<p>Turbines of this size would dominate the scale of isolated buildings in the southern part of this landscape although the less settled area north of the Blackcraig Ridge would be less sensitive.</p> <p>Sensitivity rating: High-medium</p>	<p>There would be some limited scope to locate this typology so as to avoid dominating the scale and setting of buildings within this sparsely settled landscape unit but the setting of archaeological sites remains sensitive.</p> <p>Sensitivity rating: Medium</p>	<p>There would be increased scope to locate turbines towards the lower height band of this typology so as to avoid dominating the scale and setting of buildings within this sparsely settled landscape unit but the setting of archaeological sites remains sensitive.</p> <p>Sensitivity rating: Medium-low</p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Landscape context</b>			
<p>These foothills are located close to the settled lowlands. Key hills and ridges are important in forming landmarks from surrounding populated valleys, for example Fell Hill which is a prominent feature seen along the length of Castlefairn Glen and Blackcraig ridge backing the Drumlin Pastures (13). The Mochrum Fell area in the south-west of this unit provides a low forested backdrop in close proximity to the Flooded Valley (8) of Loch Ken and the Drumlin Pastures (13). To the north the unit forms a backdrop to the Upper Glenkens valley (9).</p>	<p>The narrow extent of these foothills and their proximity to smaller scale settled landscapes increases sensitivity. This typology, which could comprise turbines of up to 200m, would adversely affect the often rugged backdrop and contrast these foothills provide to settled small scale glens, valleys and drumlin farmland. Turbines of this size would affect the simple backdrop and contrast these foothills provide to the diverse Loch Ken area and would dominate smaller scale landscapes.</p> <p><b>Sensitivity rating: High</b></p>	<p>The narrow extent of these foothills and their proximity to smaller scale settled landscapes increases sensitivity. Large turbines sited on or close to landmark hills and ridges would adversely affect the rugged backdrop and contrast they provide to settled small scale glens. This typology located on the outer edges of this landscape or forming a consistent feature seen on the skyline of containing ridges would clutter the simple backdrop and contrast to the diverse Loch Ken area and could dominate adjoining smaller scale landscapes.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>While this typology would have similar adverse effects on landmark hills and containing hill slopes, there may be increased opportunities to site turbines within the lower height band of this typology to minimise the effect on the wider landscape context by associating development with gentler slopes on the fringes of forestry.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Perceptual qualities</b>			
<p>These foothills are sparsely settled and accessed by a few narrow single track roads. Extensive commercially managed forest cover creates a sense of seclusion in places but limits naturalness. There is not a strong sense of wildness associated with much of this landscape. Consented wind farm development will further reduce the sense of wildness. Less modified lochans, wetland and open hills tops are more natural in character.</p>	<p>Turbines of this size would further diminish the sense of seclusion that can be experienced in parts of this landscape as tracks and built infrastructure were introduced although there would be little effect on wildness within predominantly forested areas. Open hill tops, lochans, ridges and wetland/moorland would be more sensitive.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>Turbines of this size would further diminish the sense of seclusion that can be experienced in parts of this landscape as tracks and built infrastructure were introduced although there would be little effect on wildness within predominantly forested areas. Open hill tops, ridges, lochans, wetland and moorland would be more sensitive.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>This typology is more likely to comprise small extensions or single and small groups of turbines sited on the outer edges of this landscape where the perception of wildness is low due to adjacent settlement.</p> <p><b>Sensitivity rating: Medium-low</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Views and visibility</b>			
<p>This landscape is sparsely settled. The A702 and a few minor roads are aligned through this landscape although views tend to be limited by landform and forestry. The SUW, a network of Core Paths (eg around Mochrum Fell) and other recreational routes are present in this landscape. In terms of visibility from outside this landscape area, Fell Hill forms a focus in views from the A702 and from Castlefairn Glen and the 'Blackcraig' Ridge is highly visible from the A712 and from the settled Drumlin Pastures (13) to the south-west. Mochrum Fell is also a focus in views from Loch Ken and the surrounding well-settled Drumlin Pastures (13) and Corsock Fringe (16).</p>	<p>This typology, and particularly turbines towards 200m high, would dominate views from nearby footpaths. It would also be visually prominent from surrounding roads and well-settled landscapes.</p> <p><b>Sensitivity rating: High</b></p>	<p>Turbines located on sensitive ridges or focal hills seen at the heads of glens would be visually prominent from roads and settlement. There may be some limited opportunities to site this typology away from more visually prominent ridges and hills and set well back from the skyline of backdrop hills which lie close to more settled areas, for example the <i>Drumlin Pastures</i> (13) and Loch Ken area, to minimise visual impact.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would have similar adverse visual effects from surrounding settlement and roads if sited on focal hills and ridges but there could be increased scope to site turbines towards the lower height band to minimise visual impact from settlement, roads and footpaths.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landscape values</b>			
<p>No landscape designations apply to this landscape unit. There are also no other recognised landscape interests or notably rare landscape features, although features such as Lochinvar, the nature reserve NW of Corsock, smaller lochans and open hilltops are of local landscape value.</p>	<p>Sensitivity is reduced in relation to landscape values.</p> <p><b>Sensitivity rating: Low</b></p>	<p>Sensitivity is reduced in relation to landscape values.</p> <p><b>Sensitivity rating: Low</b></p>	<p>Sensitivity is reduced in relation to landscape values.</p> <p><b>Sensitivity rating: Low</b></p>

## 23.14 Eskdale, Oer and Tinnisburn (18a) - Description and summary of sensitivity

The predominantly expansive, gently undulating landform and simple extensive coniferous forest cover of these areas of the Foothills with Forest (18a) reduces sensitivity to larger typologies of wind farm development, although this varies slightly between the three landscape units with the Oer area being more extensive in scale and less sensitive in the north where it imperceptibly merges with the expansive Southern Uplands with Forest (19a).

Overall landscape and visual sensitivity would be **High-medium** for the Very Large typology (150m+). Sensitivity to the Large typology (80-150m) and the Medium typology (50-80m) would be **Medium**.

The majority of this landscape is not covered by landscape designations. A promoted archaeological trail along the White Esk Valley provides access to a number of Iron Age Hill Forts and other ritual sites within the Castle Oer unit. However, the general absence of recreational use or other non-designated interests, would result in **Low** sensitivity in respect of landscape values for all typologies but with a **High-medium** sensitivity within part of the Tinnisburn unit covered by the Langholm Hills RSA.

### 23.14.1 Cumulative issues

No wind farm development is located in these landscape areas. The operational wind farm of Minsca and the under-construction and consented wind farms of Ewe Hill and Solwaybank are located within the adjacent Annandale area of the Foothills (18). The consented Ewe Hill phase II wind farm is located in the West Langholm area of the Southern Uplands with Forest (19a) with Craig and its consented extension lying just over the border in LCT19. Potential cumulative effects could occur in views from Annandale although the distance between developments and the limited visibility of the interior of the Oer area may reduce sensitivity

Key cumulative effects that may arise include:

- Creation of a 'corridor' effect of wind farms affecting Annandale if extensive development were to occur in the Oer area and in the Annandale area of the Foothills (18) and seen in combination with the operational and under-construction Minnygap and Harestanes wind farms. The distance between developments and limited visibility of the interior of the Oer area would be likely to reduce sensitivity however.
- Cumulative effects with the operational Craig wind farm affecting sensitive skylines above Eskdale and also seen from open hill tops, for example popular summits within the Langholm Hills.

### 23.14.2 Key constraints

- More pronounced rounded forested perimeter hills which provide a strong containing edge and focus on the edge of the valley of Eskdale, with Iron Age Hill Forts a feature of local distinctiveness.
- The more complex landform of more well-defined hills on the western boundary of the Oer area at the transition with the Annandale area of the Foothills (18).
- Archaeological features within the Oer and Eskdale units of this character type and commonly lying at the transition with Eskdale (4) and the Annandale area of the Foothills (18).
- Visibility of the Tinnisburn area from the more settled open landscapes within neighbouring Cumbria and from key viewpoints in the Langholm Hills.
- Cumulative effects with wind farms sited in the Annandale area of the Foothills (18), the West Langholm areas of the Southern Uplands with Forest (19a), and the Southern Uplands (19).

### 23.14.3 Opportunities

- The large scale of this character type and its predominantly simple, gently rolling landform.
- The sparsely settled nature of this character type.
- Extensive commercially managed forestry which covers the majority of the character type.

## 23.15 Guidance for development

There may be very limited opportunities for Very Large turbines (150m+) to be located in the Oer area but only if set in the north of these forested uplands where they are most extensive in scale at the transition with the Eskdalemuir area of the Southern Uplands with Forest (19a).

There are some limited opportunities for the Large typology (turbines 80-150m) although development should avoid the more pronounced forested hills which provide an important backdrop and containing 'edge' to the smaller scale valley of Eskdale and the more complex landform which occasionally occurs at the transition with the Annandale area of the Foothills (18).

There is also some limited scope to accommodate the Medium typology (turbines 50-80m) but only if located on more extensive open farmed hill slopes set back from settled valleys.

All development should also avoid impacting on the setting of archaeological features which occur on the fringes of these landscape areas. The Tinnisburn unit is more visually sensitive than the Oer and Eskdale areas due to its wider landscape context of the open Langholm Hills and more settled valley of the Liddel Water.



## Character Type 18A - Foothills With Forest - Eskdale, Oer, Tinnisburn

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>			
<p>These landscape units of the Foothills with Forest form an expansive undulating upland plateau lying between 290-330m high. Scale is reduced in more contained valleys and where the landform is more complex on the western boundaries of the Oer unit. Openness is limited by dense forestry.</p>	<p>Although the absence of scale references reduces sensitivity to the north of the Oer unit, turbines towards 200m high would dominate the limited extent of these landscapes elsewhere.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Larger turbines within this height band would dominate the limited extents of the Tinnisburn and Eskdale areas although there is increased scope to accommodate this typology within the more extensive northern Oer area.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could relate to the scale of all landscape areas.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Landform</b>			
<p>These foothills are generally smooth with subtle rounded summits and elongated ridges. Extensive forestry masks the underlying landform although more complex interlocking ridges and valleys are evident particularly close to the western boundary of the Oer unit at the transition with the Annandale Foothills (18). More defined rounded hills border Eskdale in places.</p>	<p>This typology could relate to the predominantly gently undulating landform to the north of this character type although more pronounced rounded hills at the edge of Eskdale and the more complex smaller scale landform on the western boundaries of the Oer unit are more sensitive.</p> <p><b>Sensitivity rating: Medium-Low</b></p>	<p>This typology could relate to the predominantly gently undulating landform to the north of this character type although more pronounced rounded hills at the edge of Eskdale and the more complex smaller scale landform on the western boundaries of the Oer unit are more sensitive.</p> <p><b>Sensitivity rating: Medium-Low</b></p>	<p>This typology could relate to the predominantly gently undulating landform to the north of this character type although more pronounced rounded hills at the edge of Eskdale and the more complex smaller scale landform on the western boundaries of the Oer unit are more sensitive.</p> <p><b>Sensitivity rating: Medium-Low</b></p>
<b>Land cover and landmark features</b>			
<p>Extensive commercial forestry covers much of this landscape. There is some open space, most notably in the upper Water of Milk valley and also along other water courses. Small areas of hill pasture fringe lower hill slopes.</p>	<p>The uniformity of extensive forest cover reduces sensitivity to wind farm development. Open ground and pasture would be more sensitive to development.</p> <p><b>Sensitivity rating: Low</b></p>	<p>The uniformity of extensive forest cover reduces sensitivity to wind farm development. Open ground and pasture would be more sensitive to development.</p> <p><b>Sensitivity rating: Low</b></p>	<p>This typology is assumed to comprise single and small groups of turbines which may have a reduced effect on larger areas of open ground.</p> <p><b>Sensitivity rating: Low</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<p><b>Settlement and archaeology</b></p> <p>There is little settlement within this character type. However, a number of Iron Age hill forts and other archaeological features occur on the edge of these foothills adjacent to Eskdale (4) and the Annandale Foothills (18).</p>	<p>There is scope for this typology to be accommodated without conflicts of scale and impacts on settlement although the setting of archaeological sites remains sensitive.</p> <p><b>Sensitivity rating: Medium-Low</b></p>	<p>There is scope for this typology to be accommodated without conflicts of scale and impacts on settlement although the setting of archaeological sites remains sensitive.</p> <p><b>Sensitivity rating: Medium-Low</b></p>	<p>There is scope for this typology to be accommodated without conflicts of scale and impacts on settlement although the setting of archaeological sites remains sensitive.</p> <p><b>Sensitivity rating: Medium-Low</b></p>
<p><b>Landscape context</b></p> <p>There is a gradual merging of the Oer area with the Southern Uplands with Forests (19a) to the north with the division imperceptible. These upland areas tending to be set back from more sensitive small scale valleys. Elsewhere, some hills on the edge of these units of the Foothills with Forest (18a) are visible from the Narrow Wooded River Valleys (4) of Eskdale and the Dryfe Water (5) where open and more pronounced 'edge' hills form a backdrop and contrast to these settled farmed valleys.</p> <p>The Tinnisburn unit forms a forested plateau providing an indistinct and foreshortened backdrop to the Liddel Water valley (4) and the upper slopes of the Tarras valley. More pronounced rounded forested hills occasionally occur along the western boundary of the Oer unit at the transition with the Annandale area of the Foothills (18).</p>	<p>Turbines towards the upper height band of 200m, could dominate surrounding small scale valleys and the well-settled <i>Annandale Foothills</i> (18).</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>While development sited in the more sensitive 'edge' hills would dominate the scale of adjacent settled valleys and glens, there is scope for this typology to be sited within the northern part of the larger unit of <i>Oer</i> to avoid impacting on the wider landscape context.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology is more likely to comprise single and small groups of 'farm' turbines. Farmed areas are more commonly found on the outer edges of this landscape and closer to more sensitive valleys.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Perceptual qualities</b>			
<p>Although the interior of these landscapes can feel remote due to the distance from settlement and public roads, the presence of extensive commercially managed forestry precludes a sense of naturalness.</p>	<p>This typology would be likely to have no significant adverse effect on perceptual qualities.</p> <p><b>Sensitivity rating: Low</b></p>	<p>This typology would be likely to have no significant adverse effect on perceptual qualities.</p> <p><b>Sensitivity rating: Low</b></p>	<p>This typology would be likely to have no significant adverse effect on perceptual qualities.</p> <p><b>Sensitivity rating: Low</b></p>
<b>Views and visibility</b>			
<p>Views within these landscape units are restricted by extensive forestry. It is very sparsely settled and there are few public roads. The B723 is aligned through Oer Forest and allows some views into the forested interior (and long glimpsed views to Craig wind farm). There are footpaths to the hill forts of Castle Oer and Bessie on the fringes of Oer Forest and these provide vantage points over parts of these landscapes.</p> <p>These landscape units comprise gently undulating plateaux uplands set back from settled valleys and glens. Views to these areas are generally very limited. Tinnisburn Forest is visible from more elevated footpaths and settlement in the Liddel Water valley and particularly from the north-west facing valley sides within neighbouring Cumbria but not from the incised, well-wooded valley floor. There are also views of Tinnisburn Forest from the Whita Hill monument above Langholm. Views from settlement and roads within the Esk valley (4) to the Eskdale and Oer units are limited by the perimeter hills which contain the valley.</p>	<p>There may be some very limited scope for this typology to be located within the remote 'interior' of the more extensive <i>Oer</i> area to limit visibility. Turbines of this size located in the less extensive <i>Eskdale</i> and <i>Tinnisburn</i> areas would be likely to more visible from adjacent settled valleys. More defined perimeter hills bordering valleys and glens and the <i>Annandale Foothills</i> to the west would be highly sensitive to this typology as turbines would be dominant features seen on the skyline above smaller scale settled landscapes.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>There is scope for this typology to be located within the more remote 'interior' of the <i>Oer</i> and <i>Eskdale</i> units without widespread significant visual impact occurring due to the sparse population, absence of roads and limited visibility from more settled areas. This typology sited on more defined perimeter hills bordering valleys and glens and the <i>Annandale Foothills</i> to the west would be visually dominant however as it would be likely to be seen on the skyline above smaller scale settled landscapes.</p> <p>The <i>Tinnisburn</i> area is more sensitive and this typology would be visible in relative proximity from key recreational viewpoints in the Langholm Hills and from parts of the Liddel Water valley.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology is more likely to comprise single and small groups of 'farm' turbines. Farmed areas are more commonly found on the outer edges of this landscape and closer to roads and settlement. Visual impact may be minimised by using turbines towards the lower height band of this typology and set back on more gentle open slopes in the <i>Tinnisburn</i> area.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Landscape values</b>			
<p><b>No landscape designations apply to the Oer and Eskdale units. The north-western part of the Tinnisburn area is covered by the Langholm Hills RSA. There is a promoted archaeological trail along the Esk valley.</b></p>	<p>There would be no effects on designated landscapes in the majority of these units although if located in the <i>Tinnisburn</i> area this typology could impact on the small scale Tarras valley and Southern Uplands.</p> <p><b>Sensitivity rating: High-medium to Low</b></p>	<p>There would be no effects on designated landscapes in the majority of these units although if located in the <i>Tinnisburn</i> area this typology could impact on the small scale Tarras valley and Southern Uplands.</p> <p><b>Sensitivity rating: High-medium to Low</b></p>	<p>There would be no effects on designated landscapes in the majority of these units although if located in the <i>Tinnisburn</i> area this typology could impact on the small scale Tarras valley and Southern Uplands.</p> <p><b>Sensitivity rating: High-medium to Low</b></p>



An extensive gently undulating plateau with simple landform and uniform forest land cover



The edge of these foothills are more sensitive where they border smaller scale valleys such as Eskdale



While visibility is generally reduced within these densely forested and sparsely settled foothills, felling has potential to periodically reveal views



More complex small scale landform and archaeology occasionally features at the transition with the adjacent 'Annandale' Foothills



Fell Hill within the 'Stroan' unit forms a focus seen at the head of the Castlefairn valley – the consented Black Craig wind farm is located on this hill.



Some of these landscapes are highly visible from roads and recreation areas, such as the 'Rhynns of Kells' unit seen from Clatteringshaws Loch.



Broadleaved woodland merges with coniferous forest in 'Cairnsmore' and backdrops Newton Stewart.



Many of these units of the Foothills with Forest are popular for recreation.



More uniform forest cover within the extensive gently undulating basin of the 'Cullendoch' unit.



The lower forested plateau of the 'Laurieston' unit seen from the adjacent Drumlin Pastures.

## 24. Southern Uplands (19)

### 24.1 Introduction

The Southern Uplands Type predominantly occurs on the northern and eastern fringes of Dumfriesshire and extends into neighbouring Scottish Borders, East Ayrshire and South Lanarkshire. There are ten landscape units considered within this character type in this study. There is a strong consistency across the following eight landscape units which are considered together in a single sensitivity assessment:

- North Moffat
- East Moffat
- North Langholm
- West Langholm
- Tarras
- Lowther
- Carsphairn
- Beneraid

The Nithsdale and NW Lowthers landscape units are considered together, due to the generally lower elevation of hills and their specific context.

Demand for smaller scale typologies is likely to be limited and these are only considered within the summary and guidance section of the assessment.

#### 24.1.1 Cultural heritage overview

This landscape type is characterised as moorland/rough grazing with some forestry in the east, along with relict land-uses. There are areas of pre-improvement (pre-19thc) land-use with their remains of buildings and distinct field shapes, as well as industrial landscapes. There are a number of archaeological sites of outstanding significance and distinctiveness, a few of which are promoted for public benefit.

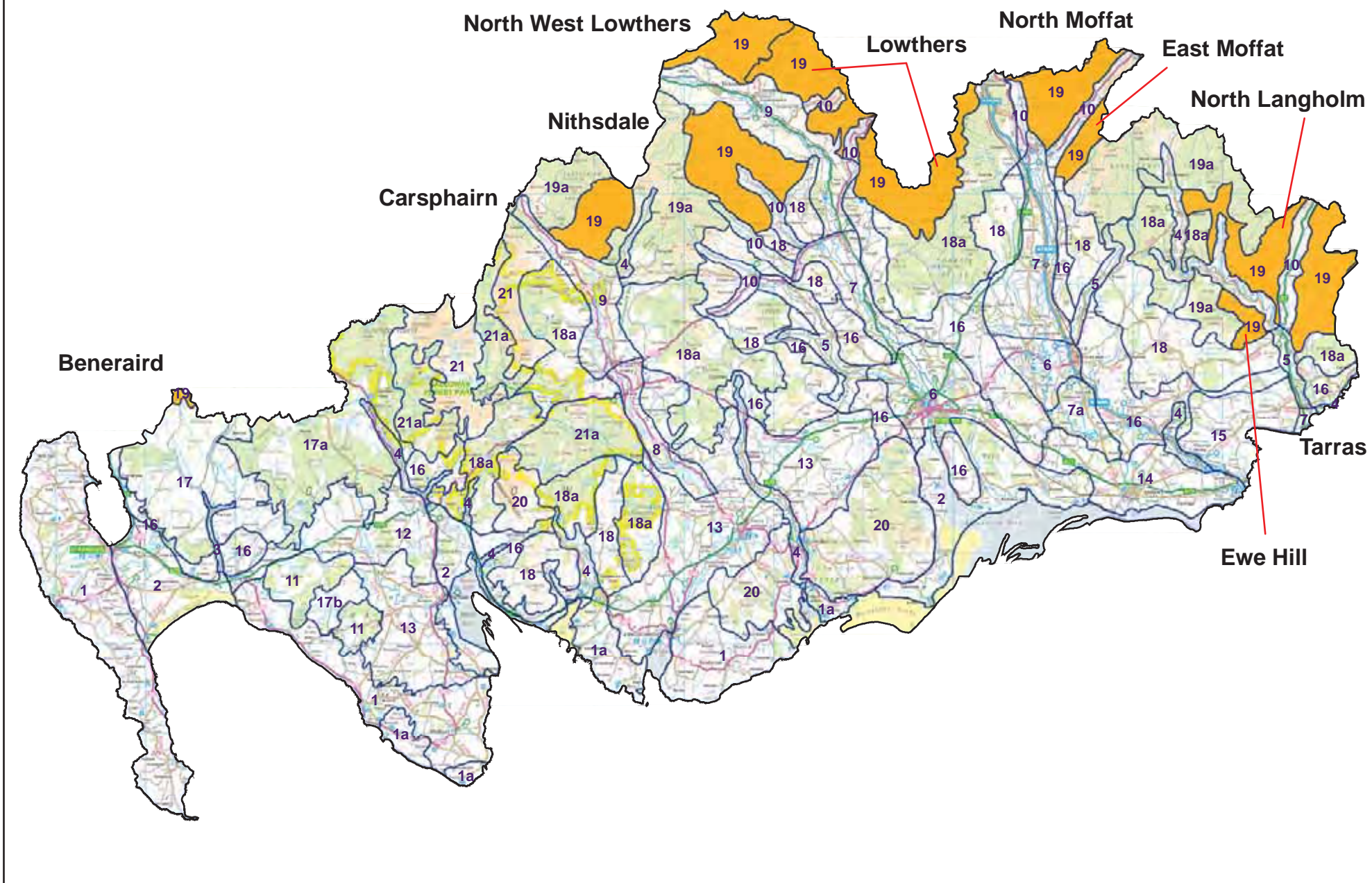
#### 24.1.2 Operational/consented wind farms

The under-construction Whiteside wind farm and the consented wind farms of Twenty Shilling and Sanquhar are located in the Nithsdale landscape unit. In addition, this landscape is/ will be influenced by the operational/consented Hare Hill and Afton wind farms in neighbouring East Ayrshire; by Wether Hill and Sandy Knowe in Upper Nithsdale (9); by Blackhill to Magheuchan Rigg wind farms in the Southern Uplands with Forest (19a) Ken unit and at a greater distance by Windy Standard in the Carsphairn (19, 19a) units.

Glenmuckloch wind farm is consented in the NW Lowther unit, and also one of the Sunnyside pair of turbines. Windy Standard and Extension are partially within the Carsphairn unit. Otherwise, there are no wind farm developments located in

the other landscape units of this character type. A number of operational wind farms lie adjacent to these landscapes, including the Harestanes, and Ewe Hill wind farms and the extensive Clyde wind farm in neighbouring South Lanarkshire.

Character Type Key Map - 19. Southern Uplands





## 24.2 Nithsdale and NW Lowthers - Description and summary of sensitivity

These landscape areas of the Southern Uplands landscape character type (19) extend into neighbouring South Lanarkshire and East Ayrshire. The hills are generally lower and less rugged than those found in the other units of the Southern Uplands in Dumfries and Galloway. The NW Lowther unit has an undulating upland plateau whereas the Nithsdale unit is characterised by valleys, divided by broad ridges and with occasional more pronounced summits. While the large scale, generally subtle landform and simple land cover of these landscape units of the Southern Uplands, which is found in the western parts of these areas, could relate to larger typologies, the extent of operational, under-construction and consented wind farm development sited in both this and adjacent landscape character types greatly increases sensitivity. The more well-defined hills which occur in the south-eastern part of the Nithsdale unit, which make an important contribution to the scenic diversity of adjacent glens and valleys, would also be highly sensitive to wind farm development.

These units of the Southern Uplands Type have a **High** sensitivity to Very Large turbines (150m+), a **High-medium** sensitivity to Large turbines (80-150m) and a **High-medium** sensitivity to the Medium typology (turbines 50-80m).

A Regional Scenic Area covers the southern part of the Nithsdale unit although the remainder of these uplands are not designated. Sensitivity in terms of landscape values would therefore range from **High-medium** to **Low**.

### 24.2.1 Cumulative issues

The under-construction Whiteside wind farm is located within the Nithsdale unit of the Southern Uplands (19) landscape character type. While this development will be set back along a broad ridge, it will introduce new visibility of wind turbines into the small scale Euchar and Scar Water valleys. The consented Sanquhar and Blackhill to Magheuchan Rigg wind farms (the latter development sited in this landscape character type) will be likely to consolidate these effects. The consented TwentyShilling wind farm will form a relatively contained development although it will increase the incidence of wind farm development seen on containing skylines above Upper Nithsdale, extending development in to the more sensitive south east of the Nithsdale unit. The consented Glenmuckloch wind farm is located in the NW Lowthers unit which lies to the north of the Upper Dale (9) - Upper Nithsdale.

The operational Sunnyside wind turbines are located in the Upper Dale (9) - Upper Nithsdale unit. The consented Sandy Knowes wind farm is partially in this unit and partially within the Nithsdale unit of the Southern Uplands (19). These developments will be seen in relative proximity to the wind farms described above.

The Southern Uplands character types within Dumfries and Galloway and those occurring in East Ayrshire are very similar in character and merge in views from Upper Nithsdale (9) between Sanquhar and New Cumnock to form a largely homogenous upland backdrop either side of this dale. The operational Hare Hill wind farm, its consented extension (with graded but larger turbines) and the consented Afton wind farm are located in the adjacent East Ayrshire Southern Uplands.

Key cumulative issues that may arise within the Southern Uplands - Nithsdale and NW Lowther (19) landscape character units are likely to include:

- Overwhelming effects on views from the A76, settlement and footpaths in upper Nithsdale as a result of the combination of operational and consented large wind turbines sited within this landscape, the adjacent Ken unit of the Southern Uplands with Forest (19a) and the Upper Dales (9) - Upper Nithsdale landscape unit.
- A build-up of wind turbines extending along much of the skylines formed by the Southern Uplands either side of Upper Nithsdale, potentially creating an oppressive and cluttered effect.
- Further visibility of large turbines on containing skylines above the sensitive intimately scaled valleys of the Euchar and Scar Water - existing effects could be significantly exacerbated by the introduction of the Very Large typology (turbines >150m) either as new developments or repowering schemes.

### 24.2.2 Key constraints

- More complex landform associated with the deeply incised valleys of the Kello and Euan Water and the more defined, rugged hills bordering the Upland Glens (10) of the Scar and Shinnel Water.
- The distinctive landmark hills of Blackcraig, Merkland, Cairn Kinney (within East Ayrshire) and Cairnkinna; the latter particularly important in providing a backdrop to Drumlanrig Castle and its designed landscape seen from the Thornhill area.
- The high visibility of these uplands from the north-western area of the Upper Dale (9) - Upper Nithsdale, where long hill slopes and generally fairly smooth skyline ridges provide a backdrop and focus in views from settlement and roads.
- Commercial forestry within adjacent upland areas in Dumfries and Galloway and neighbouring East Ayrshire and extensive operational and consented wind farm development in the Southern Uplands, which increases the value of the remaining less modified parts of these hills and their open character.
- The important contribution the dramatic sculptural open hills of the southern part of the Nithsdale unit make to wider scenic quality as recognised in the RSA designations that cover part of these uplands.

- Recreational use by walkers using tracks, minor roads and the SUW which increase visual sensitivity.
- Cumulative landscape and visual effects with the many operational, under-construction and consented wind farms located in this and adjoining landscapes.

### 24.2.3 Opportunities

- The generally simple landform and gently undulating upland plateaux within the less visually prominent interior of the NW Lowthers unit.
- The sparsely populated nature of these uplands.
- An absence of landscape designations in the northern part of the Nithsdale unit and the NW Lowthers unit.

## 24.3 Guidance for development

There is no scope for the Very Large typology (turbines 150m+) to be accommodated in either of these landscape units due to the increased impact that could occur on more sensitive landscapes, such as the Upland Glens (10) of the Euan and Scar Water and Shinnel valleys plus the Upper Dale (9) - Upper Nithsdale unit. The scope is also influenced by the significant cumulative effects that would be likely to occur with nearby operational, under-construction and consented wind farms which largely comprise turbines of <130m high.

There are very few, if any, opportunities for additional turbines within the Large typology (80-150m) to be accommodated in the Nithsdale unit given the extent of wind farm development already consented and the key landscape and visual constraints listed in 2.2.2 above in relation to effects on the sensitive Upland Glens (10) and on more pronounced rugged open hills in the southern part of this landscape unit. The Nithsdale unit of the Southern Uplands is concluded to be close to capacity for additional wind turbine development

There is some very limited scope for the Large typology (turbines 80-150m) to be located in the NW Lowthers unit but set well back from the outer edge hills which provide a backdrop to Upper Nithsdale and from the sensitive small scale Crawick valley. Turbines should be carefully sited to avoid significant intrusion on views from settlement and roads within Upper Nithsdale (9) and to minimise the extent of development visible on the skyline of the uplands and cumulative effects with the Glenmuckloch, Sandy Knowe and Sunnyside wind energy developments located in adjacent and nearby landscapes.

There is no scope for the medium typology (turbines 50-80m) or for smaller turbines principally due to the cumulative effects that would be likely to occur with operational, under-construction and consented developments sited in these landscape units and the adjacent Upper Dale (9) - Upper Nithsdale unit.

## Character Type 19 - Southern Uplands - Nithsdale, NW Lowther

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>			
<p>These units of the Southern Uplands predominantly range between 400 and 500m height. They have an open and expansive character although scale is reduced in narrow valleys.</p>	<p>Very tall turbines closer to 200m tall would dominate the height of these hills where they are seen from areas like <i>Upper Nithsdale</i> although there may be some limited scope to site this typology within the interior of these uplands and set well back from narrow valleys to minimise effects on scale.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Tall turbines could relate to this generally open and large scale landscape without dominating the height of hills. Expansiveness is reduced however within the narrow valleys which frequently cut into these hills.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Turbines of this height could relate to this generally large scale landscape without dominating the height of hills.</p> <p><b>Sensitivity rating: Low</b></p>
<b>Landform</b>			
<p>The NW Lowthers area generally comprises gently undulating plateaux with subtly rounded hills and few pronounced peaks. In the Nithsdale unit, long gentle hill slopes rise from Upper Nithsdale (9) to form broad ridges between valleys. Deeply incised valleys such as the Crawick, Kello and Euchan Water, more irregular knolly topography between the latter two valleys and pronounced steep-sided rugged, often conical hills found in the southern Nithsdale unit are more complex. Notably distinctive, and often higher, hills occasionally occur and these include Cairnkinna Hill (554m) in the Nithsdale unit, Blackcraig Hill in neighbouring East Ayrshire and Cairn Kinney close to the boundary with South Lanarkshire.</p>	<p>This typology could relate to the simple gently undulating plateaux found in the core of the NW Lowthers unit and to a lesser extent, broad ridges within the Nithsdale unit (19). It would however impact on more complex irregular landform, which tends to occur close to deeply incised valleys and in the southern part of the <i>Nithsdale</i> unit, if sited within or close to these areas. Turbines of this size sited on or close to the distinctive hills would detract from their prominence and the visual containment they often provide to lower more gently undulating plateaux.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could relate to the simple gently undulating plateaux in the core of the NW Lowthers unit and to a lesser extent, broad ridges within the Nithsdale unit (19). It would however impact on more complex irregular landform, which tends to occur close to deeply incised valleys and in the southern part of the <i>Nithsdale</i> unit, if sited within or close to these areas. Development sited on or close to the distinctive hills would detract from their prominence and the visual containment they often provide to lower more gently undulating plateaux.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could relate to the simple gently undulating plateaux in the core of the NW Lowthers unit and to a lesser extent, broad ridges within the Nithsdale unit (19). It would however impact on more complex irregular landform, which tends to occur close to deeply incised valleys and in the southern part of the <i>Nithsdale</i> unit, if sited within or close to these areas. Development sited on or close to the distinctive hills would detract from their prominence and the visual containment they often provide to lower more gently undulating plateaux.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Land cover and landmark features</b>			
<p><b>These uplands have a simple land cover of predominantly grass moorland but with occasional patchy heather. Conifer plantations generally occur on lower hill slopes and these often have an angular form. The mining industry within Upper Nithsdale has resulted in some disturbed land and spoil heaps on lower hill slopes.</b></p>	<p>The simple land cover pattern would theoretically be less sensitive to wind farm development although the openness of these uplands contrasts with the densely forested <i>Southern Uplands with Forest</i> (19a) and turbines would compromise this quality. Turbines could add to the visually cluttered appearance of former mining sites.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The simple land cover pattern would theoretically be less sensitive to wind farm development although the openness of these uplands contrasts with the densely forested <i>Southern Uplands with Forest</i> (19a) and turbines would compromise this quality. Turbines could add to the visually cluttered appearance of former mining sites.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The simple land cover pattern would theoretically be less sensitive to wind farm development although the openness of these uplands contrasts with the densely forested <i>Southern Uplands with Forest</i> (19a) and turbines would compromise this quality. Turbines could add to the visually cluttered appearance of former mining sites.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Settlement and archaeology</b>			
<p><b>Sparsely settled with small farms set in valleys and accessed by narrow no through roads. There is a range of archaeological and historic sites. Operational and consented wind farm developments are sited in this character type.</b></p>	<p>There may be some limited scope for this typology to be accommodated within the remaining undeveloped parts of the NW Lowthers and to a lesser extent, the Nithsdale unit without conflicts of scale and impacts on the setting of settlements. The setting of archaeological sites remains sensitive.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>There may be some limited scope for this typology to be accommodated within the remaining undeveloped parts of the NW Lowthers and to a lesser extent, the Nithsdale unit without conflicts of scale and impacts on the setting of settlements. The setting of archaeological sites remains sensitive.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>There is some increased scope for this smaller typology (which is more likely to comprise single or small groups of turbines) to be accommodated without conflicts of scale and impacts on the setting of settlements. The setting of archaeological sites remains sensitive</p> <p><b>Sensitivity rating: Medium-low</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
Landscape context			
<p>The more well-defined and rugged hills of the southern parts of the Nithsdale unit of the Southern Uplands (19) contribute to the highly scenic landscape composition centred on the Upland Glens (10) of the Scar and Shinnel Water.</p> <p>Where these uplands border the NW section of Upper Nithsdale (9), the broadness of the dale and presence of long gentle lower hill slopes increase scale and limit visibility from roads and settlement into the interior of these uplands. The narrower SE section of Upper Nithsdale has a reduced scale and diverse land cover and the hills on the southern edge of these uplands are important in providing a scenic backdrop to this landscape. The landmark Cairnkinna Hill is important in views from Upper Nithsdale (9) and forms a backdrop to Drumlanrig designed landscape as well as the small scale intricately patterned Nithsdale unit of the Foothills (18).</p>	<p>This typology could dominate adjacent small scale <i>Upland Glens</i> (10) and diminish the role of more distinctive landform and landmark hills in providing a rugged, open backdrop and contrast to these glens and other more intricately patterned and settled landscapes, including the SE section of the Nithsdale <i>Upper Dales</i> (9) and <i>Foothills</i> (18) and adversely affecting wider scenic composition.</p> <p>This typology could also dominate the setting these uplands provide to <i>Upper Nithsdale</i> (9). Turbines closer to 200m high would be likely to increase impact on other more sensitive landscapes particularly if sited in the <i>Nithsdale</i> unit.</p> <p>Operational and consented wind farms located in these hills reduces scope for siting turbines of this size to minimise effects on other more sensitive landscape character types.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could dominate adjacent small scale Upland Glens (10) and diminish the role of more distinctive landform and landmark hills in providing a rugged, open backdrop and contrast to these glens and other more patterned and settled landscapes including the SE section of the Nithsdale <i>Upper Dales</i> (9) and <i>Foothills</i> (18) and adversely affecting wider scenic composition.</p> <p>This typology could also dominate the setting these uplands provide to <i>Upper Nithsdale</i> (9) although the broad scale of the NW section of this dale increases scope for locating development within the core of these uplands as this could minimise impact on adjoining character types.</p> <p>Operational and consented wind farms located in these uplands reduces scope for additional turbines to be accommodated without significantly increasing effects on more sensitive landscape character types.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>There are potentially increased opportunities for this typology to be accommodated to minimise intrusion on more sensitive landscape character types.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Perceptual qualities</b>			
<p>The large number of operational and consented wind farm developments located in this and adjoining landscapes, commercial forestry and evidence of past mining activity in some areas limits the sense of naturalness and remoteness that can be experienced across much of these uplands. The southern hills of the Nithsdale unit and the upland plateau of the NW Lowthers are less strongly influenced by development.</p>	<p>Further wind farm development in the less developed southern part of the <i>Nithsdale</i> unit and the core uplands of the <i>NW Lowthers</i> unit could affect the sense of naturalness and seclusion, which although not strong, provides relief from the emerging dense pattern of wind farm developments found elsewhere in this landscape. Perceptual qualities would be likely to be less affected if development were concentrated within the more developed uplands.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Further wind farm development in the less developed southern part of the <i>Nithsdale</i> unit and the core uplands of the <i>NW Lowthers</i> unit could affect the sense of naturalness and seclusion, which although not strong, provides relief from the emerging dense pattern of wind farm developments found elsewhere in this landscape. Perceptual qualities would be likely to be less affected if development were concentrated within the more developed uplands.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Further wind farm development in the less developed southern part of the <i>Nithsdale</i> unit and the core uplands of the <i>NW Lowthers</i> unit could affect the sense of naturalness and seclusion, which although not strong, provides relief from the emerging dense pattern of wind farm developments found elsewhere in this landscape. Perceptual qualities would be likely to be less affected if development were concentrated within the more developed uplands.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Views and visibility</b>			
<p>These uplands are sparsely settled with settlement and minor roads generally located in narrow valleys thus limiting the extent of visibility. The uplands appear to be well-used by walkers and feature a number of long established hill tracks and the SUW which is aligned through the Nithsdale unit.</p> <p>There are extensive views of these uplands from settlements and roads within Upper Nithsdale (9). Existing wind farm development features in these views. These uplands are also highly visible where they abut the Upland Glens (10) of the Scar and Shinnel Water and where the southern hills provide a rugged backdrop to the designed landscape of Drumlanrig Castle and the SE section of Upper Nithsdale.</p>	<p>While the core of the <i>NW Lowthers</i> unit is less visually prominent, the outer hills within this unit and the remaining undeveloped parts of the <i>Nithsdale</i> unit are more visible. Turbines of this size visible on sensitive skylines or seen at the head of narrow glens would have a very dominant effect on views.</p> <p>There would be likely to be extensive visibility of this typology from elevated hill tracks and the SUW and this typology would have an overwhelming effect on walkers.</p> <p><b>Sensitivity rating: High</b></p>	<p>While the core of the <i>NW Lowthers</i> unit is less visually prominent, the outer hills within this unit and the remaining undeveloped parts of the <i>Nithsdale</i> unit are more visible. Turbines of this size visible on sensitive skylines or seen at the head of narrow side glens would have a dominant effect on views.</p> <p>There would be likely to be close visibility of this typology from elevated hill tracks and the SUW.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>There is increased scope to site this typology to reduce effects on views although turbines sited on the outer hills of this landscape would be highly visible, turbines towards the lower height band of this typology would reduce visual impact.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Landscape values</b>			
<p><b>The NW Lowthers unit is not designated. The southern part of the Nithsdale unit lies in the Thornhill Uplands RSA. Technical Paper 6 notes that southern sections of the Southern Uplands have been included in the RSA where they have particularly strong sculptural relief and are scenically juxtaposed with deep steep-sided valleys.</b></p>	<p>Turbines of this size sited so visible in close proximity to the RSA would be likely to significantly detract from the scenic juxtaposition that occurs between these uplands and adjacent smaller scale valleys and upland glens. Sensitivity is reduced in other parts of this landscape.</p> <p><b>Sensitivity rating: High-medium to Low</b></p>	<p>This typology would adversely affect the scenic value of these uplands and reduce their contrast with adjacent valleys and upland glens if sited so visible in close proximity from the RSA. Sensitivity is reduced in other parts of this landscape.</p> <p><b>Sensitivity rating: High-medium to Low</b></p>	<p>This typology would adversely affect the scenic value of these uplands and reduce their contrast with adjacent valleys and upland glens if sited so visible in close proximity from the RSA. Sensitivity is reduced in other parts of this landscape.</p> <p><b>Sensitivity rating: High-medium to Low</b></p>



Landform is generally more subdued within the 'North West Lowthers' unit and includes more extensive gently undulating plateau.



Sparsely settled narrow valleys cut into these uplands



The 'Nithsdale' unit is a focus for potential wind farm development (view from upper Nithsdale).



The more complex landform associated with the Euan and Kello Water within the 'Nithsdale' unit.



The transition between the 'North West Lowthers' and higher 'Lowthers' landscape units seen from upper Nithsdale.



The dramatic hills of the southern part of the 'Nithsdale' unit which make a strong contribution to the wider scenic quality of the RSA.



## 24.4 Rugged Southern Upland areas (19) - description and summary of sensitivity

This assessment covers the more rugged and for the most part undeveloped areas of the Southern Uplands (19), comprising the character areas of Berneraird, Carsphairn, Lowther, North Moffat, East Moffat, West Langholm, North Langholm and Tarras. These uplands have a generally consistent and homogenous character within Dumfries and Galloway, forming high hills with an often dramatic sculptural landform. While the expansive scale of these uplands could relate to larger typologies, their distinctive landform, where hills are pronounced and often form steep, rugged edges to adjacent dales and upland glens, is a key constraint to development. The sparsely settled nature and simple land cover pattern reduces sensitivity although, conversely, these uplands are particularly valuable because of their openness and absence of built development and large-scale forestry.

These areas of the Southern Uplands character type have an overall **High** sensitivity to the large and medium typologies (turbines >50m).

Regional Scenic Areas cover much of this character type with a **High to medium** sensitivity accorded in terms of landscape values to both the large and medium development typologies.

### 24.4.1 Smaller typologies

There is unlikely to be a significant demand for smaller typologies (turbines <50m) within this very sparsely settled upland area. Small-medium typologies (20-50m) would be likely to have similar adverse effects to larger typologies on dramatic landform, openness, wider landscape context and on wildland qualities. Small typologies (turbines <20m) would also impact on dramatic and prominent ridges and summits and could also impact on more complex landform, for example, the sheer slopes bordering Upland Glens (10) and on areas with a more pronounced wildland character away from settlement. Opportunities may exist on the fringes of this character type, on smoother less complex lower hill slopes at the transition with more settled glens and valleys where small turbines under 20m high could relate to the scale of existing buildings, providing they did not intrude on key views to the hills or interrupt skylines.

### 24.4.2 Cumulative issues

The operational Windy Standard wind farm and its consented extension extend into the Carsphairn unit in the Southern Uplands with Forest (19a). Other than this, none of these character areas accommodates operational, under-constructed or consented wind farms although a number of developments lie close-by these uplands. Other wind farms are/will also be visible from the landmark hill of Cairnsmore of Carsphairn within this character area including Whiteside, Afton and

Hare Hill. Any additional wind farm development in this and the adjacent Southern Uplands with Forest (19a) could have significant cumulative effects on this landmark hill.

The operational Harestanes wind farm is located within the Ae area of the Foothills with Forest (18a). This development, along with Minnygap in the nearby Corsock area of the Foothills (18), impact on the setting of the landmark Queensberry Hill which lies within the Lowthers area of the Southern Uplands (19), in views from Annandale (LCTs 6 and 7). Any further wind farm development on the steep hill slopes of Queensberry Hill and/or on the surrounding higher open hills of the Southern Uplands (19) in this area (these forming a markedly rugged edge on the north-eastern boundary with the Ae Foothills with Forest (18a)) would be likely to significantly exacerbate the effects on the setting of this landmark hill.

The operational Carlesgill wind farm is located within the West Langholm area of the Southern Uplands (19). This small development of 4 plus 2 consented turbines occupies a prominent position above the Esk valley. Any further extension to this development would be likely to accentuate adverse effects on the dramatic landform of steep scarp slopes above the Esk valley and on the small scale character and views from this settled Narrow Wooded Valley (4).

The Berneraid character area lies very close to the operational Arecleoch wind farm and the consented Glen App and Stranoch wind farms. The setting of this hill is already significantly affected by wind farm development although further development could exacerbate cumulative effects on walkers and on views to this hill from the coast of South Ayrshire.

There are views of the operational Clyde wind farm and its under-construction extension from parts of the North Moffat Southern Uplands. The North Moffat area falls within the Talla-Hart Fell Wild Land Area and additional wind farm development in this and surrounding character types could cumulatively affect the character and value associated with this landscape.

#### 24.4.3 Key constraints

- An often dramatic landform where high and shapely peaks, steep scarp slopes, crags and deeply incised valleys are interspersed with smoother rolling upland plateaux.
- The backdrop and distinctive skyline provided by these uplands to adjoining settled areas such as the upland glens of Moffat and Langholm, plus the broader dales of Nithsdale, the Glenkens and Annandale which have increased visibility.
- Areas of extensive heather moorland that notably occur within the Lowther, Langholm and North and East Moffat Hills.

- Extensive forestry within adjacent upland areas in Dumfries and Galloway which increases the value of these open, less modified hills and increases the sense of naturalness experienced.
- The important contribution that these sculptural and open uplands make to wider scenic quality, particularly forming dramatic backdrops to well-settled dales, as recognised in the RSA designations that cover the majority of these uplands.
- Recreational use of these uplands which include a number of 'Corbett' hills and other celebrated features such as the Devil's Beef Tub in upper Annandale and the setting for the Grey Mare's Tail waterfall, and which increase visual sensitivity.
- The Talla-Hart Wild Land Area which covers part of the Moffat Hills.

#### 24.4.4 Opportunities

- Lower, less complex hill slopes where the small typology (turbines <30m) could be associated with existing settlement on the fringes of the uplands.

## 25. Guidance on development

There is no scope for the larger development typologies (turbines >50m) to be sited within this character type without incurring significant impacts on a number of key characteristics.

Although the small-medium typology (turbines 20-50m) may be able to be sited to minimise views from surrounding settled glens and dales, turbines of this size could also significantly impact on a number of key characteristics of these uplands including potentially incurring cumulative effects with other larger turbines within wind farms located in adjacent landscapes and diminishing the sense of naturalness which is important in a context where extensive forestry influences the character of surrounding upland areas. It is therefore considered that there is also no scope for this typology.

There may be some limited opportunities for the small typology (turbines <20m) to be sited on lower, less complex hill slopes in association with more settled farmland providing that key views to distinctive hills or landform features are avoided and the setting of archaeological sites is not affected. Supplementary Guidance is provided on the siting and design of smaller turbines <50m high.

This landscape is sensitive to indirect effects from wind farm developments sited in nearby landscapes. Proposed extensions to existing wind farms, or new wind farm development within

Dumfries and Galloway or neighbouring South Lanarkshire, should avoid impacting on views to these hills from Annandale, Nithsdale and the Upland Glens (10). Wind farm development in other nearby landscape character types should be sited to avoid detracting from landmark hills and dominating backdrops and skylines in this landscape. This guidance will relate to any potential future proposals for extensions to the operational developments of Clyde, Harestanes or Dalswinton but also to any new developments in the adjacent Foothills (18), Foothills with Forestry (18a), Southern Uplands with Forest and Plateau Moorland (17) character types.

## Character Type 19 Southern Uplands - Beneraid, Carsphairn, Lowther, North And East Moffat, North And West Langholm And Tarras Areas

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<p><b>Scale and openness</b></p> <p>These uplands generally range between 400 and 500m height. The Moffat and Lowther Hills within Dumfriesshire are distinctly higher with peaks between 500 and 700m and include some 'Corbetts' over 800m in the Moffat and Lowther Hills. These uplands have an open character although a reduced scale in narrow valleys.</p>	<p>Tall turbines could relate to this generally open and large scale landscape without dominating the height of hills. Expansiveness is reduced however within the narrow valleys which frequently cut into these hills and where the more pronounced peaks provide enclosure, thus limiting scope to site large numbers of turbines.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Turbines of this height could relate to this generally large scale landscape without dominating the height of hills.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<p><b>Landform</b></p> <p>These hills are generally smooth with rounded summits although distinctive craggy and shapely peaks and deeply folded slopes, corries and dramatically incised valleys also occur, for example Cairnsmore of Carsphairn and some of the Moffat Hills. The isolated conical Queensberry Hill and Beneraid hill form distinctive landmarks seen from Annandale/Nithsdale and at the head of Glen App respectively. Dramatically steep slopes occur where the Langholm and Moffat Hills abut the trough-like Upland Glens (10) producing notable features such as the deep scoop of the Devil's Beef Tub or where the high Lowther Hills form a dramatic rugged backdrop to Nithsdale.</p>	<p>Turbines would detract from the irregular landform and landmark status of distinctive rugged peaks and key landform features if located close to or on them. They would diminish the drama of sheer slopes abutting deeply incised glens and dales especially if located close to these 'scarp' edges or seen above them on the skyline.</p> <p>It would be difficult to attain a cohesive layout for larger developments (+30 turbines) in areas where convoluted ridges and relatively defined tops are feature. There are very few less complex areas of landform present where this typology would not impact on nearby distinctive landform features or landmark hills.</p> <p><b>Sensitivity rating: High</b></p>	<p>Turbines would detract from the irregular landform and landmark status of distinctive rugged peaks and key landform features if located close to or on them. They would diminish the drama of sheer slopes abutting deeply incised glens and dales especially if located close to these 'scarp' edges or seen above them on the skyline.</p> <p>There may be increased scope to accommodate this typology on broader less complex plateau-like hills away from distinctive landform features and landmark hills although these features are very rare and such development could adversely affect the integrity of these upland landscapes.</p> <p><b>Sensitivity rating: High</b></p>
<p><b>Land cover and landmark features</b></p> <p>Land cover is simple, largely comprising grass moorland giving a bare smooth appearance where the landform is apparent. Heather moorland is notable in the Moffat, Lowther and Langholm Hills. There is little woodland or commercial forestry apart from native trees and shrubs within narrow valleys.</p>	<p>There is an absence of pattern which would theoretically be less sensitive to wind farm development although the openness of these uplands contrasts with the surrounding densely forested <i>Southern Uplands with Forest</i> (19a) and <i>Foothills with Forest</i> (18a) and turbines would compromise this quality. Large developments could adversely affect the integrity of heather moorland where this is a notable feature.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>There is an absence of pattern which would theoretically be less sensitive to wind farm development although the openness of these uplands contrasts with the surrounding densely forested <i>Southern Uplands with Forest</i> (19a) and <i>Foothills with Forest</i> (18a) and turbines would compromise this quality.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Settlement and Archaeology</b>		
<p><b>While most of this character type is unsettled, the small settlement of Wanlockhead lies within the Lowther Hills. There are a range of archaeological features, historic routes and industrial heritage sites in the Lowthers</b></p>	<p>There is some scope for this typology to be accommodated without conflicts of scale and impacts on the setting of settlements although these uplands are not extensive in area and lie close to settlement in adjacent glens and the setting of archaeological sites is sensitive</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>There is greater scope for this typology to be accommodated without conflicts of scale and impacts on the setting of settlements but the setting of archaeological sites remains sensitive</p> <p><b>Sensitivity rating: Medium- Low</b></p>
<b>Landscape context</b>		
<p><b>These uplands provide a distinctive backdrop to adjoining settled areas such as the upland glens of Moffat and Langholm and the broad dales of Nithsdale, the Glenkens and Annandale where they contribute to the rich scenic diversity of the wider landscape. The Lowther Hills form part of the wider setting to designed landscapes such as Drumlanrig in Nithsdale while Beneraird forms a distinctive backdrop to Glen App and Plateau Moorlands (17). These open uplands are important in the wider Dumfries and Galloway context where extensive forestry covers much of the upland area and can reduce scenic interest.</b></p>	<p>This typology could dominate adjacent settled landscapes and diminish the role of these areas of the <i>Southern Uplands</i> in providing a simple but dramatic backdrop to settled landscapes, thus adversely affecting wider landscape composition and scenic qualities.</p> <p><b>Sensitivity rating: High</b></p>	<p>There may be some limited scope to site this smaller typology so as to avoid impacting on adjacent glens and dales, although suitable areas are likely to be very limited throughout the character type.</p> <p><b>Sensitivity rating: High</b></p>
<b>Perceptual qualities</b>		
<p><b>Evidence of past mining activity, reservoirs and radar installations reduces the sense of naturalness in parts of the Lowther Hills. Elsewhere, a general absence of built development within the majority of this upland area gives a strong sense of naturalness. A degree of seclusion can also be experienced in parts of these uplands although roads prevent a true sense of remoteness. Extensive forestry within adjacent upland areas within Dumfries and Galloway increases the value of these open, less modified hills.</b></p>	<p>The Southern Uplands occurring within Dumfries and Galloway are relatively small in extent and this typology could impact on much of the area thus significantly diminishing the sense of naturalness and remoteness experienced. Wind farm development would introduce man made elements into landscapes which are notable for their relative lack of modification given the presence of extensive forestry in surrounding uplands.</p> <p><b>Sensitivity rating: High</b></p>	<p>This smaller typology may have less of an effect in terms of the extent of influence on perceptual qualities of wildness however it would still introduce man made elements into landscapes which are notable for their lack of modification given the presence of extensive forestry in surrounding uplands.</p> <p><b>Sensitivity rating: High</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<p><b>Views and visibility</b></p> <p>These uplands form a backdrop seen from the settled Nithsdale, upper Annandale and upland glens where the hills are distinctive and definable as individual named peaks. Roads such as the A701, A702 and A708 also provide views of dramatic features such as the Devil’s Beef Tub and the scarp of the Lowthers. Footpaths provide access and views from these uplands with the area around Grey Mare’s Tail and the Corbett of White Coomb being notably popular with walkers.</p>	<p>This typology would be likely to impact on key views to these uplands from adjacent settled valleys where skylines are characteristically open and uncluttered by built development. Turbines sited within the Southern Uplands Type within Dumfries and Galloway would be likely to dominate views from settlement and roads due to the limited geographic extent of this type. Development could have a significant impact on views from popularly accessed hills.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology could also impact on key views to these uplands from adjacent settled valleys where skylines are characteristically open and uncluttered by built development. Turbines sited within the Southern Uplands Type within Dumfries and Galloway would be likely to dominate views from settlement and roads due to the limited geographic extent of this type. Development could have a significant impact on views from popularly accessed hills. There may be some limited opportunities to site turbines towards the lower height band of this smaller typology within less visually prominent parts of these uplands.</p> <p><b>Sensitivity rating: High</b></p>
<p><b>Landscape values</b></p> <p>RSA designations cover the majority of the Lowther Hills, all of the Moffat, Tarras and Carsphairn units and part of the Nithsdale and West and North Langholm units. Technical Paper 6 describes the Langholm Hills RSA Southern Uplands as “smooth rounded multi-ridged peaks...covered with extensive areas of unenclosed heather moorland”. The Southern Uplands within the Moffat Hills RSA are noted as being. “..dramatic, sculptural examples of this landscape type in this otherwise extensively forested part of the uplands”. The Lowther Hills fall within the Thornhill Uplands RSA and are described as displaying ‘particularly strong sculptural relief and concentrations of heather moorland... scenically juxtaposed with deep, steep-sided valleys’. The relationship of the ...”dramatic sculptural forms of Cairnsmore of Carsphairn and associated peaks”... with the Glenkens are noted within the citation for the Galloway Hills RSA.</p> <p>Part of the North Moffat Hills falls within the Talla-Hart Wild Land Area.</p>	<p>The majority of these uplands are covered by an RSA designation. The RSA citations note the important role of these uplands in providing dramatic sculptural landform and contrast with adjacent valleys which contributes to the scenic quality of the wider landscape. The value of these open and less modified uplands is also noted in relation to the presence of extensive forested uplands. This typology would be likely to adversely affect the scenic value of these uplands and reduce their contrast with the surrounding extensively forested uplands of character types 18a and 19a.</p> <p>This typology would significantly compromise the qualities of wildness if sited within or close-by the Hart-Talla Wild Land Area.</p> <p><b>Sensitivity rating: High to High-medium</b></p>	<p>The majority of these uplands are covered by an RSA designation. The RSA citations note the important role of these uplands in providing dramatic sculptural landform and contrast with adjacent valleys which contributes to the scenic quality of the wider landscape. The value of these open and less modified uplands is also noted in relation to the presence of extensive forested uplands. This typology would be likely to adversely affect the scenic value of these uplands and reduce their contrast with the surrounding extensively forested uplands of character types 18a and 19a.</p> <p>This typology would significantly compromise the qualities of wildness if sited within or close-by the Hart-Talla Wild Land Area</p> <p><b>Sensitivity rating: High to High-medium</b></p>



Steep, rugged slopes of the Southern Uplands commonly contain the narrow Upland Glens



These units of the Southern Uplands often have a sculptural landform and form some of the highest peaks in Dumfries and Galloway



These uplands make a strong contribution to scenic quality as recognised by the RSA designation which covers the majority of these landscape units.



The Southern Uplands are cut by valleys which accommodate major roads, increasing visual sensitivity

## 25. Southern Uplands With Forest (19A)

### 25.1 Introduction

The Southern Uplands Type with Forest (19a) predominantly occurs on the northern and eastern fringes of Dumfriesshire and extends into neighbouring Scottish Borders and East Ayrshire. The following landscape units are considered in a single sensitivity assessment within this study:

- Carsphairn
- Ken
- Eskdalemuir
- West Langholm

Due to the very sparsely settled nature of this upland landscape, demand for smaller turbines is likely to be limited and smaller scale typologies (turbines <50m) are therefore only considered within the guidance section of the assessment.

#### 25.1.1 Cultural heritage overview

A landscape type characterised as forestry with very little evidence of relict land-uses although there are a few archaeological sites of outstanding significance and distinctiveness.

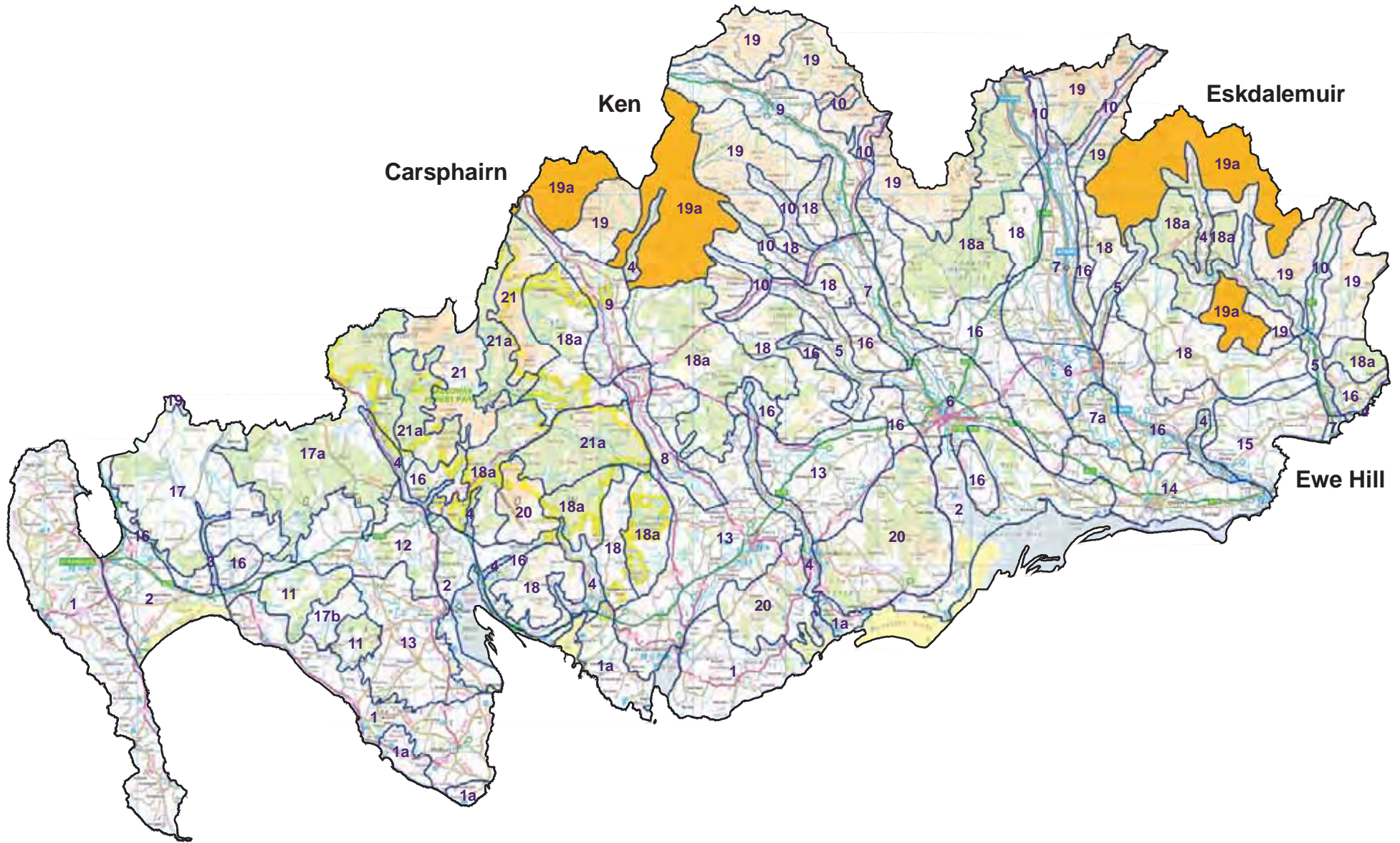
#### 25.1.2 Operational/consented wind farms

The operational wind farm of Windy Standard and its consented extension are sited in the Carsphairn unit. The operational Wether Hill and the consented Blackhill to Magheuchan Rig are located in the Ken unit of this character type. The consented Sandy Knowe wind farm is also partially located in this landscape unit. The under-construction Ewe Hill wind farm is located in the West Langholm unit and the operational Carlesgill plus extension of 2 additional consented turbines are also located in this landscape unit. There is no wind farm development in the Eskdalemuir unit.

A number of wind farms sited in adjoining landscape character types also have/will have a strong influence on all units of the Southern Uplands with Forest (19a). These include the Hare Hill and Afton wind farms which are sited close to the Ken and Carsphairn units in the west, the Whiteside Hill and Sanquhar wind farms also lying close to the Ken unit and the Solwaybank and Minsca wind farms influencing the West Langholm unit.



Character Type Key Map - 19a. Southern Uplands with Forest



## 25.2 Description and summary of sensitivity

The Southern Uplands with Forest (19a) generally comprises an expansive, gently undulating upland plateau of smoothly rounded hills which extends into neighbouring Scottish Borders in the Craik Forest area and into East Ayrshire north of the Carsphairn unit. Occasional more well-defined hills occur close to the Moffat, Dalwhat and Upper Water of Ken Glens, mostly on the outer edges of this character type. These are more prominent in views from surrounding roads and settlement than the very sparsely settled interior of these uplands. The Ken unit is more intercut by valleys and features a number of smaller scale local landscapes and dramatic corries at the heads of glens. Extensive coniferous forest cover masks landform and there is often little open ground with this largely confined to grass moorland within valleys and on the higher hill tops and ridges. An exception to this is the Ken unit which has a greater proportion of open ground to forest cover. Wind farm development is a key feature within the West Langholm, Carsphairn and Ken units of this landscape character type.

Sensitivity would be **High-medium** for the Very Large typology (turbines 150m+).and **Medium** for the large typology (turbines 80-150m). Sensitivity is concluded to be **High-medium** in relation to the medium typology (turbines 50-80m).

The majority of this landscape is not covered by landscape designations and this, together with an absence of recreational use or other non-designated interests in most of this character type would result in **Medium-low** sensitivity in respect of landscape values overall. The Ken unit has a higher sensitivity however due to the presence of the SUW and a network of Core Paths and promoted Heritage Trails.

### 25.2.1 Cumulative issues

Cumulative effects would be more likely to arise within the Ken and Carsphairn areas and be associated with the operational wind farms of Wether Hill, Windy Standard, Hare Hill and Carlesgill, plus the under-construction and consented wind farms of Whiteside, Twenty-Shilling Hill, Blackhill to Magheuhan Rigg and Sanquhar, Ewe Hill and Carlesgill Extension wind farms sited in these character areas and in adjacent landscapes.

Key cumulative effects that could occur if additional wind farm development was located in the Ken and Carsphairn units include:

- The potential creation of a concentrated band of wind farm development visually linking wind farms located in the Ken unit with the Blackcraig and Mochrum wind farms located in the Stroan unit of the Foothills with Forest (18a) to the south.

- Additional development located in the Ken unit which could exacerbate impacts on adjacent Narrow Wooded Valleys (4) and Upland Glens (10) and effects on the SUW and other recreational routes.
- While the sparsely settled nature of the Southern Uplands with Forest (19a) reduces visual sensitivity, cumulative effects would arise on more elevated views from popularly accessed hills such as Cairnsmore of Carsphairn and from the Rhinns of Kells as well as from the SUW and the Striding Arches in the Ken unit.
- Effects on the setting and on views from the sensitive Loch Doon area in neighbouring East Ayrshire and on the setting and views to the landmark hill of Cairnsmore of Carsphairn in combination with the operational and consented wind farms which already have an effect on these features.

The West Langholm unit is relatively small in area and sensitivity is increased to the east where higher ground forms a backdrop to the Narrow Wooded Valley (4) of Eskdale. The under-construction and consented (phased) Ewe Hill wind farm will occupy the less sensitive west-facing hill slopes. Cumulative effects could arise if additional wind farm development sited in this unit was seen in conjunction with the operational Carlesgill wind turbines on prominent skylines above Eskdale.

Technical constraints apply to the Eskdalemuir unit and the absence of wind farm development in this landscape, together with the visual containment and separation of this landscape by higher hills to the north-west, limits potential for cumulative effects.

### 25.2.2 Key constraints

- The arc of hills which includes Benbrack, Cairn and Blackcraig which form a key focus at the head of the Upper Glen (10) of the Dalwhat Water within the Ken unit. The presence of the SUW and the landmark sculptures of Striding Arches add to the sensitivities of this area.
- The rim of open-topped rugged higher hills extending from Loch Fell (688m) north-west of the Eskdalemuir unit, visually prominent from the Corbetts of White Coombe and Hart Fell in the Moffat Hills.
- The proximity of the dramatic sculptural hill of Cairnsmore of Carsphairn to parts of the Ken and Carsphairn units.
- The open hills lying on the eastern edge of the West Langholm unit which are important in providing a backdrop to Eskdale and are covered by an RSA.
- Occasional areas of more complex landform and deeply incised valleys, some of these masked by extensive forest. The Logan Water Valley, the upper water of Ken Valley and Lorg Glen and dramatic open hills at the head of the Ken unit are of increased sensitivity.

- Potential for cumulative effects to arise with additional wind farm development sited within the Ken, Carsphairn and West Langholm landscape units.

### 25.2.3 Opportunities

- The expansive scale of this character type and its predominantly simple, gently rolling landform.
- The sparsely settled nature of this character type and its distance from more populated lowland areas.
- Extensive commercially managed forestry which covers the majority of the character type which precludes a strong sense of wildness.

## 25.3 Guidance for development

There is some scope for the Very Large typology (turbines 150m+) to be accommodated in this character type but only in the Eskdalemuir unit which is undeveloped, very extensive in scale and distant from more settled areas. Cumulative effects with other operational and consented wind farms and effects on adjacent glens and landmark hills are a key constraint to this typology in the Carsphairn, Ken and West Langholm units within this character type.

There are also opportunities for the Large typology (turbines 80-150m) to be accommodated in the Eskdalemuir unit. This typology could also be accommodated as possible new developments and repowering schemes in the Carsphairn unit

although effects on the setting and views from the landmark hill of Cairnsmore of Carsphairn and on Loch Doon in neighbouring East Ayrshire, and the extent of operational and consented wind farms already located in these landscapes, limit scope. Capacity for additional development is likely to be very limited within the Ken unit, although some scope for repowering and/or small extensions to operational wind farms may be possible provided that effects on promoted recreational routes and on more sensitive glens are minimised. Limiting turbines within repowering schemes to around 150m high would fit better with the scale of the Ken unit.

Capacity is also considered to be close to being reached for this typology within the West Langholm unit as less sensitive west facing slopes are/will be largely occupied by under-construction and consented wind farm development.

There is some limited scope for the Medium typology (turbines 50-80m) to be accommodated in this landscape character type. It is assumed that this typology is more likely to comprise single or small groups of turbines sited on farmed land. Cumulative effects with larger turbines within operational and consented wind farms are a key constraint although turbines towards the lower height band of this typology may be more successfully accommodated on lower hill slopes at the transition with more settled landscapes as these would minimise visual and cumulative effects.

Smaller turbines <50m high should be located in association with existing settlement on lower hills at the transition with the Narrow Wooded Valleys (4) and Upland Glens (10). Supplementary Guidance is provided on the siting and design of small turbines <50m.

All development should avoid the more pronounced open-topped hills which provide an important backdrop and containing edge to smaller scale valleys and upland glens and areas of more complex landform. They should also be sited to avoid impacting on the site and setting of significant and distinctive archaeological sites.

## Character Type 19A - Southern Uplands With Forests - Carsphairn, Ken, Eskdalemuir, West Langholm

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>			
<p>The Southern Uplands with Forests generally forms an expansive undulating upland plateau generally between 350-500m high although a few individual peaks exceed this height. The Eskdalemuir, Ken and Carsphairn units about similar large scale upland areas (some of these extending into neighbouring authorities) increasing the extensiveness of the landscape. Smaller hills occur on the western and southern edges of this landscape. Scale is significantly reduced within the narrow valleys which cut deeply into these uplands with the Ken unit particularly being intercut by a number of smaller valleys.</p>	<p>Very tall turbines, and particularly those closer to 200m tall, would dominate the height of the smaller hills found on the outer edges of this landscape and also the hills which abut valleys where effects on scale would be appreciated from roads and settlement. The interior upland plateau of more extensive units of the <i>Southern Uplands with Forests</i> would be less sensitive.</p> <p>Sensitivity rating: Medium</p>	<p>This typology could relate to the general expansiveness of this landscape although it could dominate smaller hills, areas of more complex landform and incised valleys.</p> <p>Sensitivity rating: Medium-low</p>	<p>This typology could also relate to the general expansiveness of this landscape although areas of more complex landform and incised valleys would still be sensitive.</p> <p>Sensitivity rating: Low</p>
<b>Landform</b>			
<p>The hills are generally smooth with rounded summits. There are few pronounced peaks although a distinct ridge of open-topped higher hills rising above 600m separates the Upland Glen (10) of Moffat and the lower, gently undulating upland plateau of Eskdalemuir. The hills of Benbrack, Cairn and Blackcraig within the Ken unit are also distinctive in their steep-sided slopes, defined summits and tight arc formed at the head of the upper Dalwhat valley. Extensive forestry generally masks the underlying landform although steeply incised burns, occasional crags and more complex interlocking landform are evident in some areas.</p>	<p>This typology could relate to the predominantly gently undulating landform of this character type although pronounced open hills at the head of the <i>Upland Glen</i> (10) of the Dalwhat Water and Moffat Glen and the <i>Ken Narrow Wooded Valley</i> (4) and occasional areas of more complex landform and notably incised valleys are sensitive.</p> <p>Sensitivity rating: Medium-low</p>	<p>This typology could relate to the predominantly gently undulating landform of this character type although pronounced open hills at the head of the <i>Upland Glen</i> (10) of the Dalwhat Water and Moffat Glen and the <i>Ken Narrow Wooded Valley</i> (4) and occasional areas of more complex landform and notably incised valleys are sensitive.</p> <p>Sensitivity rating: Medium-low</p>	<p>This typology could also relate to the predominantly gently undulating landform of this character type although pronounced open hill tops at the head of the Dalwhat valley and at the boundary with Moffat Glen and the <i>Ken Narrow Wooded Valley</i> (4) should be avoided as well as areas of more complex landform and notably incised valleys.</p> <p>Sensitivity rating: Medium-low</p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Land cover and landmark features</b>			
<p><b>Extensive commercial forestry covers much of this landscape and this generally has a poor relationship with landform. There is more open ground on hill tops and within steep-sided valleys in the Ken unit. Rides, forest roads, compartment and ownership boundaries create a stark angular pattern highlighted by the strong contrast between pale grass moorland and dark conifers. Felling coupes and new planting add transitional textural contrasts across this landscape. There are few landmark features apart from the well-defined hills described above with Stroanfreggan and Round Craigs notable exceptions on the west of the Ken unit. Some small areas of hill pasture fringe the lower hill slopes and a few higher hill tops are open.</b></p>	<p>The uniformity of extensive forest cover reduces sensitivity to wind farm development. Large scale development could introduce further pattern and confusion to this landscape although it could also present opportunities to utilise existing roads and ameliorate the poor design of forestry. Open hill tops would be highly sensitive to this typology due to their rarity and the contrast they provide to densely forested areas.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>The uniformity of extensive forest cover reduces sensitivity to wind farm development. Large scale development could introduce further pattern and confusion to this landscape although it could also present opportunities to utilise existing roads and ameliorate the poor design of forestry. Open hill tops would be highly sensitive to this typology due to their rarity and the contrast they provide to densely forested areas.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>The uniformity of extensive forest cover reduces sensitivity to wind farm development. This smaller (number of turbines) typology would be likely to have less of an effect on pattern. This typology would have similar negative effects on open hill tops.</p> <p><b>Sensitivity rating: Low</b></p>
<b>Settlement and archaeology</b>			
<p><b>There is little settlement within this character type but there is a range of archaeological sites often sited on the outer fringes of these uplands at the transition with valleys, including hillforts and settlements with extended views</b></p>	<p>There is some scope for this typology to be accommodated in the core of the more extensive <i>Carsphairn, Ken and Eskdalemuir</i> units while minimising effects on the scale and setting of settlements and archaeological sites.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>There are increased opportunities for turbines of this size to be accommodated while minimising effects on the scale and setting of settlements and archaeological sites.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>These smaller turbines could be accommodated without conflicts of scale and impacts on the setting of settlements and archaeological sites.</p> <p><b>Sensitivity rating: Low</b></p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Landscape context</b>			
<p>These uplands tend to be set back from more sensitive small scale valleys and glens although some hills on the edge of the Southern Uplands with Forests are visible from the adjoining Upland Glens (10) of Dalwhat and Moffat, the Narrow Wooded River Valleys (4) of the Ken and Eskdale where they form a backdrop and contrast to these sparsely settled farmed valleys. The dramatic sculptural hill of Cairnsmore of Carsphairn within the Southern Uplands (19) lies between the Ken and Carsphairn units. Loch Doon, a popular location for recreation, is located in East Ayrshire but close to the Ken and Carsphairn units.</p>	<p>While development sited in the more sensitive outer hills would dominate the scale of adjacent settled valleys and glens, there is some scope for this typology to be sited within the interior of the extensive <i>Eskdalemuir</i> unit (and which does not accommodate wind farm development) to avoid impacting on the wider landscape context. This typology would impact on the setting and key views of Cairnsmore of Carsphairn and Loch Doon if sited in parts of the <i>Ken</i> and <i>Carsphairn</i> units</p> <p>Sensitivity rating: High-medium</p>	<p>While development sited in the more sensitive outer hills would dominate the scale of adjacent settled valleys and glens, there is scope for this typology to be sited within the interior of the hills in the more extensive landscape units of <i>Ken</i>, <i>Carsphairn</i> and <i>Eskdalemuir</i> to avoid impacting on the wider landscape context. This typology could however impact on the setting and key views to and from Cairnsmore of Carsphairn and on Loch Doon if sited in western parts of the <i>Ken</i> and <i>Carsphairn</i> units</p> <p>Sensitivity rating: Medium</p>	<p>This typology is assumed to comprise single and small groups of turbines likely to be sited on farmed land. As such sensitivity may be increased as these areas generally lie at the transition with more settled and diverse valleys and glens.</p> <p>Sensitivity rating: High-medium</p>
<b>Perceptual qualities</b>			
<p>While the interior of these landscapes can feel remote due to the distance from settlement and public roads, the presence of extensive commercially managed forestry and wind farms in some units precludes a strong sense of naturalness.</p>	<p>This typology would be likely to have no significant adverse effect on perceptual qualities</p> <p>Sensitivity rating: Low</p>	<p>This typology would be likely to have no significant adverse effect on perceptual qualities.</p> <p>Sensitivity rating: Low</p>	<p>This typology would be likely to have no significant adverse effect on perceptual qualities.</p> <p>Sensitivity rating: Low</p>

Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Views and visibility</b>			
<p><b>This character type is very sparsely settled and there are few public roads although there is a network of core paths, promoted heritage trails and the SUW is aligned through the Ken unit. Views from within this character type are generally restricted by extensive forestry.</b></p> <p><b>In terms of views to this character type, these gently undulating upland plateaux are set back from sparsely settled upland valleys and glens with views generally restricted. There are sensitivities associated with the arc of hills Benbrack, Alhang, Cairn and Blackcraig within the Ken unit which form a key focus at the head of the upper Dalwhat, Ken and Kello Water valleys. The SUW is aligned along the ridge of these hills as are the landmark sculptures of Striding Arches. The Ken and Carsphairn units are visible from the summit and ridges of Cairnsmore of Carsphairn and Rhinns of Kells while the rim of higher hills extending from Loch Fell (688m) on the north-western edge of the Eskdalemuir unit is visible from the Corbetts of White Coombe and Hart Fell within the Moffat Hills. The open hills on the eastern edge of the West Langholm unit form a prominent backdrop to Eskdale.</b></p>	<p>There is scope for this typology to be located within the interior of the extensive <i>Eskdalemuir</i> unit of this character type without widespread significant visual impact occurring due to the sparse population, absence of roads and limited visibility from more settled areas. The hills bordering glens or valleys are highly sensitive however.</p> <p>This typology would be visible from elevated views on popular hill summits including Cairnsmore of Carsphairn and the Rhinns of Kells if located in the <i>Ken</i> and <i>Carsphairn</i> units as well as sensitive local landscapes and recreational receptors in the Ken unit. Turbines towards 200m high could also have a significant impact on views from Loch Doon if sited in parts of these units. Turbines sited in the <i>Eskdalemuir</i> unit could potentially be screened from the Moffat Hills by the ridge extending from Loch Fell on the north-east boundary of the unit and if located on lower ground. Visual sensitivity of the <i>West Langholm</i> unit is increased due to its relatively limited extent and proximity to settlement, roads and footpaths.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>There is scope for this typology to be located within the interior of the more extensive landscape units of this character type (<i>Ken</i>, <i>Carsphairn</i> and <i>Eskdalemuir</i>) without widespread significant visual impact occurring due to the sparse population, absence of roads and limited visibility from more settled areas. The hills bordering glens or valleys are highly sensitive however.</p> <p>This typology would be visible from elevated views on popular hill summits including Cairnsmore of Carsphairn and the Rhinns of Kells if located in the <i>Ken</i> and <i>Carsphairn</i> units as well as sensitive local landscapes and recreational receptors in the Ken unit. Visibility of this typology could potentially be minimised from the Moffat Hills if turbines were located on lower ground below the ridge extending from Loch Fell or to the north-east of this unit.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>There is increased scope for this smaller typology to be sited to avoid significant impact on views from key hill summits although visual impact may increase if turbines were sited on farmed land which is usually located on the outer edges of this character type.</p> <p><b>Sensitivity rating: Medium</b></p>



Topics and summary description	Assessment: Very Large turbines (150m+)	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
Landscape values			
<p><b>This character type is largely free of landscape designations. The Galloway Hills RSA extends slightly over the western boundary of the Ken and Carsphairn units. Technical Paper 6 notes that these areas have been included in the RSA as they form part of the visual envelope of the Glenkens and the wider setting to the main Rhinns of Kells ridge. The 'dramatic sculptural forms of Cairnsmore of Carsphairn and associated peaks as they relate to Glenkens and its main attractive tributary valleys plus areas forming part of the setting to the Merrick, Loch Doon and the Glenkens' are also noted in the RSA description. The eastern part of the West Langholm unit is also covered by an RSA designation.</b></p> <p>The SUW, Core Paths, the Striding Arches sculptures and promoted Heritage Routes lie within the Ken unit.</p>	<p>There is some scope to locate wind farm development in the eastern part of the Ken unit to avoid significant intrusion on the Glenkens, and impacts on the setting of Cairnsmore of Carsphairn, the main Rhinns of Kells ridge, the Merrick and Loch Doon and therefore minimise effects on the special qualities of the Galloway Hills RSA. Operational and consented wind energy development already influences these areas.</p> <p>Turbines sited on the open hills to the East of the <i>West Langholm</i> unit would have a significant effect on the key qualities of the Langholm Hills RSA This would be exacerbated by potential design incompatibility with the operational Carlesgill wind turbines, located on sensitive ridgelines within this designated area. Sensitivity is increased in the <i>Ken</i> unit in respect of recreational value.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>There is scope to locate wind farm development to avoid significant intrusion on the Glenkens and impacts on the setting of the main Rhinns of Kells ridge and therefore minimise effects on the special qualities of the Galloway Hills RSA. Operational and consented wind energy development already influences these areas.</p> <p>Turbines sited on the open hills to the East of the <i>West Langholm</i> unit would have a significant effect on the key qualities of the Langholm Hills RSA although the operational Carlesgill wind turbines are already located on sensitive ridgelines within this designated area. Sensitivity is increased in the <i>Ken</i> unit in respect of recreational value.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>There is scope to locate these smaller turbines to avoid significant intrusion on the Glenkens and impacts on the setting of the main Rhinns of Kells ridge and therefore minimise effects on the special qualities of the Galloway Hills RSA. Operational and consented wind energy development already influences these areas.</p> <p>Turbines sited on the open hills of the <i>West Langholm</i> unit would have a significant effect on the key qualities of the Langholm Hills RSA although the operational Carlesgill wind turbines are already located on sensitive ridgelines within this designated area. Sensitivity is increased in the <i>Ken</i> unit in respect of recreational value.</p> <p><b>Sensitivity rating: Medium-low</b></p>



Poorly designed forestry within the 'Ken' unit.



The edges of these uplands are sensitive where they contain smaller scale glens.



Extensive forestry covers the large scale undulating plateau of the 'Eskdalemuir' unit.



A ridge of higher open hills contain the lower plateau of 'Eskdalemuir' on the northern boundary of this unit.

## 26. Coastal Granite Uplands (20)

### 26.1 Introduction

Three landscape areas are defined within the Coastal Granite Uplands. These differ considerably in terms of their scale, context and degree of settlement and they are therefore individually assessed in the study. They are as follows:

- Cairnsmore
- Bengairn Coastal Granite
- Dalbeattie Coastal Granite

The Cairnsmore landscape area is very sparsely populated and as demand for smaller scale typologies is likely to be limited, these are therefore considered only within the summary and guidance section of the sensitivity assessment.

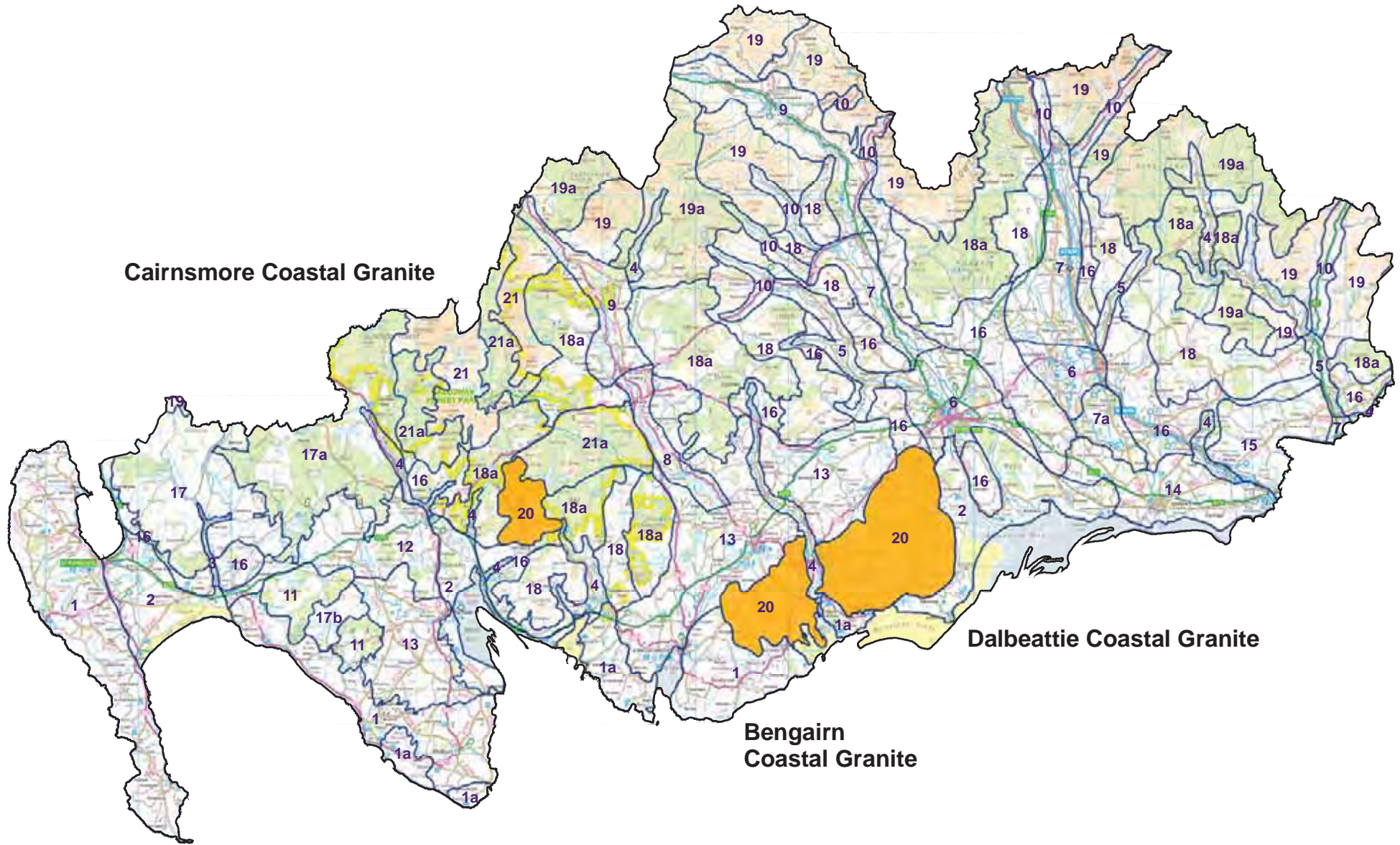
#### 26.1.1 Cultural heritage overview

The landscape areas of Bengairn and Dalbeattie are characterised by a mix of post-improvement (c19th-20thcentury) fields, farming, woodlands and rough grazing as well as some small designed landscapes, with evidence for relict land-uses. There are areas of pre-improvement (pre-19thc) land-use with their remains of buildings and distinct field shapes, as well as areas of prehistoric features. Historically and archaeologically the Cairnsmore landscape area is different, with its rough grazing/moorland land-use and little evidence of relict land-uses. Archaeological sites of outstanding significance and distinctiveness occur across the type.

#### 26.1.2 Operational/consented wind farms

The three Plascow wind turbines are located within the Dalbeattie area although there is no wind farm development sited elsewhere in this character type. Operational and consented wind farms located in other landscapes are particularly visible from elevated areas within the Cairnsmore area but seen at distance. The offshore operational Robin Rigg wind farm influences views from elevated and coastal parts of the Bengairn and Dalbeattie areas.

Character Type Key Map - 20. Coastal Granite Uplands



**Cairnsmore Coastal Granite**

**Bengairn Coastal Granite**

**Dalbeattie Coastal Granite**

## 26.2 Cairnsmore - Description and summary of sensitivity

This landscape area covers Cairnsmore of Fleet, a bold rounded granite massif which rises steeply from the surrounding lowland coastal area at the head of Wigtown Bay. The smoothly sculpted corries and sinuous ridges of the massif are highlighted dramatically in side light. Rocky outcrops accent steep ridge slopes and the Clints of Dromore form a long craggy arc of cliffs on the eastern side of the hill. The generally smooth cover of grass and heather moorland and some blanket bog is broken by occasional rocky crags and dense coniferous forest covers lower slopes. Cairnsmore of Fleet forms a landmark feature which is highly visible from surrounding settled lowland landscapes. The open rugged character of this upland area contrasts with surrounding extensive forestry, settled farmland and coastal areas and makes a strong contribution to wider scenic quality. A strong sense of naturalness is associated with this upland landscape; this especially pronounced given its location within more populated and modified lowland landscapes

There would be a **High** sensitivity to both the large and medium wind farm typologies (turbines >50m high).

In terms of landscape values there would be **High-medium** sensitivity for both the large and medium typologies due to the RSA designation covering this landscape.

### 26.2.1 Smaller typologies

The small-medium typology (20-50m) could have similar adverse effects on landform, wildland qualities the wider landscape context and on views as larger typologies, especially if located on upper slopes, ridges and tops. Although smaller turbines <20m high could be sited on lower hill slopes to minimise visual impact they would still disrupt dramatic steep slopes and would appear dislocated as they would not be associated with existing buildings due to the expansive scale and uninhabited nature of this landscape.

### 26.2.2 Cumulative issues

Operational and consented wind farms sited in the Wigtownshire Moorlands are visible from more elevated areas of this landscape but are seen at distance and they therefore do not have a significant influence on character and views.

### 26.2.3 Key constraints

- The high visibility of the landmark hill of Cairnsmore of Fleet due to its proximity to and semi-isolation within settled lowland and coastal areas.
- The sculptural landform of curving ridges, scooped corries, steep slopes and rocky outcrops which give Cairnsmore of Fleet a distinctly rugged character and visual drama.
- A strong sense of naturalness and seclusion associated with this landscape, heightened by the integrity of heather/grass moor and bog vegetation cover.

- The popularity of Cairnsmore of Fleet for walkers which increases its visual sensitivity and the RSA designation which applies to this landscape area.

### 26.2.4 Opportunities

- There are no opportunities to accommodate wind energy development in this landscape.

## 26.3. Guidance for development

There is no scope for siting wind energy development within this landscape area without incurring significant adverse landscape and visual impacts on key sensitivity criteria. This landscape is sensitive to wind farm development sited in nearby character types which could intrude on scenic views to its open and rugged upland backdrop and affect views from well-used recreational routes.

## Character Type 20 Coastal Granite Uplands - Cairnsmore

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>		
<p>Cairnsmore of Fleet is a large scale isolated massif rising to 711m with broad open tops and ridges. Scale is reduced on some lower slopes and within valleys.</p>	<p>The large scale and open character of this landscape would be less sensitive to this development typology although it is not geographically extensive and substantial developments could dominate the area.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>There is greater scope to locate the smaller spread of this typology to avoid dominating the horizontal scale of this upland area.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Landform</b>		
<p>A bold rounded granite massif which rises steeply from the surrounding lowland coastal area. Smoothly sculpted corries and sinuous ridges, occasionally 'toothed' with boulders, are highlighted dramatically in side light. Rocky outcrops accent steep ridge slopes and the Clints of Dromore form a long craggy arc of cliffs on the eastern side of the hill.</p>	<p>The landform of Cairnsmore of Fleet is dramatic and bold. This typology would impact on steep uncluttered slopes and the skyline arcs of ridges. It would detract from more complex rocky crags and corries of the massif.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would have similar effects on the dramatic rugged landform of the Cairnsmore of Fleet massif.</p> <p><b>Sensitivity rating: High</b></p>
<b>Land cover and landmark features</b>		
<p>A generally smooth simple land cover of grass/ heather moorland and some blanket bog is broken by occasional rocky crags which form landmark features. The close-cropped vegetation allows underlying geology to be appreciated. The surrounding area is largely forested and this extends in places onto upper slopes.</p>	<p>While the simple land-cover and absence of strong vegetation pattern reduces sensitivity to wind farm development, the visual integrity of blanket bog and heather moorland would be affected by turbines and associated development.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The smaller numbers of turbines associated with this typology would reduce physical effects on land cover although the integrity of cover would still be adversely affected.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Settlement and Archaeology</b>		
<p>This upland landscape is no longer settled although there is a range of archaeological sites. A memorial cairn to the crew of crashed WW2 aircraft is located at the summit.</p>	<p>The uninhabited nature of this landscape would enable this typology to be sited without dominating the scale of domestic buildings but the setting of archaeological sites remains sensitive.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>The uninhabited nature of this landscape would enable this typology to be sited without dominating the scale of domestic buildings but the setting of archaeological sites remains sensitive.</p> <p><b>Sensitivity rating: Medium-low</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Landscape context</b>		
<p><b>Cairnsmore of Fleet forms a key backdrop to surrounding settled lowland landscapes. The open rugged character of this upland area contrasts with surrounding extensive forestry, settled farmland and coastal areas and makes a strong contribution to wider scenic quality.</b></p>	<p>Turbines of this size sited within this upland area would be highly visible from surrounding landscapes and would significantly diminish the contrast and contribution Cairnsmore of Fleet makes to wider scenic quality.</p> <p><b>Sensitivity rating: High</b></p>	<p>Turbines of this size sited on this upland area would be highly visible from surrounding landscapes and would significantly diminish the contrast and contribution Cairnsmore of Fleet makes to wider scenic quality.</p> <p><b>Sensitivity rating: High</b></p>
<b>Perceptual qualities</b>		
<p><b>A strong sense of naturalness is associated with this upland landscape; this especially pronounced given its location within more populated and modified lowland landscapes. It can feel elemental and remote due to the absence of settlement.</b></p>	<p>Wind farm development would significantly affect the strong sense of wildness associated with this largely unmodified upland landscape.</p> <p><b>Sensitivity rating: High</b></p>	<p>Turbines of this size would significantly affect the strong sense of wildness associated with this largely unmodified and seemingly remote upland landscape.</p> <p><b>Sensitivity rating: High</b></p>
<b>Views and visibility</b>		
<p><b>Cairnsmore of Fleet is popular with walkers and offers panoramic views from ridges and hill tops. This upland area also forms a focus seen over a wide area. It is highly visible from the A75 and the A712 and forms a backdrop in views over the Fleet valley and from the Wigtown Bay area.</b></p>	<p>This typology would be highly visible from the well-used ridge paths and summits from within the landscape unit. Development would also be highly visible over a wide area from populated lowland and coastal areas.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would also be highly visible from the well-used ridge paths and summits with extensive visibility from well-settled lowland and coastal areas.</p> <p><b>Sensitivity rating: High</b></p>
<b>Landscape values</b>		
<p><b>Cairnsmore of Fleet is covered by the Galloway Hills RSA. Technical Paper 6 states that this RSA centres on the scenic Coastal Granite Uplands of Cairnsmore of Fleet. It states that the...“relationship between the hills and the adjacent lowlands gives rise to sweeping and dramatic views of the hills”.</b></p>	<p>Wind farm development would significantly affect the scenic quality of this core part of the Galloway Hills RSA. It would also affect sweeping and dramatic views of the hills.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Wind farm development would significantly affect the scenic quality of this core part of the Galloway Hills RSA. It would also affect sweeping and dramatic views of the hills.</p> <p><b>Sensitivity rating: High-medium</b></p>

## 26.4 Bengairn area (20) - description and summary of sensitivity

This landscape area of the Coastal Granite Uplands varies greatly in scale. It comprises complex, intimately scaled coastal promontories, knolly 'foothills' and narrow valleys but also larger scale landmark hills. The dramatic steep slopes, craggy ridges and summits of these hills make a strong contribution to wider scenic diversity. This landscape is visually prominent from settlements, major roads and the higher landmark hills and knolly 'foothills' are additionally visible from an extensive area to the north-west.

Landscape sensitivity would be **High** for the large typology (turbines 80-150m) and **High-medium** for the medium (turbines 50-80m) and small-medium typology (turbines 20-50m). Landscape sensitivity would be **Medium-low** for the small typology.

In terms of landscape values, sensitivity would be **High** for the large, medium and small-medium typologies where the NSA and RSA designation coincide but reducing to **Low** in the northern and western fringes of this landscape unit where no landscape designations apply. The small typology would be likely to have a lesser effect on designated landscapes with values reducing to **Medium to Low**.

### 26.4.1 Cumulative issues

There would be potential cumulative landscape and visual impacts associated with the offshore Robin Rigg wind farm which lies approximately 9km from Almorness Point at the closest location within this landscape unit. This wind farm is highly visible from hill summits such as Screel Hill and from the A711 at Auchencairn Bay.

### 26.4.2 Key constraints

- The intimately scaled complex landform of small knolly hills cut by narrow valleys between Gelston and the Urr valley and the irregular rocky coastal promontories which separate Auchencairn Bay and the Rough Firth.
- Screel Hill and Bengairn which rise abruptly from the coast and the Drumlin Pastures (4) and form landmark features seen over an extensive area and instantly recognisable by their elongated craggy ridges.
- Steep, rocky and forested southern hill slopes which provide a backdrop to Auchencairn and Orchardton Bays and the Urr Valley and contribute to the contrast between more managed farmland, coastal features and the rugged uplands.
- Policy woodlands and parkland, hill forts and settlement which reflect and accentuate the complexity and small scale of the landform of knolly hills on the north-western edge of this landscape unit between Gelston and the Urr valley.

- Patterns of archaeological and historic land-use features and specific sites.
- The high recreational use of this landscape with key hills such as Screel Hill offering panoramic views.
- The East Stewartry Coast NSA and Solway Coast RSA which cover much of this landscape area.

### 26.4.3 Opportunities

- Slacker lower hill slopes and more extensive gently undulating moorland and forestry on the western fringes of this landscape unit

## 26.5 Guidance on development

There is no scope for the large typology (turbines 80-150m) to be located within the Bengairn area of the Coastal Granite Uplands without significant adverse effects occurring across a wide range of sensitivities.

There may be some limited scope for the medium scale typology (turbines 50-80m) to be accommodated within this landscape but only in very limited areas. These include broader lower hill slopes with a simple vegetation pattern in the western fringes of this unit. Development should be sited to avoid intrusion on key views to and from the landmark hills of Bengairn and Screel Hill, but also avoid dominating the lower craggy ridges of Barcloy Hill and the distinct knoll and ridge of Dungarry Fort, by limiting the spread and height of development. Development should



also not intrude on highly scenic views from the designated coastal area. Potential effects on these sensitive uplands and the East Stewartry NSA should be carefully assessed from key viewpoints including Bengairn and Screel Hills, the monument at Barstobrick and coastal locations within the NSA. The introduction of larger typologies to these Coastal Uplands would be contrary to the predominant association of this scale of wind farm development with the sparsely settled and more expansive, and often extensively forested, uplands of Dumfries and Galloway.

The small-medium typology (turbines 20-50m) could also be accommodated within the broader and simpler landscape of the western part of this landscape. There may also be some limited opportunity to locate turbines towards the lower height band of this typology on less complex hills away from the core landmark hills but only where vegetation pattern is less distinct and provided turbines are located to minimise impacts on settlement and historic/archaeological features.

Small turbines (<20m) could be more easily assimilated in this landscape provided they were visually associated with existing buildings. Turbines should not be sited on the skyline or steep slopes of the dramatic edges of the uplands seen to best effect from the Urr valley and Auchencairn Bay area or along coastal edges which have a pronounced wildland character. They should also avoid intrusion on key views from coastal roads and paths, and into the backdrop and setting of small settlements or archaeological features and landscapes of historic interest.

This landscape is sensitive to large turbines sited in nearby landscapes which may affect the setting of these scenic hills and views from popular recreational routes. Extensions to the Robin Rigg offshore wind farm could adversely affect the coastal character of these views.

**Character Type 20 - Coastal Granite Uplands - Bengairn**

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Scale and openness</b>			
<p>Scale varies within this landscape. Smaller knolly hills, cut by narrow valleys, give an intimate scale between Gelston and the Urr valley on the northern edge of this landscape while the larger hills of Galgrie, Screele and Bengairn (391m) are more open and larger in scale. The complex rocky coastal promontories of this unit are often small scale in character.</p>	<p>This typology would dominate the small scale of coastal promontories and lower knolly hills and valleys. While this typology could relate to the scale of broader lower hill slopes in the north-west of the unit (but not the generally more confined hill tops), turbines would appear large in comparison with the vertical scale of the higher hills.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would have similar impacts on smaller scale landscapes although there may be some limited opportunity to locate turbines towards the lower height band of this typology (and limited numbers of turbines) to avoid dominating the vertical scale of key hills.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would dominate the small scale of coastal promontories, lower knolly hills and narrow valleys. It could however relate to the scale of broader, more open lower hill slopes and ridges. There may be greater scope for turbines around 35m high to be accommodated as these are less likely to overwhelm the scale of individual landscape features.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landform</b>			
<p>There is a pronounced north-west/south-east grain to this landscape. Screele and Bengairn Hills have elongated ridges with rocky outcrops; Screele Hill forming a distinctive toothed skyline in long views. Steep rocky hill slopes provide a dramatic backdrop to Auchencairn Bay to the south; accentuated by the abrupt junction with the flat floodplain backing Auchencairn Bay. The landform fragments at the coast forming a series of rocky peninsulas extending into this bay. Knolly 'foothills' form an edge to these hills between the Urr valley and Gelston while slacker slopes occur on the fringes of Bengairn and Barcloy Hill. Narrow valleys cut between the hills and are often strongly contained by steep slopes.</p>	<p>This typology would impact on the irregular and complex landform of lower hills, narrow valleys and coastal promontories. Slacker lower hill slopes could provide a better association with wind farm development although large turbines would detract from the focus of dramatic steep rocky hill slopes and long craggy ridges which back these slopes and the coastal fringe.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would similarly detract from the more complex landform of lower hills, narrow valleys and coastal promontories. There may be some limited scope to locate lower turbines on slacker lower hill slopes and less complex undulating moorland in the north-west and west of this unit to minimise effects on adjacent more dramatic rugged hills.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would adversely impact on the irregular and complex landform of lower hills, narrow valleys and coastal promontories. Slacker lower hill slopes, broader smoother hill tops and flatter ground would have a better association with this typology although turbines of this height could detract from dramatic steep rocky hill slopes and craggy ridges if poorly sited.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Land cover and landmark features</b>			
<p><b>Coniferous forestry covers much of the steep upper hill slopes. Mature conifers and broadleaves form an attractive woodland character within narrow valleys while smaller broadleaved and policy woodlands accentuate the intimately scaled knolly landform around Gelston. Small fields within narrow valleys and on lower hills are enclosed by a mix of stone walls and hedges and patterned by occasional patchy scrub and rocky outcrops. Larger fields occur on less undulating ground backing the coast and saltmarsh fringes Auchencairn and Ocharnton Bays.</b></p>	<p>Turbines and access tracks would disrupt the strong and diverse small scale pattern of woodlands, policies and small fields characteristic of the lower hills, valleys and coastal promontories. While this typology could relate to the simpler land cover of plantation forestry and upland pasture found in some parts of this landscape it could impact on the integrity of more mature and sensitively designed forest.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Turbines and access tracks would also disrupt the strong and diverse small scale pattern of woodlands, policies and small fields characteristic within the lower hills, valleys and coastal promontories. While this typology could relate to the simpler land cover of plantation forestry and upland pasture found in some parts of this landscape it could impact on the integrity of more mature and sensitively designed forest.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Groups of turbines could disrupt the often intricate and diverse small scale pattern of woodlands, scrub and small fields characteristic of the lower hills, valleys and coastal promontories, although single turbines would have less of an effect. Saltmarsh, policies and diverse mature forest would be highly sensitive to wind farm development; both in a physical sense and in terms of its integrity. This typology could be associated with less strongly enclosed pasture found in parts of this landscape.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Settlement and Archaeology</b>			
<p><b>Small settlements cluster at the foot of steep south-east facing slopes and within the folds of the intimately scaled knolly hills on the north-western edge of this landscape. Farms occupy higher ground raised above the flat pastures bordering Auchencairn Bay. Occasional masts are prominent on some hill tops within these knolly hills. A series of hill forts form landmark features in the Gelston area and at Dungarry while there are a range of pre-improvement and prehistoric sites across the area.</b></p>	<p>There is no scope to locate this scale of development without impacting on settlement and/or archaeological features.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would dominate settlement and archaeological features if located nearby. There may be some limited opportunities to avoid comparisons of scale by siting development in less settled areas in the north-western fringes of this unit but the setting of archaeological sites remains sensitive even to this typology.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>While this typology would dominate the scale of buildings, settlements and archaeological features if located nearby, there are some limited opportunities to site these smaller turbines away from less settled areas but the setting of archaeological sites remains sensitive even to this typology.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape context</b>			
<p>The Bengairn area of the Coastal Granite Uplands are prominent in views from the lower lying Drumlin Pastures (13) to the north-west. Steep forested slopes and occasionally dramatically craggy hills form an important backdrop and scenic contrast to the floodplain of the lower Urr Valley (4) and the Peninsula landscapes (1) and wider seascape.</p>	<p>This typology would impact on the dramatic rugged wooded backdrop and contrast provided by the higher hills to farmland within the floodplain of the Urr valley and the intricate coastline and wider seascape of the Solway Firth.</p> <p><b>Sensitivity rating: High</b></p>	<p>While this typology would have similar impacts on wider scenic diversity, there may be some increased scope to locate turbines towards the lower height band of this typology in areas where the landmark hills are less pronounced and where views from the sensitive coastal areas would be unaffected.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology is unlikely to extend significantly into wider views unless sited on sensitive higher ridges and hill summits of the landmark hills or on the 'edge' of hills which contain the <i>Urr Valley</i> (4). It could impact on sensitive coastal areas if sited on promontories and farmland backing the coast.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Perceptual qualities</b>			
<p>Although the settled, farmed and forested nature of this landscape precludes a sense of wildness, richly diverse farmland has a traditional feel and some natural qualities. Less managed coastal areas have an elemental and natural quality and can feel secluded.</p>	<p>This typology would impact on the sense of wildness experienced in less managed coastal areas and also on the more subtle naturalness of diverse farmland.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would impact on the sense of wildness experienced in less managed coastal areas and also on the more subtle naturalness of diverse farmland.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would adversely affect the appreciation of wildness along the coastal edge. Turbines towards the lower height band of this typology would be less likely to significantly impact on traditionally farmed landscapes.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Views and visibility</b>			
<p><b>Landform and woodland limit views from within this landscape from settlement and the minor roads aligned through narrow valleys. Views are more open from the A711 and these focus on the dramatic steep south-east facing hill slopes and the rocky peninsulas and Firth of Auchencairn Bay. The hill ridges and summits offer extensive views over this landscape and the Solway Firth. Scree Hill is particularly popular with walkers and is promoted in a number of guides.</b></p> <p>Scree Hill forms a focus landmark seen from wide area of Drumlin Pastures (13) and the coast. The north-west facing edge of smaller complex knolly 'foothills' are also highly visible from roads such as the A745. The steep wooded slopes of these Coastal Granite Uplands are highly visible from the lower Urr valley and Dalbeattie.</p>	<p>This typology would be highly visible from the A711 and coastal settlements and footpaths if located on hill tops, south-facing slopes and coastal areas. It would also significantly impact on views from key hill tops and ridges which are popular with walkers.</p> <p>This typology would be highly visible if located on the higher hills which form key foci in extensive views from CTs (4) and (13). It would also significantly detract from views of the lower knolly hills on the north-western edge of this unit seen from the adjacent <i>Drumlin Pastures</i> (13).</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would be highly visible from the A711 and coastal settlements and footpaths if located on hill tops, south-facing slopes and coastal areas. It would also significantly impact on views from key hill tops and ridges which are popular with walkers.</p> <p>This typology would be highly visible if located on the higher hills which form key foci in extensive views from CTs (4) and (13). It would also significantly detract from views of the lower knolly hills on the north-western edge of this unit seen from the adjacent <i>Drumlin Pastures</i> (13). Turbines towards the lower height band of this typology located on slacker hill slopes in the north-west fringes of this unit could be less prominent in key views from the surrounding area.</p> <p><b>Sensitivity rating: High</b></p>	<p>The small size of this typology and the opportunities for screening offered by trees and topography, limits potential visibility of turbines towards the lower height band, views of which are likely to be intermittent.</p> <p>However, if poorly sited, they could detract from the visual focus of existing natural and historic features, including highly scenic coastal landscapes.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape values</b>			
<p>The East Stewartry NSA includes the summits and south-east facing slopes of Bengairn and Scree Hill and Auchencairn Bay with its rocky promontories. The special qualities of the NSA include the diversity of landform including the indented coastline and rugged hills, the variety of landcover and contrast between managed farmland and 'wildness'. Scree Hill and Bengairn are noted as key landmarks within the NSA. The Solway Coast RSA covers all but the north-western fringes of this landscape unit. Technical Paper 6 describes the..."steep sided, rocky granite hills....contrasting with areas of smoother topography and improved pastures, plus considerable, generally sympathetically designed forestry".</p>	<p>This typology would adversely affect the contrast between the rugged hills and surrounding coast and farmland and would detract from the key landmark hills of Scree Hill and Bengairn. It could also diminish the integrity of sympathetically designed forestry and the variety of landcover in some parts of the NSA/RSA.</p> <p>This typology may also affect the setting of the landmark hills if located in undesignated parts of this landscape unit of the Coastal Granite Uplands.</p> <p><b>Sensitivity rating: High to Low</b></p>	<p>This typology would adversely affect the contrast between the rugged hills and surrounding coast and farmland and would detract from the key landmark hills of Scree Hill and Bengairn. It could also diminish the integrity of sympathetically designed forestry and the variety of land cover in some parts of the NSA/RSA.</p> <p>This typology may also affect the setting of the landmark hills if located in undesignated parts of this landscape unit of the Coastal Granite Uplands.</p> <p><b>Sensitivity rating: High to Low</b></p>	<p>Small turbines are less likely to impact on the key special qualities of the NSA and RSA provided they are located away from sensitive coasts and avoid intrusion on key views. Turbines towards the lower height band of 12m, and closely associated with existing buildings, would be more likely to minimise impacts on designated landscape as they would more easily fit with the scale and pattern of existing settlement.</p> <p><b>Sensitivity rating: Medium to Low</b></p>

## 26.6 Dalbeattie (20) - description and summary of sensitivity

The Dalbeattie landscape unit of the Coastal Granite Uplands comprises a large scale upland core of shapely hills covered with forestry and moorland, but also smaller scale, rolling craggy hills often featuring an intricate pattern of small enclosed pastures, scrub and woodlands. The dramatically steep hill slopes of these Coastal Granite Uplands which abut the coastal edge, the iconic form of Criffel and the richly diverse eastern hill slopes with their associated settlement, policy landscapes and landmark historical features, make a strong contribution to wider scenic quality. This landscape is visually prominent from nearby settlements, coastal recreation areas and major roads and also over an extensive area to the north.

Landscape sensitivity would be **High** for the large typology (turbines 80-150m), **High-medium** for the medium typologies (turbines >50m), **Medium** for the small-medium typologies and **Low** for the small typology (turbines <20m).

In terms of landscape values, sensitivity would be **High** for the large, medium and small-medium typologies within the NSA designation, reducing to **High-medium** where the RSA alone applies and to **Low** in the north-western fringes of this landscape unit where no landscape designations apply. The small typology would be likely to have a lesser effect on designated landscapes with values reducing to **Medium to Low**.

### 26.6.1 Cumulative issues

The operational Plascow turbines are located in this landscape although this is a discrete development of three turbines reducing potential for cumulative effects to arise. The offshore Robin Rigg wind farm is visible from the coast and elevated areas. The distance of this development (approximately 11km from Colvend at the closest location within this landscape unit) limits potential for significant cumulative effects to arise with onshore developments.

### 26.6.2 Key constraints

- The core of higher upland hills including the distinctive cone of Criffel which is a landmark feature seen across an extensive part of Dumfries and Galloway and north Cumbria.
- The small scale lower rolling hills and ridges which fringe the eastern edge of the upland core and have a richly diverse pattern of policy woodlands, parkland, small enclosed pastures and settlement.
- The craggy, tightly interlocking small hills and narrow valleys with their coarse-textured pattern of small walled fields, scrub and woodland and settlement in the south-west of this area.
- Patterns of archaeological and historic land-use features and specific sites.

- The steep slopes of Criffel and rugged lower hill slopes between Caulkerbush and Sandyhills which form a distinctive backdrop and contrast with the coastal flats.
- The high recreational use of this landscape with Criffel and the core of uplands, Dalbeattie and Mabie Forests attracting many walkers and cyclists.
- The presence of the Nith Estuary NSA and Solway Coast RSA which cover the majority of this landscape unit.

### 26.6.3 Opportunities

- Broader lower hill slopes and low-lying plateaux where settlement is sparser and vegetation cover simpler and where there may be opportunities for wind farm development to be sited to minimise impacts on the setting of the core uplands of this unit and on key views from the coast and settlement.

## 26.7 Guidance on development

While the large typology (turbines 80-150m) could relate to the broad scale and generally simple landform and vegetation pattern of forestry and upland grazing found in parts of this landscape unit, it would significantly dominate the scale of nearby settlement and intrude on views to the core uplands. There is therefore no scope to accommodate turbines of this size in this landscape.

There is some limited scope for the medium scale typology (turbines 50-80m) to be accommodated but only in a few specific areas. These include slacker hill slopes on the north-western fringes of this area set well away from the more distinctive core hills. Careful assessment would be necessary to ensure that intrusion on key views to and from Criffel was minimised. More sparsely populated lower plateau areas to the south-west (some of these areas modified by quarrying and landfill activities) also provide potential opportunities for this typology although smaller turbines within this height band and the small-medium typology (turbines 20-50m) would be more likely to minimise potential effects on the setting and views from Dalbeattie, nearby settlement and the adjacent Urr valley. Care should be taken to avoid a clutter of disparate structures in these areas as turbines could potentially visually interact with existing industrial development and further diminish the rural character of the landscape.

The introduction of larger development typologies in these Coastal Granite Uplands would be contrary to the predominant association of this scale of wind farm development with the sparsely settled and more expansive, and usually extensively forested, upland areas of Dumfries and Galloway. This landscape is sensitive to large turbines sited in nearby landscapes which may affect the setting of these scenic hills and views from popular recreational routes. Extensions to the Robin Rigg offshore wind farm could adversely affect the coastal character of these views

Small turbines (<20m) could be more easily assimilated in this landscape provided they were visually associated with existing buildings. Small turbines should not be sited on key skylines or on particularly rugged and steep slopes of the dramatic seaward edge of the uplands. They should also avoid intrusion on key views to Criffel and New Abbey from the A710 and the coastal edge and on the setting of archaeological features and landscapes of historic interest.



## Character Type 20 - Coastal Granite Uplands - Dalbeattie

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Scale</b>			
<p>An upland area generally around 400m but with Criffel rising to 569m at the highest point. Scale is reduced in the lower, and often more complex, rolling hills which fringe the core uplands and within the valleys which dissect the uplands on a north-west/south-east grain.</p>	<p>While this typology could relate to the large scale of the upland core of this landscape, it would dominate the smaller scale of rolling hills that fringe it and also the valleys which cut through the uplands.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could relate to the large scale of the upland core of this landscape. It would dominate smaller valleys although turbines towards the lower height band could relate to the broader scale of more open north-west facing hill slopes and the more expansive parts of the lower plateau to the SW</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology would dominate the small scale lower hills and narrow valleys. It could however relate to the scale of broader plateaux areas to the west and higher hills lying at the core of this landscape unit.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Landform</b>			
<p>These uplands generally have smooth long northern slopes and steeper southern slopes which abut the Coastal Flats (2). The core of the higher uplands form a tight arc divided by the Glen Burn. Criffel is the largest hill and is a landmark feature with its conical form, steep smooth slopes and shapely ridges. More complex and smaller, often craggy hills, cut by narrow valleys, fringe the upland core to the south-west. Slopes are slacker on the north-western boundary of this unit and the area bordering the Urr valley is relatively low, forming an undulating plateau around 100m patterned with rocky outcrops.</p>	<p>Turbines sited on or close to the upland core centred on Criffel would detract from its distinctive form. The more complex, craggy rolling hills which fringe the upland core would be highly sensitive to this typology. Gentler north-west facing hill slopes would relate better to turbines of this size although these are not extensive areas thus limiting the number of turbines that could be accommodated</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Turbines sited on or close to the upland core centred on Criffel would detract from its distinctive form. The more complex rolling hills which fringe the upland core would be highly sensitive to this typology. Gentler north-west facing hill slopes would relate better to this typology.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>Turbines sited on or close to the upland core centred on Criffel and associated hills would detract from their distinctive form. The more complex, craggy rolling hills which fringe the upland core would be sensitive to this typology although there are opportunities to accommodate turbines of this scale within areas of lower more regular topography including smoother lower hill slopes and less patterned plateaux areas.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<p><b>Land cover and landmark features</b></p> <p><b>Heather and grass moorland covers the higher hill tops while coniferous forestry extends over lower hills and upper, generally less steep, hill slopes. Some of this forestry has a poor relationship to landform with angular margins and limited diversity. Policy woodlands occur around Mabie and New Abbey and these feature a rich mix of species and include avenues and some parkland plantings. A number of rounded lochs are occasional features sitting at the foot of the hills and on the lower south-western plateau near Dalbeattie and pockets of wetland fill small valleys and dips. Interlocking woodlands and small scrubby pastures, enclosed by stone dykes, give a coarse textured, diverse pattern within the smaller hills to the south west although larger scale pastures and more extensive upland grazing occurs to the north-west.</b></p>	<p>This typology would disrupt the balance of open space to woodland if sited on open hill tops or lower strongly enclosed pastures and could impact on the integrity of heather moorland which is a notable feature on the higher hill tops. The more diverse mix of policy and broadleaved woodlands, small strongly enclosed pastures and wetlands which contribute to the rich diversity of much of this landscape would be highly sensitive to wind farm development. Development sited near lochs would detract from their landmark status. Commercially managed forestry with limited visual diversity and extensive upland pasture would be less sensitive to this typology.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would disrupt the balance of open space to woodland if sited on open hill tops or lower strongly enclosed pastures and could impact on the integrity of heather moorland which is a notable feature on the higher hill tops. The more diverse mix of policy and broadleaved woodlands, small strongly enclosed pastures and wetlands which contribute to the rich diversity of much of this landscape would be highly sensitive to wind farm development. Development sited near lochs would detract from their landmark status. Commercially managed forestry with limited visual diversity and extensive upland pasture would be less sensitive to this typology.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would disrupt the balance of open space to woodland if sited on higher hill tops or within policy landscapes on lower hill slopes. Groups of turbines could disrupt the often intricate and diverse small scale pattern of woodlands, scrub and small fields characteristic of the lower hills and valleys although single turbines would have less of an effect. Designed landscape features and wetlands would be highly sensitive to wind farm development; both in a physical sense and in terms of its integrity. This typology could be associated with less strongly enclosed pasture and upland grazing land found in parts of this landscape.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Settlement and Archaeology</b>			
<p>The small historic settlement of New Abbey nestles at the foot of these uplands. Farmsteads pattern lower hill slopes on the outer edge of the higher upland core with settlement becoming more concentrated within the lower hills and valleys to the south-west. Dalbeattie is located at the transition between this landscape unit and the Urr Valley (4). Derelict munitions site, landfill and quarrying occur near Dalbeattie. Mansion houses, the Waterloo Monument, the ruinous Sweetheart Abbey form key landmark built features. Prehistoric settlements skirt the foot of Criffel and the lower hills feature hill forts and cairns.</p>	<p>This typology would dominate the scale of dispersed farmsteads which encircle the upland core and are more concentrated within the lower hills. It could affect the setting of settlements such as New Abbey and Dalbeattie and historical and archaeological features if located nearby or within the hills which provide a backdrop to settlement.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would dominate settlements and archaeological features if located nearby. There may be some limited opportunities to avoid comparisons of scale by siting development in less settled areas in the north-western part of the upland core but avoiding key hills which provide the setting to settlements. Turbines towards the lower height band of this typology would be more likely to have a better relationship with larger buildings in terms of scale although the setting of archaeological sites remains sensitive.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>While this typology would dominate the scale of buildings, settlements and archaeological features if located nearby, there are greater opportunities to site these smaller turbines to avoid significant scale comparisons.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landscape context</b>			
<p>Criffel is a landmark hill seen over an extensive area. The steep southern slopes of Criffel and also the craggy edge of lower hills between Caulkerbush and Sandyhills are important in providing a backdrop and contrast with the Coastal Flats (2) and Solway Firth. The low densely forested undulating granite plateau of Dalbeattie Forest edges the lower Urr valley (4) and forms part of the setting to the town of Dalbeattie. This unit also forms an interesting upland backdrop to the extensive Drumlin Pastures (13) to the north. The intricately vegetated rolling ridge of Mabie Forest borders lower Nithsdale (6) and forms part of the wider setting to Dumfries</p>	<p>Turbines sited within the core higher uplands of this unit would have significant impacts on the landmark of the Criffel massif. Turbines sited on the dramatically steep slopes which backdrop the <i>Coastal Flats</i> and/or visible on the skyline of these hills would have significant impacts on the <i>Coastal Flats</i> (2). Although the lower forested plateau of the Dalbeattie Forest in the south-west of this unit provides a less emphatic backdrop to the settlement of Dalbeattie and the <i>Urr valley</i> (4), it is valued as a landscape resource and would be highly sensitive to this typology. The richly diverse eastern hill slopes of this unit make a strong contribution to the setting of Criffel, Dumfries and the Nith Estuary and would be highly sensitive to this typology.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would also impact on the landmark of Criffel and the dramatically steep slopes which provide a backdrop and contrast to the <i>Coastal Flats</i>. There may be scope to site turbines towards the lower height band of this typology in the lower less prominent hills and plateaux in the south-western part of this unit to avoid significant impacts on adjacent character types although opportunities are likely to be limited. The richly diverse eastern hill slopes of this unit make a strong contribution to the setting of Criffel, Dumfries and the Nith Estuary and would be highly sensitive to this typology.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could have a significant impact on adjoining character types if sited on sensitive higher ridges and hill summits of the landmark hills, on the steep hill slopes which backdrop the coast or on the 'edge' of the low plateau of Dalbeattie Forest which fringes the <i>Urr Valley</i> (4). It would be unlikely to significantly impact in the wider landscape context if sited on lower, less prominent hill slopes and plateaux.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Perceptual qualities</b>			
<p>Although forestry, quarrying and munitions stores preclude a sense of wildness in some areas, diverse farmland on the fringes of these uplands can appear natural. The less modified open hills of the upland core also have natural qualities.</p>	<p>This typology would impact on the sense of wildness experienced in less managed upland areas and within more diverse farmland.</p> <p><b>Sensitivity rating: High-Medium</b></p>	<p>This typology would impact on the sense of wildness experienced in less managed upland areas. The perception of the strongly rural character of parts of this landscape may be less affected by single and small groups of turbines towards the smaller height band of this typology.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology could adversely affect the appreciation of wildness within the upland core although sensitivity is reduced elsewhere.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Views and visibility</b>			
<p>The minor roads which cross the valleys of this landscape have fairly limited views due to the containment provided by hill slopes and forestry. New Abbey is similarly contained and many settlements and farms are orientated away from the core uplands being predominantly located on outer hills slopes. The complex hummocky landform to the south-west, together with woodland, restricts extensive views from this more settled area. A network of footpaths in the upland core provides elevated views over much of this landscape and the Solway Firth.</p> <p>This landscape is highly visible over an extensive area with Criffel a key focus in views.</p>	<p>This typology would be highly visible over an extensive area of Dumfries and Galloway and also the Cumbrian coast if sited on the core upland areas centred on Criffel.</p> <p>This typology would be visible in close proximity from the A711 if sited on northern slopes and on hill tops. The popularity of Criffel with walkers and coastal recreation areas and the presence of settlements on the fringes of this upland area increases visual sensitivity to this typology.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would be highly visible over an extensive area of Dumfries and Galloway and also the Cumbrian coast if sited on the core upland areas centred on Criffel.</p> <p>This typology would be visible in close proximity from the A711 if sited on northern slopes and on hill tops. The popularity of Criffel with walkers, coastal recreation areas and the presence of settlements on the fringes of this upland area increases visual sensitivity to this typology.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would be highly visible over an extensive area of Dumfries and Galloway and also the Cumbrian coast if sited on ridges and summits within the core upland area centred on Criffel.</p> <p>There is greater scope for turbines towards the lower height band of this typology to be partially screened by woodland and landform from key views from roads, settlement and from popular walking routes within the core hills.</p> <p><b>Sensitivity rating: High-medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)	Assessment: Small-medium turbines (20-50m)
<b>Landscape values</b>			
<p><b>Criffel and the east coast of this landscape unit are covered by the Nith Estuary NSA. The special qualities of this NSA are recorded as being the bold contrasts between the granite upland mass of Criffel and the coastal flats and Firth. The diversity of moorland, woodlands and rolling parkland is noted together with the landmarks of Mabie Forest, Criffel, the Waterloo Monument and New Abbey (amongst other landmarks outwith this landscape unit). The sense of remoteness, naturalness and harmony of the landscape are also considered key special qualities.</b></p> <p><b>The Solway Coast RSA covers the majority of this landscape unit, excluding the north-west facing lower hill slopes. The Terregles Ridge RSA abuts to the north-east and includes the Loch Arthur and Mabie Forest areas. Technical Paper 6 does not include a specific reference to the Coastal Granite Uplands in the description of the Terregles Ridge RSA although they are described in relation to the Solway Coast as comprising the seaward facing slopes of the Criffel uplands which are...."dramatically juxtaposed with the flat exposed landscapes of the Coastal Flats around the Nith Estuary....(including the)... intimate, wooded landscapes of the 'coastal parkland' around New Abbey".</b></p>	<p>This typology would adversely affect the contrast between the rugged hills and the coast and would detract from the key landmark hill of Criffel. It would also conflict with the diverse and often small scale pattering of vegetation cover and would impact on the sense of naturalness and the harmony associated with the NSA/RSA.</p> <p>This typology may also affect the setting of the landmark hills if located in undesignated parts of this landscape unit of the <i>Coastal Granite Uplands</i>.</p>	<p>This typology would adversely affect the contrast between the rugged hills and the coast and would detract from the key landmark hill of Criffel. It would also conflict with the diverse and often small scale pattering of vegetation cover and would impact on the sense of naturalness and the harmony associated with the NSA/RSA.</p> <p>This typology may also affect the setting of the landmark hills if located in undesignated parts of this landscape unit of the <i>Coastal Granite Uplands</i>.</p>	<p>This typology would adversely affect the contrast between the rugged hills and the coast and would detract from the key landmark hill of Criffel. It would also conflict with the diverse and often small scale pattering of vegetation cover and would impact on the sense of naturalness and the harmony associated with the NSA/RSA.</p> <p>This typology may also affect the setting of the landmark hills if located in adjacent undesignated parts of this landscape unit of the <i>Coastal Granite Uplands</i>.</p>
	Sensitivity rating: High to low	Sensitivity rating: High to low	Sensitivity rating: High to Low



Criffel forms a landmark feature and rugged backdrop to the coastal edge and the Nith Estuary.



The 'Dalbeattie' unit features a diverse mix of policies, woodland, loch basins and wetlands.



Exposed crags, such as the Clints of Dromore, typify the richness of geological detail associated with Cairnsmore of Fleet.



The bold granite massif of Cairnsmore of Fleet forms a landmark within the settled lowlands of Galloway



Knolly hills cut by narrow valleys and an intricate pattern of small pastures, woodland and scrub, characterises the northern edge of the 'Bengairn' unit.



The 'toothed' ridge of Scree Hill and Bengairn seen from Auchencairn Bay. Both the hills and lower rocky promontories lie within the 'Bengairn' unit.

Character Type 20: Coastal Granite Uplands

## 27. Rugged Granite Uplands (21)

### 27.1 Introduction

The Rugged Granite Uplands occur in Galloway and extend into neighbouring South Ayrshire in the Carrick area. There are two landscape areas identified within the character type within the Dumfries and Galloway landscape assessment, the Merrick and the Rhinns of Kells. Both areas are considered together in a single sensitivity assessment due to the similarity of their key characteristics.

Due to the very sparsely populated nature of this upland landscape, demand for smaller scale typologies is likely to be limited and smaller scale typologies are therefore considered within the summary and guidance section of the assessment only.

#### 27.1.1 Cultural heritage overview

This landscape type is characterised as moorland with little evidence of relict land-uses, other than a number of lake dwellings (crannogs) in lochs in the Merrick unit.

#### 27.1.2 Operational and consented wind farm development

There are no operational or consented wind farms located in this landscape character type.

A large number of operational, under-construction and consented wind farms lie between 11km-30km from the Merrick area of this character type to the west. These developments are largely located on the Plateau Moorland landscapes LCTs 17 and 17a within Dumfries and Galloway and South Ayrshire and are from the summits and high ridges of this landscape. Wind farm development located in the Southern Uplands landscapes LCTs 19 and 19a are particularly visible from the Rhinns of Kells area in views to the north-east with the Torrs Hill turbines being particularly close at 3.5km from Corserine the highest hill on this ridge.

### 27.2 Description and summary of sensitivity

The dramatic craggy mountainous scenery of the Rugged Granite Uplands is commonly described as being 'Highland' in character and contrasts with the smoother, more rounded hills of the Southern Uplands (19). While the scale of this character type could relate to larger wind farm typologies, the often complex landform and land cover, the distinctive backdrop these high and rugged hills provide to more settled, lowland areas and the strong sense of remoteness and naturalness associated with these uplands are key constraints. Visual sensitivity is increased due to the presence of well-used walking routes on the ridge of the Rhinns of Kells and to the Corbett hills of Merrick and Corserine.

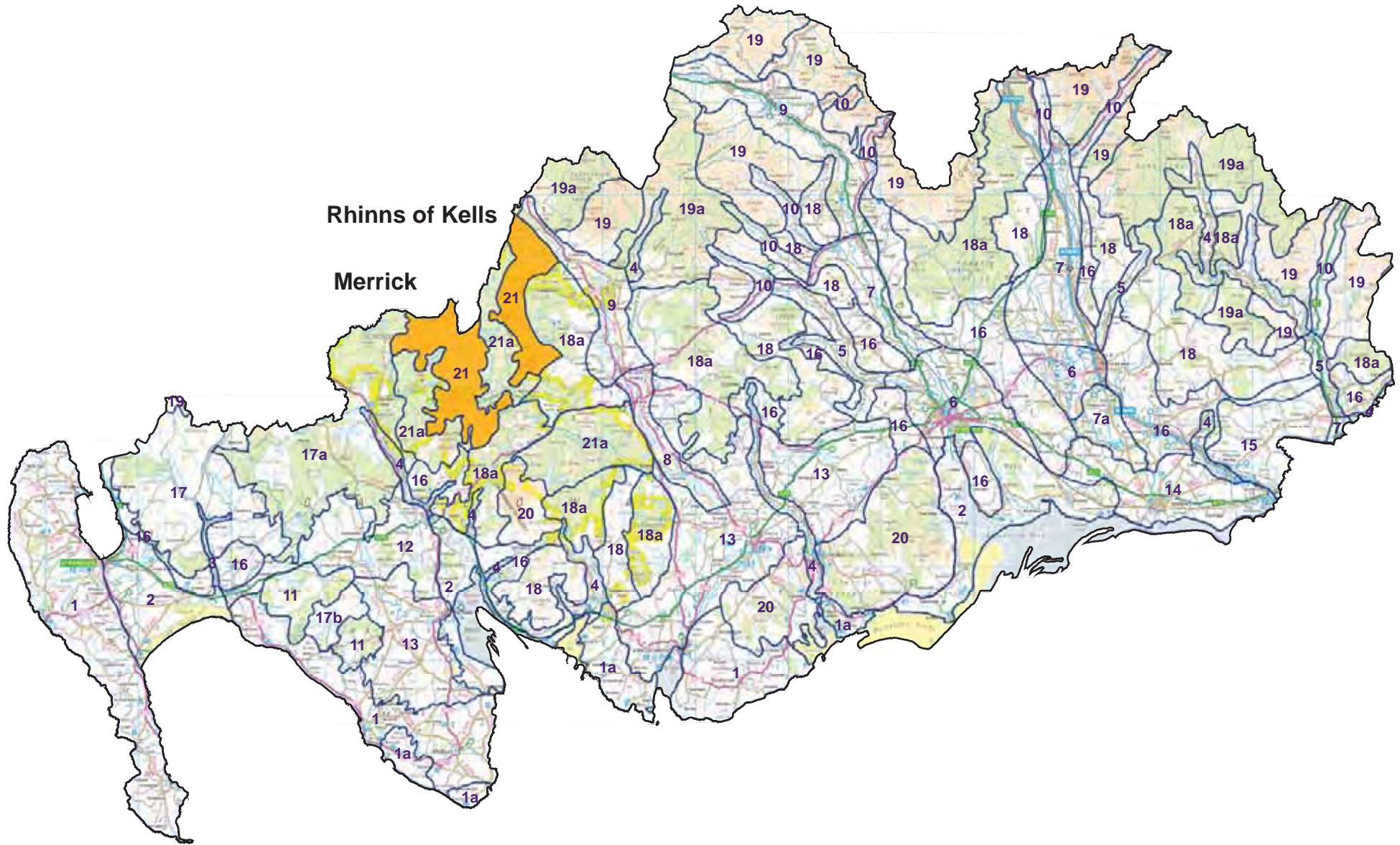
The Rugged Granite Uplands has a **High** landscape and visual sensitivity to the large and medium typologies (turbines >50m).

The presence of the Merrick Wild Land Area, a Regional Scenic Area, well-used recreational routes in the hills and the Galloway Forest Park increases sensitivity to **High** in terms of landscape values.

#### 27.2.1 Smaller typologies

There is unlikely to be a demand for smaller typologies (turbines <50m) within this largely uninhabited upland area. Smaller typologies would introduce clutter and man-made artefacts to these largely undeveloped and remote upland landscapes, adversely affecting wild land characteristics although there may be some very limited scope for turbines <30m to be associated with settlement on the fringes of these areas.

Character Type Key Map - 21. Rugged Granite Upland





### 27.2.2 Cumulative issues

Although there are no wind farms within this character type, a concentrated band of wind farm development is visible to the west from the Merrick area and to the north-east from the Rhinns of Kells area.

Any future wind farm development lying closer to the Merrick area (in Dumfries and Galloway, South Ayrshire and East Ayrshire) would be likely to have significant cumulative impacts on the setting of this upland landscape, on views and on the qualities of the Wild Land Area. Similar effects on setting and views and on the experience of wild land character could also occur if additional development was sited closer to the Rhinns of Kells area. Developments comprising Very Large turbines (>150m) may contribute to cumulative effects.

### 27.2.3 Key constraints

- Rugged, highly complex landform and land cover with defined peaks, craggy slopes, the myriad lochs and deeply cut valleys of the interior of Merrick and the shapely flowing ridges and corries of the Rhinns of Kells.
- The strong perceptual qualities of remoteness and naturalness which can be experienced in these uplands.

- The highly visibility of these uplands where they form an iconic backdrop to more settled areas but also from popularly walked peaks such as the Corbetts of Merrick and Corsierine.
- The Galloway Hills RSA and Merrick Wild Land Area.

### 27.2.4 Opportunities

Smoother lower hill slopes on the extreme fringes of this character type where the small typology could be sited in association with existing settlement providing it did not intrude on key views to these uplands.

## 27.3 Guidance on development

There is no scope for the large, medium and small-medium typologies (turbines >20m) to be sited within this character type without incurring significant impacts on a number of key characteristics. Small turbines could potentially be sited on the southern fringes of the Merrick area and the north-eastern fringes of the Rhinns of Kells area providing they were visually associated with settlement and avoided intrusion on key views of these uplands.

This landscape is sensitive to wind farm development sited in nearby character types including 17, 17a, 18a and 19a. Extensions to existing wind farms or new wind farm development in Dumfries and Galloway or neighbouring South Ayrshire and East Ayrshire should avoid significantly impacting on key views to and from these uplands from roads, settlement and from footpaths such as the SUW. Wind farm development in adjoining landscape character types should be sited sufficiently far away to avoid visual prominence and also to avoid contributing to a perception of cumulative 'encirclement' or significant intensification that could be experienced from summits and ridges.

## Character Type 21 - Rugged Granite Uplands

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>		
<p>The Rugged Granite Uplands range from 200m to over 800m with Merrick, at 843m, the highest peak. They have a massive scale although the narrow valleys which cut into the hills and the undulating loch basins within the interior of the Merrick unit are strongly contained by steep slopes.</p>	<p>Tall turbines could relate to this large scale landscape without dominating the height of individual peaks. Expansiveness is reduced within the narrow valleys which cut into these hills and where the more pronounced peaks provide enclosure, thus limiting scope to site large numbers of turbines.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>This typology could also relate to this large scale landscape without dominating the height of individual peaks. Expansiveness is reduced within the narrow valleys which cut into these hills and where the more pronounced peaks provide enclosure.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Landform</b>		
<p>The long curving ridge of Rhinns of Kells extends for 13km and rarely falls below 600m. Deeply gouged corries are contained by craggy boulder-strewn slopes along this ridge. Exposed granite and boulders also give a notably 'Highland' appearance to the Merrick hill group featuring distinctive steeply-rising peaks with craggy sides, knobbly ridges and cliffs of dark hard rock. Some smoother hill slopes and broader ridges occur although generally the scenery is rugged and dramatic.</p>	<p>Turbines would significantly detract from the distinctive craggy, irregular landform of these uplands. It would be difficult to attain a cohesive layout for larger developments due to the complexity of landform.</p> <p><b>Sensitivity rating: High</b></p>	<p>Turbines would significantly detract from the distinctive craggy irregular landform of these uplands. Although this typology could potentially relate to smoother lower slopes and ridges found occasionally, turbines would still be likely to impact on adjacent complex landform features.</p> <p><b>Sensitivity rating: High</b></p>
<b>Land cover and landmark features</b>		
<p>While vegetation cover is simple, largely comprising grass moorland with patchy heather, the landscape is strongly patterned with exposed rock, crags and small deeply articulated lochs and myriad water courses significantly increasing complexity. Coniferous forestry extends into some of the valleys cutting into the open ridges of the Rhinns of Kells and on the lower southern slopes and valleys of the Merrick area.</p>	<p>Multiple turbines, access roads and other ancillary development would significantly compromise the predominantly complex land cover pattern of these uplands. Smoother, broader 'outer' hill slopes (some of these covered with forestry) would be less sensitive in this respect.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology is more likely to comprise single and very small groups of turbines and as such it could be sited to minimise effects on more complex land cover. Smoother, broader 'outer' hill slopes (some of these covered with forestry) would be less sensitive.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Settlement and Archaeology</b>		
<p>These uplands are largely uninhabited but there are some archaeological features.</p>	<p>There is scope for larger scale typologies to be accommodated but the setting of archaeological sites remains sensitive.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>There is scope for larger scale typologies to be accommodated but the setting of archaeological sites remains sensitive.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Landscape context</b>		
<p>These uplands provide a distinctive rugged mountainous backdrop to adjoining settled areas such as the Glenkens to the east and the Plateau Moorlands and Duisk valley within South Ayrshire to the west.</p>	<p>This typology would dominate adjacent settled landscapes and diminish the role of the <i>Rugged Granite Uplands</i> in providing a dramatic backdrop to settled landscapes, thus adversely affecting wider landscape composition and scenic qualities.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would dominate adjacent settled landscapes and diminish the role of the <i>Rugged Granite Uplands</i> in providing a dramatic backdrop to settled landscapes, thus adversely affecting wider landscape composition and scenic qualities.</p> <p><b>Sensitivity rating: High</b></p>
<b>Perceptual qualities</b>		
<p>An absence of built development and difficulty of access to the interior of these uplands give a strong sense of remoteness in places. Naturalness is accentuated by the ruggedness of the terrain but diminished in some areas by coniferous forestry in adjacent character types (21a).</p>	<p>Wind farm development, and particularly larger typologies, would significantly diminish the strong sense of naturalness and remoteness experienced in these uplands.</p> <p><b>Sensitivity rating: High</b></p>	<p>Larger typologies, would significantly diminish the strong sense of naturalness and remoteness experienced in these uplands.</p> <p><b>Sensitivity rating: High</b></p>
<b>Views and visibility</b>		
<p>These uplands are popular with walkers because of their highly natural and rugged character and the presence of 'Corbett' hills. The higher summits offer views into the less visited interior of the hills and the wider area.</p> <p>The Rhinns of Kells are highly visible from the Glenkens, the A712 and the A713 where they form an arresting 'entrance' to Galloway from South Ayrshire. The Merrick group of hills form a distinctive and long panorama seen principally from the west but also from elevated viewpoints such as Cairnsmore of Fleet to the south. They feature in views from the A714, the Plateau Moorlands, the Duisk valley and the SUW.</p>	<p>Although the interior valleys of these hills are less visible from external view, the popularity of higher hills such as Merrick with walkers increases sensitivity to wind farm development even in more visually contained areas. The SUW is also aligned through the southern part of these uplands increasing visual sensitivity locally.</p> <p>Wind farm development sited on hill tops and ridges within this character type would be prominent in views from surrounding settled areas.</p> <p><b>Sensitivity rating: High</b></p>	<p>Although the interior valleys of these hills are less visible from external view, the popularity of higher hills such as Merrick with walkers increases sensitivity to wind farm development even in more visually contained areas. The SUW is also aligned through the southern part of these uplands increasing visual sensitivity locally.</p> <p>Wind farm development sited on hill tops and ridges within this character type would be prominent in views from surrounding settled areas.</p> <p><b>Sensitivity rating: High</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Landscape values</b>		
<p><b>The Galloway Hills RSA covers these uplands.</b></p> <p><b>The Merrick Wild Land Area covers much of the Merrick area of this landscape character type.</b></p> <p><b>The Galloway Forest Park extends across this character type.</b></p>	<p>Although a number of other landscape character types are included in the RSA, it is the <i>massive craggy peaks</i> of the <i>dramatic and scenic</i> Rugged Granite Hills which form its focus with the relationship between the hills and the adjacent lowlands described as <i>..giving rise to sweeping and dramatic views of the hills.</i></p> <p>This typology would have a significant and adverse effect on the special qualities of the RSA, on the Merrick Wild Land Area and on the experience of recreational users within the Galloway Forest Park.</p> <p><b>Sensitivity rating: High</b></p>	<p>Although a number of other landscape character types are included in the RSA, it is the <i>massive craggy peaks</i> of the <i>dramatic and scenic</i>. Rugged Granite Hills which form its focus with the relationship between the hills and the adjacent lowlands described as <i>..giving rise to sweeping and dramatic views of the hills.</i></p> <p>This typology would have a significant and adverse effect on the special qualities of the RSA. It could also compromise the qualities of the Merrick Wild Land Area and could affect the experience of recreational users within the Galloway Forest Park.</p> <p><b>Sensitivity rating: High</b></p>



The Galloway Hills form a distant backdrop to more settled landscapes.



The long sinuous ridge of the Rhinns of Kells seen above the Foothills with Forest from the Glenkens.



The remote interior of these uplands have a strong wildland character.



The hills, and particularly the Merrick, are popular with walkers.



The head of Loch Trool has a rugged character reminiscent of the Highlands.



The Merrick group of hills are prominent from the open parts of the Plateau Moorland to the west.

## 28. Rugged Granite Uplands with Forest (21a)

### 28.1 Introduction

The Rugged Granite Uplands with Forests occur in Galloway and extend into neighbouring South Ayrshire in the Carrick/Loch Doon area. Three landscape areas are identified in this character type, the Merrick, Glentool and Cairn Edward. The Merrick and Glentool areas are considered together with a separate sensitivity assessment undertaken for the Cairn Edward area because of the different landscape context of these areas.

Due to the very sparsely populated nature of these densely forested upland landscapes, demand for smaller scale typologies is likely to be limited and smaller scale typologies are therefore considered within the summary and guidance section of the assessment only.

#### 28.1.1 Cultural heritage overview

This landscape type is characterised as forestry with a little evidence of relict land-use, particularly in the south-east of the Cairn Edward area. There are some archaeological sites of outstanding significance and distinctiveness.

#### 28.1.2 Operational and consented wind farm development

There is no operational or consented wind farm development within this character type. Views of existing wind farm developments in the wider area are limited due to dense afforestation and the containment of the Merrick area in particular by higher ground. Some views of operational wind farms sited in the Plateau Moorland LCTs 17 and 17a are however possible from rare open areas within the Glentool area and the under-construction and consented Blackcraig and Mochrum Fell wind farms will be visible from higher hill tops on the eastern boundary of the Cairn Edward area.

### 28.2 Merrick and Glentool areas 21a - description and summary of sensitivity

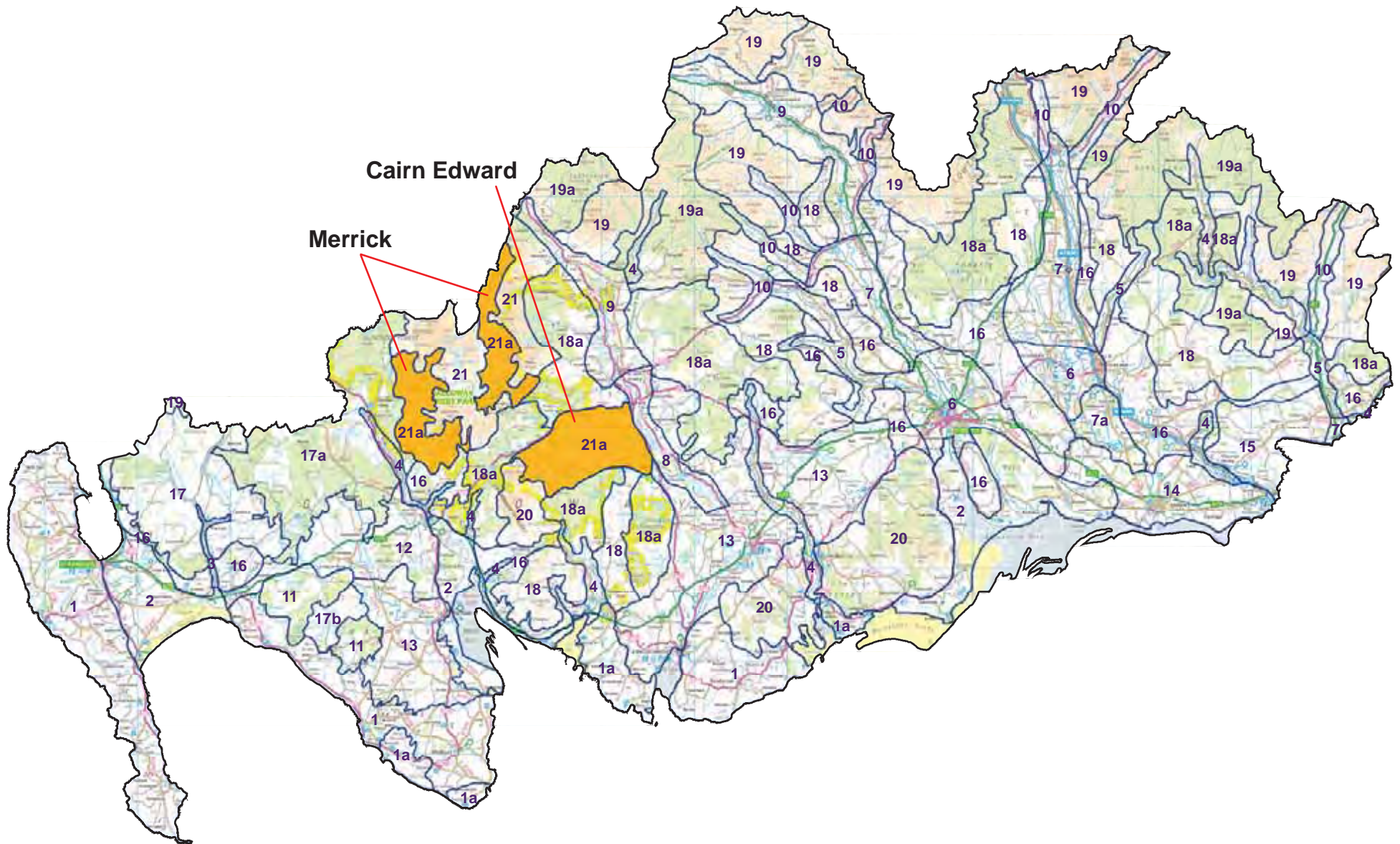
The Merrick area extends across the Dee valley and the west facing slopes of the long curving ridge of the Rhinns of Kells. The Glentool area comprises the lower west facing slopes of the Merrick Hills. These hill slopes are fairly broad and gentle but with some steeper scarps and boulder-strewn slopes evident in more open areas. Occasional craggy-topped hills protrude above dense forestry

which masks the underlying landform and steep. Scale is reduced where steep slopes contain valleys and create 'pinch points' for example on the Dee and Water of Trool. These landscapes are substantially covered with commercial forestry. Land cover within the Glentool area is more diverse with mixed tree species and mature policy plantings and occasional open areas particularly evident close to Loch Trool. These areas are sparsely settled although the Glentool area is well-used for recreation and the Merrick area, although more visually contained in general, is seen from summits and ridges on the Merrick and Rhinns of Kells. These landscapes lie in close proximity to the Galloway Hills and, although generally less diverse and scenically rich, they are important in the wider landscape setting of these highly sensitive uplands.

The landscapes of the Merrick and Glentool areas of the Rugged Granite Uplands with Forests have an overall High sensitivity to larger typologies (turbines >50m).

The Merrick Wild Land Area covers part of the Merrick area and this, together with the Regional Scenic Area and Galloway Forest Park increases sensitivity to larger typologies (turbines >50m) to High in terms of landscape values.

Character Type Key Map - 21a. Rugged Granite Upland with Forest



### 28.2.1 Smaller typologies

There is unlikely to be a demand for smaller typologies within this very sparsely settled upland area. Small-medium typologies (20-50m) could have similar adverse effects on occasional areas of complex landform and on the appreciation of wildland character as larger typologies.

Opportunities may exist however to associate the small typology (turbines <20m) with gentler smoother lower hill slopes, close to existing buildings providing they did not intrude on key views to the Galloway Hills or affect the integrity of open space or more diverse woodland which is important in providing a contrast with commercially managed forestry.

### 28.2.2 Cumulative issues

There are no wind farms within this character type and limited visibility of existing wind farms in the wider landscape from these densely forested and often visually contained landscape units. Any further wind farm development situated in the adjoining Plateau with Forest character type (17a) could have impacts from key viewpoints within the Glentool area, where open views are rare but important.

### 28.2.3 Key constraints

- Areas of more complex and craggy landform evident in occasional open hill tops and underlying the predominant forest cover of these landscapes.
- The rich diversity of policy influenced woodlands in the Glen Trool area
- Settlement, archaeological features, recreational activity and occasional landmark archaeological and commemorative features, such as the Bruce's Stone, which increase sensitivity in the Glen Trool area.
- The strong sense of remoteness that can particularly be experienced in the Merrick area and the proximity of this landscape to the Galloway Hills and to the Merrick Wild Land Area.
- The highly visibility of the western slopes of the Glentool area from the west and both landscape units seen from popularly walked hill summits and ridges in the Galloway Hills.
- The Galloway Hills RSA and Galloway Forest Park designations.

### 28.2.4 Opportunities

- Smoother lower hill slopes on the extreme fringes of this character type where the small typology could potentially be sited in association with existing settlement providing they did not intrude on key views to these uplands or affect the integrity of more diverse woodlands.

## 28.3 Guidance on development

There is no scope for the large, medium and small-medium typologies (turbines >20m) to be sited within this character type without incurring significant and adverse impacts on the adjoining highly sensitive Rugged Granite Uplands (21) and on wildland character.

The small typology (turbines <30m) could potentially be sited on the south-eastern fringes of the Merrick area and the western fringes of the Glentool area providing they were visually associated with settlement and avoided intrusion on key views to the Galloway Hills and from landmark features, such as the Bruce's Stone, from within the character type itself.

Although these landscapes are relatively low-lying and extensively forested which limits outward views, any further wind farm development situated in the adjoining Plateau with Forest character type (17a) could have impacts from key viewpoints within the Glentool unit which is well-used for recreation.



## Character Type 21A Rugged Granite Uplands With Forests - Merrick And Glentrool Areas

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>		
<p>The hill slopes and broad undulating valley of the Glentrool and Merrick areas have a medium to large scale although extensive forest cover limits the degree of openness. Scale is reduced where steep slopes contain valleys and create 'pinch points' for example on the Dee and Water of Trool.</p>	<p>This typology could relate to the medium-large scale found within broader parts of these landscapes although it could dominate the scale of occasional open outcrop hills and incised valleys.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>This typology could relate to the medium-large scale found within broader parts of these landscapes. It would overwhelm the reduced scale of incised valleys although the lower height band of this typology would avoid dominating the scale of open outcrop hills.</p> <p><b>Sensitivity rating: Low</b></p>
<b>Landform</b>		
<p>The Merrick area extends across the Dee valley and the west facing slopes of the long curving ridge of the Rhinns of Kells. The Glentrool area comprises the lower west facing slopes of the Merrick Hills. These hill slopes are fairly broad and gently but with some steeper scarps and boulder-strewn slopes evident in more open areas. Occasional craggy-topped hills protrude above dense forestry which masks the underlying landform.</p>	<p>Clear-felling of forestry to accommodate this typology may expose the under-lying complexities of the landform. Steep and craggy slopes, ridges and hill tops (many of these presently masked by forestry) would be highly sensitive to wind farm development although smoother and gentler lower slopes could relate better to this typology.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology would have similar effects to the large typology on more complex landform although there are greater opportunities to accommodate this smaller typology on gentler lower slopes.</p> <p><b>Sensitivity rating Medium</b></p>
<b>Land cover and landmark features</b>		
<p>Dense coniferous forest predominates with occasional craggy-topped hills and low-lying areas close to the River Dee and Loch Trool left open. Commercially managed forestry in the Merrick area is patterned with linear tracks and compartment boundaries. Forestry within the Glentrool area is more diverse with mixed species and mature policy plantings particularly evident close to Loch Trool.</p>	<p>Occasional open hill tops provide interest within the dense forest cover of these landscapes. Development which was sited upon, or visually intruded on, these hill tops would diminish this contrast. Wind farm development would impact on the more diverse mature woodland within Glen Trool but would have less of an effect on more uniform commercially managed forestry elsewhere.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Occasional open hill tops provide interest within the dense forest cover of these landscapes. Development which was sited upon, or visually intruded on, these hill tops would diminish this contrast. Wind farm development would impact on the more diverse mature woodland within Glen Trool but would have less of an effect on more uniform commercially managed forestry elsewhere.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Settlement and Archaeology</b>		
<p>The Merrick area is now largely uninhabited and the Glentrool area sparsely populated with estate lodges and small dwellings within Glen Trool and lower valleys. There are some landmark archaeological/historic features within Glen Trool, including the well-visited Bruce's Stone, although generally dense forest currently obscures archaeological and historic features.</p>	<p>While the sparsely settled nature of these predominantly forested landscapes reduces sensitivity to wind farm development in general, the Glen Trool area is more sensitive in this respect, although the setting of any archaeological sites remains sensitive.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>While the sparsely settled nature of these predominantly forested landscapes reduces sensitivity to wind farm development in general, the Glen Trool area is more sensitive in this respect, although the setting of any archaeological sites remains sensitive.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Landscape context</b>		
<p>These forested hill slopes lie in close proximity to the Galloway Hills and, although generally less diverse and scenically rich, are important in the wider landscape setting of these highly sensitive uplands.</p>	<p>Wind farm development located in these landscapes would impact on the setting of the Galloway Hills. It could further diminish the integrity of the wider upland area.</p> <p><b>Sensitivity rating: High</b></p>	<p>Wind farm development located in these landscapes would impact on the setting of the Galloway Hills. It could further diminish the integrity of the wider upland area.</p> <p><b>Sensitivity rating: High</b></p>
<b>Perceptual qualities</b>		
<p>An absence of built development and difficulty of access to the interior of the Merrick area can give a strong sense of remoteness although settlement and road access limit this within the Glentrool area. The perception of naturalness is compromised by extensive commercially managed forestry although restructuring will improve the character of forests in the future.</p>	<p>The proximity of these landscapes to uplands with a pronounced sense of wildness and the marked remoteness of the <i>Merrick</i> area increases sensitivity to this typology. The introduction of wind farm development to these areas would further reduce the sense of wildness which is already compromised by commercial forestry.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could have similar effects on perceptual qualities although turbines towards the lower height band of this typology may have less of an effect on the perception of wildland characteristics if sited on lower hill slopes within less remote areas.</p> <p><b>Sensitivity rating: High-medium</b></p>
<b>Views and visibility</b>		
<p>Although these areas are sparsely settled, and dense forest cover limits long views, they are popular areas for recreation. The Merrick area is visually contained by the higher ground of the Rhinns of Kells and the Merrick hill group although these adjacent upland areas are popular with walkers and provide elevated views from summits and ridges into this area. The 'Glentrool' unit is highly visible from minor roads and settlement to the west. The SUW is aligned through both these units.</p>	<p>Wind farm development located on the west-facing slopes within the <i>Glentrool</i> area would be prominent in views from the <i>Plateau Moorlands</i> and the A714. Tall turbines could interrupt the distinctive profile and backdrop of the Galloway hills seen from the west.</p> <p>Although the interior valley of the <i>Merrick</i> area is less visible from afar, the popularity of higher hills such as the Merrick with walkers and the presence of the SUW increase sensitivity to wind farm development.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology located on the west-facing slopes within the <i>Glentrool</i> area would be prominent in views from the <i>Plateau Moorlands</i> and the A714. Turbines could interrupt the distinctive profile and backdrop of these hills seen from the west.</p> <p>Although the interior valley of the <i>Merrick</i> area is less visible from afar, the popularity of higher hills such as the Merrick with walkers and the presence of the SUW increase sensitivity to wind farm development.</p> <p><b>Sensitivity rating: High</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Landscape values</b>		
<p><b>The Galloway Hills RSA covers these landscapes. Technical Paper 6 notes the role of these areas in forming the setting to the dramatic summits of the Galloway uplands. The Merrick Wild Land Area covers part of the Merrick area. The Galloway Forest Park extends across this character type.</b></p>	<p>This typology would have a significant and adverse effect on the special qualities of the RSA and in particular on the wider setting of the dramatic and scenic Galloway Hills. Qualities of wildness and the experience of recreational users would be adversely affected by wind farm development in these landscapes.</p> <p><b>Sensitivity rating: High</b></p>	<p>This typology would have a significant and adverse effect on the wider setting these landscapes provide to the more dramatic and scenic Galloway Hills. Qualities of wildness and the experience of recreational users would be adversely affected by wind farm development in these landscapes.</p> <p><b>Sensitivity rating: High</b></p>

## 28.4 Cairn Edward area 21a - description and summary of sensitivity

These rolling and densely forested uplands occur either side of the valley of the Black Water of Dee. The higher, open-topped hills of Cairnsmore and Fell of Fleet and Shaw Hill form landmark features seen from surrounding lowlands, rocky outcrops and scree slopes giving them a distinctly rugged character. Hill slopes are generally fairly steep although some slacker lower slopes occur close to main water courses. Occasional open craggy-topped hills and pockets of pasture lie close to the Black Water of Dee and Loch Grannoch is contained by steep forested slopes in the south-western corner of this area. This landscape is largely uninhabited and although there is some recreational use of the area, views from within this landscape are limited by forest cover and landform. The higher hills do however form landmark features in views from across Loch Ken and the Drumlin Pastures (13) to the east and from the A712 and the Clatteringshaws Loch area.

The landscape of the Cairn Edward area of the Rugged Granite Uplands with Forests has a **High-medium** sensitivity to the large typology (turbines 80-150m) and a **Medium** sensitivity to the medium typologies (turbines 50-80m).

The presence of a Regional Scenic Area (RSA) and the Galloway Forest Park increases sensitivity to the large typology where it would be more likely

to affect some of the key special qualities of the RSA resulting in a **High-medium** sensitivity to the large typology (turbines 80-150m) and a **Medium** sensitivity to the medium typology (50-80m) in terms of landscape values.

### 28.4.1 Smaller typologies

There is unlikely to be a strong demand for smaller typologies within this very sparsely settled upland area. Smaller typologies could relate to the reduced scale of occasional blocks of pasture carved out of the forest or on lower hill slopes close to the Dee valley

### 28.4.2 Cumulative issues

There are no wind farms within this character type and limited visibility of existing wind farms in the wider landscape from this densely forested and generally visually contained landscape unit. There are likely to be few significant cumulative landscape and visual effects associated with existing or consented wind farm development and any development sited in this landscape.

### 28.4.3 Key constraints

- Areas of more complex and craggy landform evident in occasional open hill tops and ridges.
- The sense of seclusion that is likely to be experienced in less easily accessible parts of this landscape and the proximity of this area to the distinctively rugged hill of Cairnsmore of Fleet which has a stronger wildland character.
- The visual prominence of the hills of Cairnsmore (Black Craig of Dee), Bennan and Cairn Edward Hill from the settled valley of Loch Ken and the Fell of Fleet from the popularly walked summit and ridge paths on Cairnsmore of Fleet.
- The Galloway Hills RSA and Galloway Forest Park designations including the Dark Sky Park.

### 28.4.4 Opportunities

- Slacker lower hill slopes with a degree of screening by hills where there may be potential to locate wind turbines to avoid visual intrusion.
- Extensive commercially managed forestry which inhibits the sense of wildness experienced.

## 28.5 Guidance on development

There is no scope to accommodate the large typology (turbines 80-150m).

The medium typology (50-80m) may have greater potential to be sited to avoid significant visual impacts. Wind farm development should avoid open topped hills which commonly have more complex and craggy landform features, are important in providing open space within fairly uniform commercially managed forestry and are also highly visible from adjoining landscapes. Slacker, lower hill slopes provide opportunities to site the medium typology to avoid impacting on the skyline of hills seen from Loch Ken and could also benefit from screening provided by intervening hills thus minimising impacts on Cairnmore of Fleet.

Smaller scale typologies (turbines <50m) should be sited in association with existing buildings within small clearings in the forest and on lower hill slopes but avoiding intrusion on archaeological features. Supplementary Guidance is provided on the siting and design of smaller wind turbines <50m high.

## Character Type 21A - Cairn Edward Area

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Scale and openness</b>		
<p>This landscape has a medium to large scale, broadly rolling landform with some individual hills rising to between 300-493m height. Extensive forest cover limits the degree of openness and scale is reduced where valleys are occasionally contained by steep hill slopes.</p>	<p>This typology could relate to the scale of broader hill slopes within this landscape although it could adversely affect the appreciation of the scale of occasional outcrop hills and incised valleys if sited in close proximity to these features.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>This typology could relate to the scale of broader hill slopes within this landscape. It would dominate the reduced scale of incised valleys although there would be increased scope to site this smaller typology to minimise potential effects on the scale of open outcrop hills.</p> <p><b>Sensitivity rating: Low</b></p>
<b>Landform</b>		
<p>The hills of Cairn Edward, Cairnsmore and Fell of Fleet punctuate this upland landscape. Some hill tops are open, and are commonly marked by craggy boulders and scree, protruding above dense forestry which generally masks the underlying landform. The Black Water of Dee and numerous tributaries cut through these uplands. Hill slopes are generally fairly steep although some slacker lower slopes occur close to main water courses.</p>	<p>Clear-felling of forestry to accommodate this typology may expose the under-lying complexities of the landform. Craggy hill tops and steep rocky hill slopes are largely free of forestry and would be highly sensitive to wind farm development. Smoother and gentler lower hill slopes would relate better to this typology.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>This typology would have similar effects to the large typology on more complex landform but could also relate to smoother and gentler lower hill slopes.</p> <p><b>Sensitivity rating Medium</b></p>
<b>Land cover and landmark features</b>		
<p>Dense coniferous forest (largely spruce) predominates with occasional craggy-topped hills and blocks of pasture close to the Black Water of Dee left open. Felled coupes and restocked areas give a coarse texture and transitional pattern to the landscape. Forest roads, tracks and compartment boundaries are evident on hill slopes. Loch Grannoch, the Black Water of Dee and the craggy topped hills of Cairnsmore, Fell of Fleet and Shaw Hill are key landmark features.</p>	<p>Occasional open hill tops and pockets of farmland provide interest within the dense forest cover of these landscapes. Development which was sited upon, or visually intruded on, these areas of open land would diminish this contrast. The often uniform and commercially managed forest land cover would be less sensitive to wind farm development.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>Occasional open hill tops and pockets of farmland provide interest within the dense forest cover of these landscapes. Development which was sited upon, or visually intruded on, these areas of open land would diminish this contrast. The often uniform and commercially managed forest land cover would be less sensitive to wind farm development.</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Settlement and Archaeology</b>		
<p>This landscape is very sparsely settled with only occasional farms located on its fringes or within the valley of the Black Water of Dee but there is a range of archaeological features, particularly in the southeast of the area.</p>	<p>The sparsely settled nature of this predominantly forested landscape reduces sensitivity to wind farm development in general but the setting of archaeological sites, which are more likely to be present in open areas, would be sensitive.</p> <p><b>Sensitivity rating: Medium-low</b></p>	<p>The sparsely settled nature of this predominantly forested landscape reduces sensitivity to wind farm development in general but the setting of archaeological sites, which are more likely to be present in open areas, would be sensitive.</p> <p><b>Sensitivity rating: Medium-low</b></p>
<b>Landscape context</b>		
<p>These forested uplands lie between the settled Loch Ken area to the east and the distinctive hill of Cairnsmore of Fleet to the west. Although the densely forested nature of this landscape results in it being less diverse and scenically rich than either of these adjoining landscapes, the pronounced hills of Cairn Edward, Bennan Hill and the open topped Cairnsmore (Black Craig) are key features seen as a backdrop to the Loch Ken area. The open-topped Fell of Fleet and Loch Grannoch are also important in the wider landscape setting of Cairnsmore of Fleet.</p>	<p>This typology could impact on the wider setting to Cairnsmore of Fleet and/or on the backdrop that distinctive hills provide to the Loch Ken area.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>There may be greater opportunities for the smaller height band of turbines within this typology to be located so as to minimise effects on the landscape setting of Cairnsmore of Fleet and to also avoid intrusion on the distinctive backdrop of hills to Loch Ken.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Perceptual qualities</b>		
<p>An absence of built development, public roads and extensive forest cover can give a sense of seclusion and even a degree of remoteness in more difficult to access areas. The perception of naturalness is reduced however by extensive commercially managed forestry.</p>	<p>The introduction of wind farm development to these areas would accentuate the man-modification of this landscape and could also affect the sense of seclusion experienced by some people in less accessible western parts of this landscape.</p> <p><b>Sensitivity rating: Medium</b></p>	<p>The introduction of wind farm development to these areas would accentuate the man-modification of this landscape and could also affect the sense of seclusion experienced by some people in less accessible western parts of this landscape</p> <p><b>Sensitivity rating: Medium</b></p>

Topics and summary description	Assessment: Large turbines (80-150m)	Assessment: Medium turbines (50-80m)
<b>Views and visibility</b>		
<p>The Raider's Road forest drive is aligned through this area together with a number of promoted cycle routes from Clatteringshaws Loch to Dromore. Dense forestry limits views from these routes and the area is also sparsely settled.</p> <p>Much of this landscape is visually contained by the higher ground of Cairnsmore of Fleet to the west although the more pronounced hills of Cairn Edward and Cairnsmore are highly prominent in views from the Loch Ken area and the A712.</p>	<p>Wind farm development located on hill tops and upper hill slopes would impact on views from the settled Loch Ken area, potentially interrupting the presently uncluttered skyline which characterises the backdrop of hills seen to the west from the A713 for example and the Drumlin Pastures (13) east of Loch Ken. Views from the A712, a promoted tourist route, could also be affected, although past Cairnsmore, forest screening and the focus provided by Clatteringshaws Loch and the Galloway Hills to the north would be likely to reduce visual impact.</p> <p>Although the interior valleys and lower hill slopes of this landscape are less visible from afar, this typology would be visible from popular ridge walks and the summit of Cairnsmore of Fleet.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology would have similar effects on visual amenity although there may be some scope to site turbines to avoid impacting on the skyline of hills seen to the east and to be sited sufficiently far from Cairnsmore of Fleet to minimise visual impact from ridges and summits.</p> <p><b>Sensitivity rating: Medium</b></p>
<b>Landscape values</b>		
<p>The Galloway Hills RSA mainly covers the north-eastern part of this landscape unit. Technical Paper 6 notes the scenic qualities of Cairn Edward uplands.</p> <p>The Galloway Forest Park extends across this character type and incorporates the Dark Sky Park.</p>	<p>This typology could have a significant adverse effect on the special qualities of the RSA if sited close to the more scenic and sensitive hill of Cairnsmore of Fleet or Cairn Edward Hill which is specifically noted in the citation.</p> <p>The experience of recreational users could be adversely affected by wind farm development in this landscape. This typology could also affect the Dark Sky Park particularly if larger turbines required to be illuminated.</p> <p><b>Sensitivity rating: High-medium</b></p>	<p>This typology could also have a significant adverse effect on the special qualities of the RSA if sited close to the more scenic and sensitive hill of Cairnsmore of Fleet or Cairn Edward Hill which is specifically noted in the citation although there is potentially some scope for this smaller typology to minimise such impacts.</p> <p>The experience of recreational users could be adversely affected by wind farm development in this landscape.</p> <p><b>Sensitivity rating: Medium</b></p>



## 29. Sensitivity Assessment for Offshore Wind Farm Developments

### 29.1 Introduction

This section of the report considers general sensitivities relating to seascape character and offshore wind farm development. This sensitivity assessment has involved review of background studies including guidance on seascape and coastal character assessment. A number of landscape/seascape and visual impact assessments undertaken for offshore wind farm proposals have also been reviewed in order to identify key issues and potential sensitivities associated with this form of wind energy development.

Field work was undertaken to appraise key seascape characteristics from both the Dumfries and Galloway and Cumbrian shores of the Solway Firth. Sensitivities associated with the Irish Sea have additionally been assessed from the coastal edge of The Rhins and from the ferry between Stranraer and Belfast.

An appraisal of the landscape/seascape and visual effects of the operational offshore wind farm of Robin Rigg in the Solway Firth, undertaken in association with landscape architects working for SNH and Dumfries and Galloway, has also informed key sensitivities.

### 29.2 Background studies and issues related to seascape

#### 29.2.1 Dumfries and Galloway Landscape Assessment

While the Dumfries and Galloway Landscape Assessment (1998) does not describe wider seascape character, it defines and classifies coastal character in some areas. The following coastal landscape character types are identified in the assessment:

- Peninsula (1)
- Peninsula with Gorsey Knolls (1a)
- Coastal Flats (2)
- Coastal Granite Uplands (20)

The sensitivity assessment for onshore wind farm development considers potential cumulative effects with offshore wind farm development in relation to the above character types.

#### 29.2.2 Coastal characterisation

This sensitivity assessment has been based on the methodology set out in SNH guidance Landscape/Seascape carrying capacity for aquaculture commissioned report 215. In addition, the following documents, which provide either partial or more strategic coastal and seascape characterisation in relation to Dumfries and

Galloway and the Solway Firth, have been reviewed:

- An assessment of the sensitivity and capacity of the Scottish seascape in relation to windfarms, SNH commissioned report No 103 (2005).
- Cumbria and Lake District Joint Structure Plan 2001-2016, Technical Paper 5 Landscape Character.
- Management Plans and Special Qualities reports for the Fleet Valley, East Stewartry Coast and Nith Estuary NSAs.

SNH commissioned report No 103, An assessment of the sensitivity and capacity of the Scottish seascape in relation to windfarms, identifies the following broad Seascape Character Types:

- Area 28: Corsewall Point to Mull of Galloway-The Rhins of Galloway
- Area 29: Outer Solway (Mull of Galloway-Southernness Point)
- Area 30: Inner Solway Firth

This strategic capacity study was undertaken as a desk exercise only and we have therefore further refined the seascape characterisation and sensitivity assessment on the basis of the extensive field work undertaken for this more detailed capacity study for Dumfries and Galloway, together with review of coastal/seascape character outlined in the other documents listed above. The

SNH capacity study also considered 8km offshore limits for development. Technical advances are such that offshore turbines can now be sited in deeper waters further offshore and this is therefore considered in the sensitivity assessment that follows.

We have defined seven seascape character types along the coast of Dumfries and Galloway (see Figure 7); principally on the basis of broad viewsheds between main headlands but also recognising the distinct character of headlands and their relationship to more open expanses of sea. This characterisation is at a regional scale and is therefore more detailed than the more strategic character types set out in SNH commissioned report 103. These seascape character units are as follows and are shown in Figure 9.

- West coast of Rhins
- Mull of Galloway
- Luce Bay
- Burrowhead
- Wigtown Bay
- Kirkcudbright to Nith
- Inner Solway Firth

It is assumed that Loch Ryan is too constrained physically (and includes major shipping lanes) to accommodate offshore development and it has therefore been excluded from the offshore sensitivity assessment.

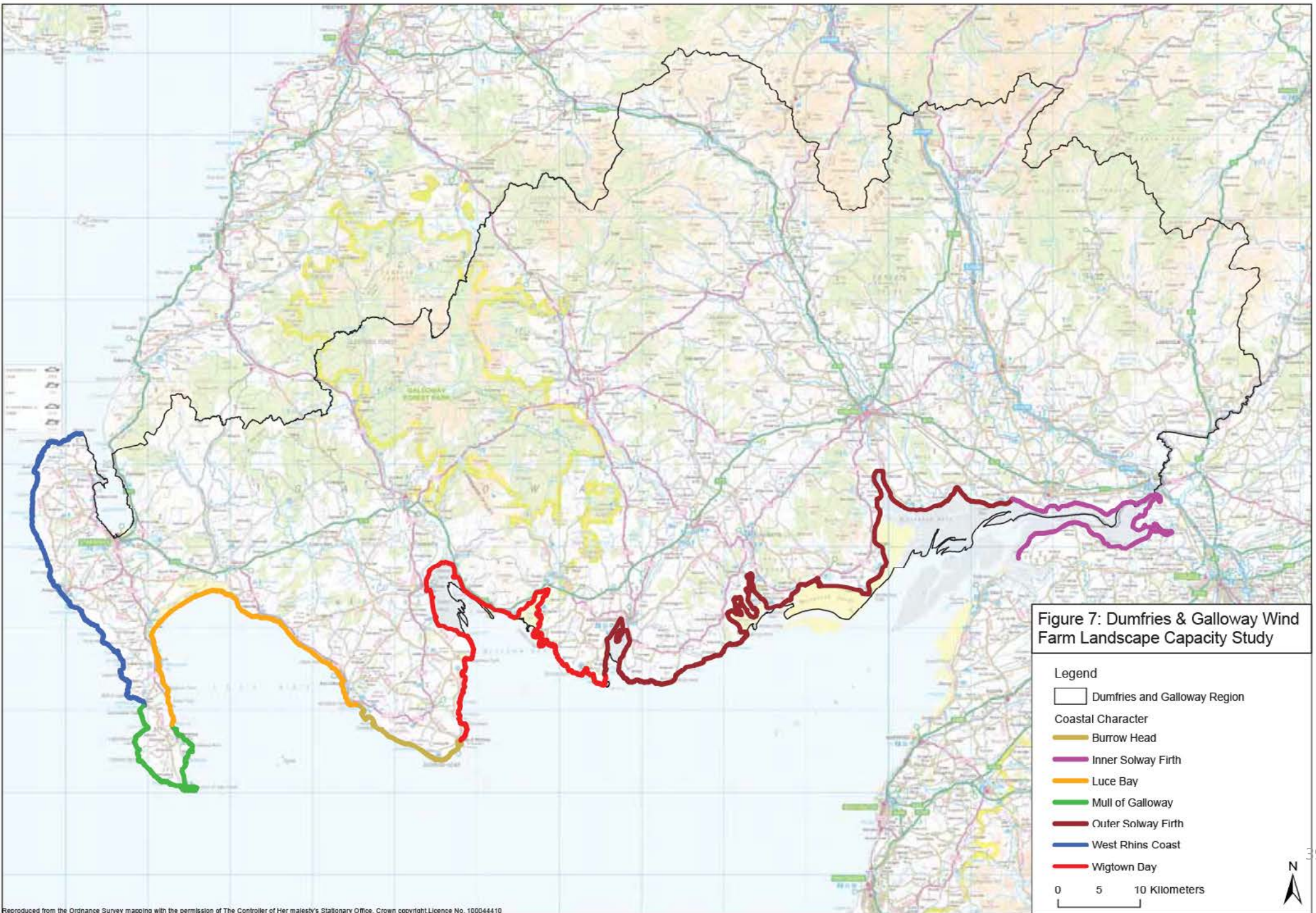


Figure 7: Dumfries & Galloway Wind Farm Landscape Capacity Study

**Legend**

-  Dumfries and Galloway Region
- Coastal Character**
-  Burrow Head
-  Inner Solway Firth
-  Luce Bay
-  Mull of Galloway
-  Outer Solway Firth
-  West Rhins Coast
-  Wigtown Day

0 5 10 Kilometers

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### 29.2.3 Offshore development typology

The sensitivity assessment assumes that offshore wind farm developments are likely to comprise schemes of over 50 turbines with turbines 175-220m high to blade tip based on current offshore UK development proposals. The distances of existing and proposed offshore wind farm developments to mainland coasts currently ranges from 2km to 22km. Seascape/visual sensitivity will vary considerably in relation to the distance of a development from the coast, although it is not the only factor influencing potential impact. Developments located outside Scottish territorial waters could also impact on the seascapes of Dumfries and Galloway and some of the sensitivities defined in the following assessment are applicable to all potential offshore development whether sited within Scottish territorial waters or waters controlled by adjoining jurisdictions. Onshore ancillary elements such as cabling, substation and construction compounds are not considered in the sensitivity assessment but would need to be appraised on a case by case basis.

### 29.2.4 The operational Robin Rigg offshore wind farm development

During our field assessment work we concluded that the existing Robin Rigg offshore wind farm forms a visually prominent feature in some key coastal views from Dumfries and Galloway, varying between 13km and 8km distance from shore, but was not a dominant feature due to

the expansiveness of its marine setting and its relative scale being reduced at these distances. It was found to be clearly visible but not a prominent feature within views from the Silloth area on the Cumbrian coast, lying some 19km distance from the wind farm. It was observed that light reflecting off the turbines and their contrast against a dark background increased the visibility of the wind farm seen in some coastal viewpoints.

### 29.2.5 Factors influencing landscape and visual sensitivity

- The distance of wind farm developments from shore will be a key factor determining impacts on coastal character and on views, although the following factors will also have an influence:
- The position of the wind farm in relation to the coast and hinterland - whether it interrupts/distracts from or dominates the scale of key foci such as islands, cliffs or backdrop hills.
- Context of the view - whether the view is confined or expansive, suddenly revealed, glimpsed or seen over an extensive area. The backdrop is also an important aspect of context and will influence the degree of contrast between turbines/land or sky (together with weather/lighting conditions).
- Weather/lighting conditions which can greatly influence the degree of impact experienced but also aspect which may increase visibility during certain times of the day.

- The scale of the wind farm in terms of the height and number of turbines which will, together with the distance from the viewpoint and the nature of the view (expansive or contained), determine the extent of the development seen in the view - currently offshore wind turbines can be between 175-220m high above sea level.

### 29.2.6 The impact of offshore wind farm development on coastal character

Many offshore developments (wind farms, oil platforms, some wave/tidal devices) lie a considerable distance from the shoreline so, unless some onshore component also forms part of the development, there will be little direct or indirect impacts on the form/shape and scale of the coast. Our field work for Robin Rigg found that even at 8km from Balcary Point, and despite being located in the middle of the Firth, the effects of foreshortening resulted in this wind farm being perceived as being visually associated with the Cumbrian coast and therefore 'part of another place' thus lessening its impact on the Dumfriesshire coast which formed the foreground to the view.

It is only when off shore wind farms lie fairly close to shore, where the scale of turbines can be appreciated in comparison with known landscape features such as landmark hills, islands and even buildings/fields, trees and boats, that impacts on the character of the coast and hinterland are likely to be felt. These impacts could include

effects on the intricacies of the coastal edge, for instance where turbines would contrast with more fragmented coastlines where inlets, islands and skerries feature or where they would detract from high/rugged cliffs, or dominate the scale of more confined bays. They could also include effects on coastal features where turbines could contrast with the scale of coastal settlement and small scale landscape pattern. Offshore developments lying in relative proximity to the coast are also likely to have more pronounced effects on the perception of naturalness and remoteness.

The Robin Rigg wind farm appears to be associated with the open sea rather than with the more confined sections of the Solway Firth or within a contained bay. This, together with distance and its scale, lessens its effect on coastal characteristics. There is however a visual impact and also an impact on the character of the sea (the maritime component) of seascape character. It is difficult to give a definitive distance at which coastal characteristics could potentially be significantly affected by offshore developments as this will depend on a range of variables including the nature of the coast, the size of turbines and the scale of the wind farm. While the effects of the large development typology considered in this sensitivity assessment on coastal character (and also on views from the coast) are likely to more significant between 0-5km distance from the shore, we conclude that this would need to be specifically judged on a case by case basis for individual developments.

## 29.3 Sensitivity assessment for offshore wind farm development

### 29.3.1 West coast of the Rhins

#### Key characteristics:

- A broad and open expanse of sea with the Irish coast seen as a low and fairly even rim of land at approximately 35km distance.
- Cliff faces and steep hill slopes contain the western coast of the Rhins Peninsula. A ridge and dip slope separates the NW coast from the rolling interior of the peninsula. Rare small sandy bays are deeply cut into this coast and scale is reduced along the coast where the raised beaches, sea cliffs and rounded hill summits alternate with small valleys creating a more complex and often strongly contained coastal edge.
- The coastal edge is often difficult to access and can feel remote and exposed, contrasting with the more settled rural character of the interior of the peninsula.
- The tight-knit settlements of Portpatrick and Port Logan are located in bays along this generally sparsely settled coast. A series of relict forts and castles sit atop cliffs and rocky promontories along the coast.

- Access and views to the coastal edge and the sea are generally inhibited by the rolling landform of the interior of the peninsula with only very occasional glimpses of the sea possible from roads and settlement; these often framed by shallow valleys.
- The Rhins Coast RSA covers the rocky western coastline from the Wig in the north of the Rhins peninsula to the Mull of Galloway in the south.

#### Sensitivity to offshore development:

The expansiveness of the Irish Sea and the absence of landmark features such as islands or close-by and prominent landform seen on the horizon are factors which reduce sensitivity in that offshore wind farm development would be less likely to dominate the scale of the maritime component of this seascape unit or intrude on seaward foci. Although the coastal edge is sparsely settled and not readily visible from roads and settlement in the interior of the Rhins (which reduces visual sensitivity), the ruggedness and remoteness of the coast can instil a strong sense of wildness. Development sited relatively close to the coastal edge (within approximately 5km) would be likely to significantly impact on this character and would also affect the setting and appreciation of the distinctive pattern of Iron Age forts aligning the coast. Small tight-knit settlements and the strongly contained bays of (West) Ardwell and Port Logan (which are a focus for recreation) would also be highly sensitive to large turbines sited in close proximity to the coast. Overall this seascape would have a **Medium** sensitivity providing

development was sited sufficiently far offshore to avoid significant effects on coastal features. Inter-visibility could occur between the existing Rhins onshore wind farm and any off shore development although the rolling landform of the peninsula would be likely to limit this.

### 29.3.2 Mull of Galloway

#### Key characteristics:

- The Mull of Galloway, at the southern tip of the Rhins, rises to form a bold open landform of broad exposed hills and ridges truncated by dramatic, rugged sea cliffs.
- The sea visible from the Mull is open and expansive, broken by the mountainous form of the Isle of Man which is a key feature in views from the Mull.
- Sparsely settled with dispersed farms, a visitor centre and distinctive lighthouse on the Mull.
- A strong sense of wildness can be experienced due to the elemental character of the Mull and accentuated by the tidal race and exposure of this narrow rocky tip of the Rhins peninsula.
- Elevated roads at the southern end of the Rhins offer striking views of the Mull of Galloway and panoramic views over Luce Bay and to the Machars.
- The Mull of Galloway is well-visited and promoted as Scotland's most southern point.
- The Rhins Coast RSA covers the Mull of Galloway

#### Sensitivity to offshore development:

While offshore wind farm development could relate to the expansiveness of the maritime component of this seascape, sensitivity is increased by the presence of the Isle of Man, where turbines could intrude on focal views and affect the presently uncluttered setting of its mountainous form. Offshore wind farm development would also affect the diverse coastal scenery of sheer rugged cliffs and the appreciation of their scale and drama if sited relatively close to the coastal edge. The perceived isolation of the Mull and strong sense of wildness associated with this seascape unit would also be affected, particularly if development were sited in relative proximity to the coast. This is a well-visited tourist destination and offshore development would be highly visible due to the openness of views from roads on the approach to the Mull, where it could detract from its landmark form and also potentially dominate the scale of the lighthouse which is a key focal point. This seascape unit would have a **High** sensitivity to offshore wind farm development sited within Scottish territorial waters (approximately 20km offshore). The Mull of Galloway seascape unit could also be sensitive to offshore wind farm developments located in adjacent seascape character units, for example Luce Bay, or in adjacent territorial waters, depending on the precise location and scale of developments.

### 29.3.3 Luce Bay

#### Key characteristics:

- Luce Bay forms a broad bay, contained by the long and relatively low peninsulas of the Rhins and the Machars. The sweeping arc of Luce Sands forms the head of the bay and is backed by the flat alluvial farmland of the Stranraer Basin area of the Coastal Flats landscape character type (2). The bay is open with no offshore features although MOD structures are evident close to Luce Sands.
- The western side of the bay of the Rhins comprises an even, narrow and predominantly low rocky coastline with occasional small beaches. A number of small settlements and recreational facilities are sited along this coast and there are open views from these and the A716 across Luce Bay.
- The eastern coastline comprises the rocky Sinniness Bluff protruding into the bay and a more even raised beach strongly contained by an inland scarp and the higher western hills of the 'Machars' Peninsula (1). While the raised beach landform restricts visibility of the coastal edge and sea from the interior of the Machars, there are open views across the bay from coastal settlement and the A747.
- Archaeological and historic features are sited on vantage points above the cliffs of Sinniness and coastal footpaths allow elevated views over the bay.

- The operational onshore Rhins, Barlockhart, Carsecreugh, Glenchamber and Artfield/ Balmurrie Fell wind farms are highly visible at the head of this seascape unit.
- Views from Luce Sands are expansive and focus on the open sea. The peninsulas of the Rhins and Machars are clearly seen either side of the Bay with the Mull of Galloway forming a clearly defined, but distant and therefore 'flattened' headland seen from the Machars (>20km).

#### **Sensitivity to offshore development:**

Although comprising a contained body of water, Luce Bay has a broad scale and open character. The absence of key landmark features seen along the coast and hinterland containing the bay reduces sensitivity. The presence of land on three sides of the bay increases sensitivity however and large developments (height and spread) would be likely to impact on coastal features and could especially affect the more complex, natural or dramatic of these features, for example Luce Sands and Sinniness Bluff. The coastal edge is also well settled, well-used for recreation and main roads offer open views across the bay with any development within the bay likely to be highly visible. Cumulative landscape and visual impacts would occur between operational wind farms seen at the head of the bay. This seascape unit would have an overall **High-medium** sensitivity to offshore development.

### **29.3.4 Burrowhead**

#### **Key characteristics:**

- Burrow Head forms the exposed point of the Machars peninsula, west of the Isle of Whithorn. There is an expansive 'open sea' character with the Isle of Man and Mull of Galloway visible as distant profiles.
- The coast is very exposed with the sea frequently lashing fractured rocks and cliffs at the tip of the peninsula. Dramatic rugged cliffs are occasionally cut by narrow inlets with long beaches of rounded pebbles and shingle exposed at high tide.
- A generally undeveloped, sparsely settled and relatively inaccessible coastline with buildings set back into the hinterland although a caravan park is located nearby Burrow Head. A strong sense of naturalness, remoteness and exposure is experienced within this seascape unit.
- The rocky knolls, ridges and dips of the hinterland Peninsula with Rocky Knolls (1a) provide strong containment and create an intimate scale in places. Rolling farmland and wooded policies also occur in places and restrict coastal views from the interior of the Machars.
- Rich archaeology with a number of features located at vantage points on cliffs with St Ninian's Cave the most dramatically sited and visited of these. The small settlement of Isle of Whithorn lies within a sheltered a rocky bay on the edge of this seascape unit.

- Views from coastal paths are elevated and allow extensive views out to sea and to distant land masses.
- The Machars Coast RSA covers this seascape unit.

#### **Sensitivity to offshore development:**

While offshore wind farm development could relate to the expansiveness of the maritime component of this seascape, sensitivity is increased to some degree by the presence of the distant landmark of the Isle of Man. Offshore wind farm development would affect the diverse coastal scenery of sheer rugged cliffs and the appreciation of their scale and drama if sited relatively close to the coastal edge. Although visibility of the sea and coastal edge is restricted inland by the rolling landform of the Peninsula with Gorsey Knolls (1a) and the coastal edge is not settled or readily accessible, the wildness and unmodified nature of this seascape could be significantly affected by offshore development. This seascape unit would have a **High-medium** sensitivity to offshore development although sensitivity would increase if development was located closer than 5km to the coastal edge. The Burrow Head seascape unit could also be sensitive to other offshore wind farm developments located in adjacent seascape character units, for example Luce Bay depending on the precise location and scale of developments.

### 29.3.5 Wigtown Bay

#### Key characteristics:

- An elongated curving bay contained by hills to the north-east, the lower-lying Machars peninsula to the west and the more fragmented peninsulas, inlets and estuaries of Fleet and Kirkcudbright to the east.
- The sheltered waters of the bay are strongly tidal and estuarine flats occur at the estuary of the River Cree at its head. The western coastal edge is indented and largely forms a narrow rocky shore with occasional broader sand and shingle beaches and extensive mud flats below Wigtown. The eastern coast between the Fleet estuary and Kirkcudbright is strongly articulated with rocky promontories containing small sandy coves. Small offshore islands contribute to the diversity of this coastline at the mouth of the Fleet.
- The detail of coastal settlement and land cover is readily appreciated and the hills of Cairnharrow and Cairnsmore of Fleet rise abruptly from the coast forming a distinctive backdrop to the bay.
- The coastal edge is well-settled with settlements such as Wigtown and Garlieston sited on the more sheltered west coast. This seascape unit is well-used for recreation and the A75 and other roads feature open views across the bay.

- There is a rich archaeology, notably on the lower slopes of Cairnharrow Hill and within the Fleet estuary. Notable designed landscapes lie on the western coast of the bay and near Gatehouse of Fleet.
- The Fleet Valley NSA, the Machars Coast and Galloway Hills RSAs cover this seascape unit.

#### Sensitivity to offshore development:

Offshore wind farm development sited within Wigtown Bay is more likely to have an impact on coastal character and the hinterland of this seascape unit due to the relatively strong containment and narrowness of the bay and the proximity to the coast (where detail is appreciated and comparisons of scale possible between turbines and landscape features). The presence of the landmark hills of Cairnharrow and Cairnsmore of Fleet, which provide a distinctive backdrop and contrast to the bay also increase sensitivity. Offshore wind farm development would be likely to diminish the high scenic quality of this seascape unit and the simple foil provided by the sea to more complex coastal features and the dramatic upland hinterland. It could dominate the often intimate scale of more fragmented and diverse stretches of the coast, for example, the Fleet estuary and its islands and potentially affect the scale and setting of coastal settlements if sited in relative proximity to these areas. Offshore wind farm development sited in Wigtown Bay would be highly visible from roads, settlement and from parts of the coast which form a focus

for recreation. Turbines could dominate narrow 'framed' views seen from small coves or along inlets/estuaries along the more fragmented sections of coastline. The wider landscape setting of archaeological features and designed landscapes could also potentially be affected. This seascape unit would have a **High** sensitivity to offshore wind farm development.

### 29.3.6 Outer Solway Firth

#### Key characteristics:

- This section of the outer Solway Firth has a broad scale with the openness of the sea increasing to the west as the Cumbrian coast becomes less visible. Scale is significantly reduced within the estuaries and inlets that characterise the Dumfries and Galloway coastal edge. Some detail of the coastal edge and hinterland is apparent from opposing coasts across the Firth although the articulation of the coast is 'flattened' with distance (>24km).
- The steep-sided coastal granite hills of Criffel, Screel and Bengairn provide strong containment to the Firth to the north with Criffel forming a key landmark feature in views from the north Cumbrian coast. The Cumbrian coast and immediate hinterland is more low-lying and generally less distinctive although the Cumbrian Fells form a distant backdrop and focus in views from east Dumfriesshire.



- The coastal edge is varied with rugged, often high cliffs along the Dundrennan coast, interspersed with low rocky promontories and the narrow tidal inlets of Auchencairn Bay, Rough Firth and the Nith estuary. Extensive saltmarsh and mudflats merge with the Firth at Mersehead and these stretches of the coast, together with the less accessible cliffs of Dundrennan, have a strong sense of naturalness.
- Well-settled within the more sheltered inlets and popular for recreation, including sailing. Important archaeological features and historic settlements lie close to the coast. Coastal footpaths, hill tops and roads offer elevated views.
- The operational offshore wind farm development of Robin Rigg is clearly visible from the coastal edge, being located approximately 8km (closest point) from Balcarry Bay. Turbines on the Cumbrian coast near Maryport are also visible from the Dumfries and Galloway coast.
- The East Stewartry and Nith Estuary NSAs and the Solway Coast RSA cover this seascape unit.

#### **Sensitivity to offshore development:**

The offshore wind farm of Robin Rigg forms a prominent feature within this seascape unit. The scale of any extension to this wind farm would be critical in avoiding domination of the maritime component of this seascape unit.

Substantial extensions to operational wind farms and multiple wind farm developments could affect the characteristic openness of Firth and the contrast it provides to more complex coastal and hinterland features. The presence of the landmark hill of Criffel increases sensitivity to wind farm development, especially where turbines could intrude on views from the Cumbrian coast. Offshore wind farm development sited in relative proximity to the coastal edge would dominate the scale of cliffs, narrow inlets and islands and small scale features such as fields, woodlands and settlement. They could also further diminish the sense of wildness experienced along the less modified parts of this coast, for example, the cliffs of the Dundrennan coast or the extensive saltmarsh and tidal flats of Mersehead. Overall sensitivity to offshore wind farm would be **High-medium**.

#### **29.3.7 Inner Solway Firth**

##### **Key characteristics:**

- The inner Solway Firth comprises a narrow, shallow estuarine channel, bordered by extensive tidal mudflats on the Cumbrian side. The opposite shore is close (<4km) with the detail of settlement, field pattern and trees readily visible.
- Low-lying farmland abuts a narrow, embanked muddy coastal margin cut by winding creeks. Former munitions works, electricity transmission lines and very tall masts feature in this seascape unit. Access is generally limited

along the Dumfries and Galloway coast. Archaeological features, including Hadrian's Wall and Roman Forts are located on the Cumbrian coast.

- The openness of the coastal edge allows extensive views from settlement and from a number of well-used roads, including the B721 and B635 which tend to be elevated above the flat coastal edge. The Cumbrian Fells are a key focus in these views.
- The operational offshore wind farm of Robin Rigg is visible from the western parts of this seascape unit.

Offshore wind farm development would dominate the narrow and confined scale of the inner Solway Firth. The close proximity of opposite coasts increases sensitivity as turbines would overwhelm the scale of buildings, trees and other landscape features which are readily visible either side of the Solway Firth. Tall turbines would impact on views from Dumfries and Galloway to the Cumbrian Fells. They would also be likely to exacerbate the visual clutter of electricity transmission lines and masts in this seascape. The less modified marsh and mud flats of the inner Firth could also be affected both directly and indirectly by this form of development. Offshore wind farm development would be highly visible from roads and settlement and could affect the setting of archaeological features and settlements. Overall, there would be a High sensitivity to offshore wind farm development in this seascape unit.

## 29.4 Cumulative effects on the wider seascape

Cumulative landscape and visual impacts could occur between the existing Robin Rigg offshore windfarm and any further offshore wind farm development sited in the wider Solway Firth. The character of the Outer Solway seascape unit is already affected by the Robin Rigg development and further offshore wind farm developments would affect additional stretches of the Dumfries and Galloway coast with potential effects on the sense of wildness experienced by people who value the natural seascapes of the area.

While visibility to the Outer Solway Firth and Irish Sea inland from the coast tends to be fairly restricted by landform, any wind farm development sited within the more contained Luce Bay and Wigtown Bay would be highly visible from surrounding settlement, footpaths and roads. Cumulative landscape and visual effects could also occur between the operational Robin Rigg offshore development and any additional developments located in these bays, mainly occurring in sequential views from coastal roads and tourist routes used by visitors travelling across the region. Walking routes on coastal hills, such as Criffel, Cairnharrow and Cairnsmore of Fleet, would enable inter-visibility between developments. Elevated coasts or promontories such as the Mull of Galloway, Burrowhead or Auchencairn which feature popular footpaths and/

or tourist facilities, also offer opportunities for multiple developments to be seen cumulatively, dependant on the siting of individual wind farms.

The significance of cumulative landscape and visual effects of multiple offshore wind farms would need to be carefully considered in the appraisal of individual developments. Turbines within extensions to operational offshore developments should be compatible in scale and design to existing turbines particularly where there are clear views from the coast. The flat sea surface allows turbines to be seen in their entirety from coastal locations thus making contrasts of scale obvious. This applies also to new developments located relatively close-by operational wind farms. Potential cumulative effects with operational, consented and proposed onshore developments which have a strong influence on seascape character should also be considered in the assessment of any new offshore proposals.

## 29.5 Conclusions

The assessment of seascape sensitivity to offshore development has been considered at a strategic level. Detailed assessment will be necessary on a case by case basis to determine specific impacts on seascape character and on views. Distance from shore will be a key factor influencing the significance of impact with developments sited within 5km of the coastal edge likely to have significant impacts on coastal character and on views.

## Section C: Annexes

### Annex A: References

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Various *Environmental Statements for wind farm developments* including those for Stranoch, Glenmuckloch, Sandy Knowe, Gass Farm and Mochrum Fell.

## Annex B: Glossary

### **Landscape character**

Landscape relates not only to the physical attributes of the land but also to the experience of the receptor. Landscape character is made up of the physical characteristics such as landform, land cover and settlement pattern (which exist whether anyone sees them or not) plus a range of experiential and perceptual responses to that landscape.

### **Landscape Character Type**

An area with a distinct and recognisable pattern of key elements in terms of landform, vegetation cover, land use and settlement pattern. Landscape Character Types are generic and are therefore repeated although in Dumfries and Galloway they have a very different geographic context which influences character and sensitivity.

### **Landscape sensitivity**

Sensitivity relates to landscape character and how vulnerable this is to change. In this study, change relates to wind energy development and any findings on landscape sensitivity are restricted to this. Landscapes may have different sensitivities to other forms of change or development. In this study, sensitivity is assessed by considering the effect of different heights of wind turbine development on the physical, experiential and perceptual characteristics of landscapes. Landscapes that are highly sensitive are at risk

of having their key characteristics fundamentally altered by the wind turbine typology under consideration in the assessment.

### **Landscape capacity**

This relates to how far a landscape can accommodate development without significant adverse impacts occurring on its character.

### **Landscape impact**

Changes in the physical landscape that give rise to changes in its character and how it is experienced, and may in turn affect the value attached to a landscape. Landscape impacts may be beneficial (for example where a characteristic feature is restored) or adverse (for example where a characteristic feature is damaged or lost).

### **Visual impact**

Changes in the appearance or perceptions of a particular area or view as a result of development or other change. Visual impacts can be beneficial (for example where a new view is opened up) or adverse (for example where an existing view is affected by the addition of an intrusive feature).

### **Cumulative impact**

The combined impacts that occur, or may occur, as a result of more than one project being constructed, giving rise to accumulating landscape and visual changes where developments are seen

simultaneously (at the same place, in the same field of view), in succession (at the same time, but not in the same field of view) or in sequence (on travelling through an area).

### **Zone of Theoretical Visibility (ZTV)**

The area over which a development can be theoretically be seen, usually based on a Digital Terrain Model (DTM) which may show vegetation or bare ground visibility. Can also be known as a Zone Visual Influence (ZVI), Visual Envelope Map or Viewshed.

## Annex C: Review Of The Dumfries And Galloway Landscape Assessment

### Character Assessment

The Dumfries and Galloway landscape assessment was undertaken by Land Use Consultants in 1998 and formed part of the national programme of landscape character assessment commissioned by SNH in partnership with local authorities.

We have reviewed this study in detail during our field work. It is a comprehensive regional study which defines character types across Dumfries and Galloway. 27 different character types are identified with generic descriptions provided of each of these types in the study. Each character type is further sub-divided into landscape units which comprise discrete geographical areas. A total of 104 smaller landscape units occur across Dumfries and Galloway. While there is no dedicated description of each landscape unit within the study report, key differences or distinctive features are occasionally noted in relation to their individual character.

SNH are currently reviewing the national character assessments and it is expected that some, but not all, of the changes to classification made for the purposes of the capacity study will be adopted in the revised Dumfries and Galloway landscape character assessment.

### Cross-boundary characterisation

The adjoining landscape character assessments for Ayrshire (1998) and Glasgow and the Clyde Valley (1999) were also prepared by Land Use Consultants and review of these has found there to be consistency in terms of the same nomenclature and similar descriptions being used for character types extending across boundaries.

The Scottish Borders landscape assessment was undertaken in 1998 by ASH. We found this to not be as detailed as the Dumfries and Galloway landscape assessment in terms of the definition of character types and their description. The nomenclature used for landscape character types within the Scottish Borders is not the same although the descriptions have some similarities with comparable neighbouring character types within Dumfries and Galloway.

A landscape character assessment has been prepared for neighbouring Cumbria and is set out in Technical Paper 5: Landscape Character of the Planning Cumbria Joint Structure Plan 2001-2016. This assessment identifies generic landscape character types and more specific sub-types across Cumbria, but excluding the Lake District National Park area. The character types which adjoin Dumfries and Galloway are largely associated with the valleys of the lower Esk and the Liddel Water. They include the character sub-types of

the Intertidal Flats, Coastal Mosses, Low Farmland and Broad Valleys. The nomenclature used for comparable character types found within Dumfries and Galloway differs in this character assessment. There is little description of the specific Cumbrian landscapes adjoining Dumfries and Galloway although useful information is provided on cultural heritage and ecological aspects relating to some of these landscapes.

### Other landscape characterisation and related work

There are detailed descriptions of landscape character and scenic qualities within the Management Strategies prepared for each of the three National Scenic Areas (NSAs) within Dumfries and Galloway. Recent work has also been undertaken by SNH to define the special qualities of each of these NSAs. Written citations also exist for the NSAs within Scotland's Scenic Heritage<sup>2</sup> and for all of the Regional Scenic Areas (RSAs)<sup>3</sup> within Dumfries and Galloway. This documentation has been used in defining the special qualities of designated areas as part of the landscape values assessment within this capacity study.

<sup>2</sup> Scotland's Scenic Heritage, Countryside Commission for Scotland, 1978

<sup>3</sup> Dumfries and Galloway Structure Plan, Technical Paper 6, 1999

Two SNH landscape capacity studies consider seascape character in the Dumfries and Galloway study area in relation to wind farm and aquaculture development<sup>4</sup>. These studies have been useful in informing baseline seascape character for the sensitivity assessment in relation to off-shore wind turbine development within the Solway Firth and Irish Sea.

## Detailed review of the Dumfries and Galloway Landscape Assessment

During our review and field work we focussed on verifying the descriptions within the character assessment against the key characteristics likely to be sensitive to wind farm development and noted the following:

- Most variety occurs within the Foothills (18) (a character type which occurs frequently and relatively extensively across Dumfries and Galloway). This landscape can variously comprise medium to large scale largely unsettled landscapes of upland moorland and forestry, for example in the 'Dalmacallan' area, or small scale rolling distinctly settled landscapes with a strong policy influence in, for example, the 'Nithsdale' area.

<sup>4</sup> 'Landscape/seascape carrying capacity for aquaculture' (SNH commissioned Report 215) and 'An assessment of the sensitivity and capacity of the Scottish seascape in relation to windfarms' (SNH commissioned Report 103).

- The landscape units within the Foothills with Forest (18a) character type are also very variable, principally in terms of their context, but in some cases also landform and land cover, despite forestry being a strong unifying characteristic.
- The upland character types of the Southern Uplands (19) and Southern Uplands with Forest (19a) appear more homogenous and consistent in terms of the key characteristics within each type. There are however some differences in character in the Southern Uplands Type (19) 'Nithsdale' unit and the north-western part of the 'Lowther' unit.
- There are few major differences between the landscape units of the Upland Glens (10).
- The Narrow Wooded Valleys (4), Intimate Pastoral Valleys (5) and Shallow Flat Bottomed Valley (3) are very similar to each other in terms of their landform, predominantly intimate scale and strongly settled character.
- The differences between the Middle Dale (7) and Lower Dale (6) character types are generally subtle.
- The Coastal Granite Uplands (20) are smaller scale with a more diverse settlement and land cover pattern in the south-western 'Bengairn' area and 'Dalbeattie' areas than in the 'Cairnmore' unit. Each of these landscape units has a distinctly different character and context.
- The Drumlin Pastures (13) have a consistent and distinctive character with no key differences noted in the landscape assessment between the three landscape units identified.
- The Upland Fringe (16) type varies from 'stand-alone' highly distinctive ridges within lowland areas (such as Torthorwold and Dunscore) to areas which accord more with the name of the type, in that they comprise often narrow fringes between valleys and upland areas. An anomaly exists in the western 'Corsock' area where the degree of afforestation and sparse settlement of this area has more in common with the adjacent Foothills with Forests (18a) character type.
- The Plateau Moorland (17) varies greatly between the two units identified in the Landscape Assessment in terms of scale, land cover and context. The 'Machars' unit of this character type includes lochs and a notable designed landscape.
- The 'Machars' unit of the Plateau with Forest (17a) character type shares key characteristics and has a similar landscape context to the adjacent Moss and Forest Lowland (11) character type.

### ***Alterations to boundaries/reclassifications of landscape character types***

We have largely adopted the landscape types within the 1998 landscape assessment as a basis for the sensitivity assessment but with some minor alterations to the boundaries of some character types and reclassifications as follows:

- The Southern Uplands Type (19) at Tynron where the smaller scale of these hills and presence of settlement, is at variance with the intrinsic characteristics of the remainder of this character type. This area has been reclassified as the Foothills (18) character type.
- Part of the West Langholm landscape unit of the Southern Uplands Type (19) around the Ewe Hill area where the extent of forest cover and generally less pronounced hills and slacker slopes to the west merit its reclassification as Southern Uplands with forestry (19a).
- The 'Corsock' landscape unit of the Upland Fringe (16) as Foothills with Forestry (18a) due to its predominant forest cover and context.
- Sub-division of the north-western Lowther Hills as a separate landscape unit (NW Lowthers) within the Southern Uplands Type (19).
- Reclassification of the western slopes of Merrick (currently in the 'Glentrool' unit of the Moorland Plateau with Forestry (17a)) as Rugged Granite Uplands with Forest (21a).
- Reclassification of the 'Merrick' unit of the Southern Uplands Type (19) character type as Rugged Granite Uplands (21).
- Reclassification of the 'Machars' unit of the Plateau with Forest (17a) as the Moss and Forest Lowland character type (11).
- Reclassification of the Elrig area on the west coast of the Machars as the Peninsula (1) character type due to its small scale valley landform and significantly more settled nature than the Plateau Moorland (17).
- The Ward Law ridge, defined as Lower Dale (6) in the 1998 Landscape Assessment, has been reclassified as Upland Fringe (16) due to the similarities of its landform and other key characteristics shared with the 'stand-alone' ridges found within this type.
- The eastern part of the 'Inner Solway' unit of the Coastal Flats (2) has been reclassified as the Coastal Plateau (14) character type.
- Minor adjustments have been made to the boundaries of the 'Nithsdale' Foothills (18) and the 'Torthorwald' unit of the Upland Fringe (16) to include key hill slopes which make a strong contribution to character.

### ***Identification of new character types***

The following new character sub-types have been identified for the purposes of this capacity study:

- A distinctive area of small scale rolling hills patterned by policies found within Annandale which has been defined as the Middle Dale with Hills (7a) character type.
- The Mochrum Lochs area within the Machars which has been defined as 'Plateau Moorland with Lochs' (17b).

Figure B1 shows the character types defined in the Dumfries and Galloway Landscape Assessment while Figure B2 indicates changes made to boundaries and classification of character types for the purposes of this study. Further clarification of changes made to boundaries or reclassification of character types is set out within each of the sensitivity assessments in Section 6 of the report.



## Baseline characterisation used in the study

The table below sets out how we have addressed each landscape character type within the detailed sensitivity assessment:

No	Character type	Approach adopted for assessment
1.	Peninsula	Separate assessments of 'Rhins', 'Machars' and 'Dundrennan' units identified. Reclassification of the Elrig area (currently 17) as Peninsula (1).
1a.	Peninsula + Gorse Knolls	Assessment of the character type alone.
2.	Coastal Flats	Separate assessments to be carried out for the following groups of landscape units: <ul style="list-style-type: none"> <li>• Stranraer Basin</li> <li>• Wigtown, Cree/Fleet Fringe, Nith Coastal Fringe and Inner Solway.</li> <li>• The eastern part of the 'Inner Solway' unit reclassified as Coastal Plateau (14).</li> </ul>
3,4	Shallow Bottomed Valley Narrow Wooded Valley	Both these river valley landscape types considered in a single assessment.
5	Intimate Pastoral Valley	Assessment of the character type alone.
6,7	Lower Dale Middle Dale	Lower/Middle Dales and Flooded Valley considered in a single assessment. Ward Law reclassified as Upland Fringe (16)
7a	Middle Dale with Hills	Assessment of new character type
8	Flooded Valley	Assessment of character type (a single unit)
9	Upper Dales	Upper Dales (Nithsdale and Glenkens) considered in a single assessment
10	Upland Glens	Assessment of the character type alone.
11	Moss + Forest Lowland	Assessment of character type alone. 'Machars' unit of 17a reclassified as this type.
12	Drumlin Pasture in Moss and Moor Lowland	Assessment of the character type alone (single unit)
13	Drumlin Pastures	Assessment of the character type alone.
14,15	Coastal Plateau/Flow Plateau	Considered together in a single assessment.
16	Upland Fringe	Separate assessments carried out for the following groups of units: <ul style="list-style-type: none"> <li>• Torthorwald, Terregles, Dunscore and Ward Law</li> <li>• Ae, Annandale, Liddesdale, Cairn, Cairnharrow.</li> <li>• The 'Corsock' landscape unit reclassified as Foothills with Forest (18a).</li> </ul>

No	Character type	Approach adopted for assessment
17	<b>Plateau Moorland</b>	Assessment of character type alone. The 'Machars' unit reclassified as a new character type Plateau Moorland with Lochs (17b).
17a	<b>Plateau with Forest</b>	Assessment of the character type alone. The 'Machars' unit reclassified as Moss and Forest Lowland (11). The western slopes of the Merrick reclassified as 21a.
17b	<b>Plateau Moorland with Lochs</b>	Assessment of a new character type.
18	<b>Foothills</b>	Each of the 7 landscape units identified to be considered separately in the assessment.
18a	<b>Foothills with Forestry</b>	Separate assessments of the Cairnsmore, Cullendoch, Rhinns of Kells, Laurieston, Stroan and Ae units but with the Oer, Eskdale and Tinnisburn units considered together.
19	<b>Southern Uplands</b>	A new landscape unit defined in NW Lowthers and this considered with the 'Nithsdale' unit in a separate assessment. All other units considered together in a single assessment, although 'Lamford' reclassified as 18 and 'Merrick' as 21.
19a	<b>Southern Uplands + Forestry</b>	Assessment of the character type alone.
20	<b>Coastal Granite Uplands</b>	Separate assessments for each of the 3 units
21	<b>Rugged Granite Uplands</b>	Assessment of the character type alone.
21a	<b>Rugged Granite Uplands + Forestry</b>	Separate assessments for each of the 2 units identified. The reclassified eastern area of 17a (Glentool) considered in 'Merrick' unit of 21a.

## Annex D: Opportunities for Very Large Turbines and Repowering

### Background

The size of wind turbines within new wind farm developments has significantly increased over the last 10 years. Some of the earliest wind farms in Dumfries and Galloway comprise 57m and 76m high turbines. The majority of wind turbines within operational wind farms in Dumfries and Galloway are around 100m high whereas the Kilgallioch wind farm which is currently under-construction has 146.5m high turbines.

Proposals for much larger turbines can also be associated with 'repowering' of existing wind farms and turbines. A typical wind farm has a warranty period of 8-20 years after which reliability becomes an issue. Repowering involves the replacement of operational wind turbines coming to the end of life with more efficient, and usually larger, turbines. Anecdotal evidence indicates that, due to recent changes in energy subsidies, operators may not favour repowering, instead wishing to retain existing wind farms for as long as possible. Other 'repowering' options may be considered by operators including extending the blades of existing turbines and other measures, such as on-site energy storage, to increase efficiency and energy output.

An assessment has been undertaken to consider opportunities for very large wind turbines (>150m high to blade tip) and repowering of existing wind farms within Dumfries and Galloway. The assessment has been informed by computer-generated visibility mapping and visualisations based on selected operational and consented wind farms and showing replacement with larger turbines. More detailed sensitivity assessment has also been undertaken of landscape character types/ areas where some scope for the large typology (turbines 80-150m high) was identified in the 2011 DGWLCS. These comprise the following landscapes which are considered in more detail in Section B of the report:

- Plateau Moorland (17)
- Foothills with Forest (18a Stroan, Cullendoch, Ae)
- Southern Uplands (19 Nithsdale, NW Lowther)
- Plateau with Forestry (17a)
- Foothills with Forest (18a Eskdale, Oer, Tinnisburn)
- Southern Uplands with Forests (19a)

### Methodology

A series of Zone of Theoretical Visibility (ZTV) maps have been produced showing existing theoretical visibility of operational and consented turbines within 18 wind farms and the increased extent of visibility if these turbines were increased to heights of 150m and 200m to blade tip. The wind farms were selected on the basis of being representative of developments in generally less sensitive upland landscape character types.

The ZTV maps have been modelled using existing/ consented turbine positions. Repowering of existing wind farms may adopt a different layout and contain fewer turbines than the original although this will depend on whether the original layout has any built-in flexibility to allow for potential repowering and/or extensions. Potential expansion of an existing wind farm site to accommodate more widely spaced larger turbines may additionally contribute to increased visibility and this has not been taken into account in the ZTV maps.

Simple 'photo-wire' computer-generated visualisations have been produced from 14 viewpoints across Dumfries and Galloway showing existing/consented turbines and turbines 150m and 200m high. The photo-wires have been generated as illustrative tools only to inform discussions in the field and the appraisal of likely landscape and

visual effects associated with increasing turbine size. The ZTV maps and visualisations can be accessed through this link.

The visualisations were reviewed in the field and further field work was undertaken to additionally assess scope for much larger wind turbines within the landscape character types/area listed above. The detailed landscape sensitivity assessment can be found in Section B of this report. Field assessment was undertaken by two landscape architects experienced in the landscape and visual impact assessment of wind energy developments.

### **Analysis of ZTVs and visualisations**

The ZTV maps are based on both operational and consented wind farms located in Dumfries and Galloway and show differences in the extent of visibility if turbines were increased to 150m and 200m to blade tip. The ZTV maps are based on bare-ground data and do not take into account the potential screening effects of woodland. Analysis of the ZTV maps is set out the following table:

**Table A: Analysis of ZTV maps based on operational and consented wind farms**

Wind farm	Existing height	Areas of theoretical new visibility associated with 150m and 200m turbines
Airies	137m	There are very minor increases in the extent of visibility with both the 150m and 200m height scenarios. New visibility would be likely to be confined to around the Glentool village area (although woodland cover is likely to restrict visibility), around the Bladnoch Valley/Kirkcowan in the north Machars area and in the Glenluce area.
Artfield Fell	76m	There would be notable increases in visibility if turbines were increased in height to 150m and 200m with the A75 and Kirkcowan area particularly affected and with widespread visibility also occurring across the Stranraer Basin.
Balmurrie Fell	80m	The extents of increased visibility would be similar to Artfield Fell described above.
Barlockhart Moor	112m	Fairly limited new visibility in the Kirkcowan and Mochrum Lochs area (woodland is likely to provide significant screening in the latter area) and affecting the A75 in the vicinity of the Stranraer Basin. Other areas affected are forested and/or sparsely settled.
Blackcraig	110m	There would be very limited increases in the extent of visibility confined to the east of the Cairn Water valley.
Carlesgill	99.5m	A fairly large area of new visibility would be associated with increasing turbines to 150m with this affecting the Corrie Common and Boreland area to the west and potentially also the Esk valley to the north of Canonbie. 200m high turbines would have a relatively minor additional increase in the extent of visibility.
Carscreugh	70m	There would be increases in visibility in the Kirkcowan, Stranraer Basin area and also around Auchenmalg and within the north Machars area. Extensive woodland cover would be likely to limit effects where increases in visibility are indicated to the NE of this wind farm.
Dalswinton	125m	Very minor increases in visibility would be mainly associated with the 200m scenario around the Johnstonebridge area and on the lower western slopes of Nithsdale.
Ewe Hill	111.5m	Very minor increases in the extent of visibility associated with both the 150m and 200m scenarios with this limited to the eastern slopes of the Esk valley where it is sparsely settled and well-wooded which would limit potential impact
Glenchamber	126.5m	Some increases in the extent of visibility over the Stranraer Basin, from the A75 west of Glenluce and in the Kirkcowan/Shennanton area.
Harestanes	125m	Some increases to the south of Thornhill and potentially affecting views from the A701 in the Kirkmichael area and on the eastern slopes of Annandale south of Moffat.
Kilgallioch	146.5m	Very limited increases in visibility with these principally affecting the Kirkcowan area and an area to the north of Newton Stewart.
Minnygap	125m	The limited increases in visibility associated with this development would be around Thornhill and on the eastern slopes of Annandale south of Moffat.
Minsca	120m	A greater extent of increased visibility would be particularly associated with the 200m turbine scenario between Templand and Lochmaben and the M74.
Robin Rigg	125m	Negligible increases in visibility would be associated with increasing the height of these turbines
Wether Hill	93m	There would be some increases in the extent of new visibility within the Dalwhat Water valley, east of Moniaive and SE of Carsphairn/B729.
Whiteside Hill	121.2m	Very limited new visibility confined to the north of Knowehead and within the Water of Ken valley, affecting a sparsely settled and forested area.
Windy Standard	57.5m	There would be a relatively large increase in the extent of visibility, particularly associated with the 150m turbine scenario. This would affect the Glenkens area SW of Carsphairn/A713, NE of Dalmellington (which is densely forested and sparsely settled) and west of New Cumnock in the Burnside area.

The differences in the extent of visibility associated with increasing the height of turbines to 150m and 200m high to blade tip are relatively minor across the majority of the operational and under-construction wind farms considered. However, more significant increases in the height of turbines within the Artfield Fell, Balmurrie Fell, Windy Standard and Carscreugh wind farms would introduce more notable areas of new visibility. Increases in the height of the aforementioned wind farms and the Barlockhart, Kilgallioch and Glenchamber wind farms could result in significant cumulative effects on sections of the A75 in the Kirkcowan area and across the Stranraer Basin.

Although, in general, the extent of increased visibility associated with much larger turbines would be likely to be fairly limited, it was found that views of wind farms from the ground and effects on landscape character would significantly change in a number of instances. The visualisations generated show larger turbines in the current positions of operational/consented turbines. This has resulted in the wind farm image in the visualisations sometimes appearing overly cluttered. The analysis assumed that this effect would be resolved through a revised layout and/or fewer turbines within the repowered scheme.

The analysis from representative viewpoints across Dumfries and Galloway is set out in the table below:

**Table B: Viewpoint analysis of increasing size of turbines within operational and consented wind farms**

Viewpoint	Wind farm(s) seen in the view	Effects of increasing height of turbines
<b>View 1: North of Auchentalg, A747</b>	<b>Barlockhart (2.2km from view)</b>	In this view the wind farm is juxtaposed with a small-medium scale landscape of walled pastures, clumps of trees and houses. The turbines are already overly large in relation to the immediate landscape context as the wind farm is sited in a relatively small area of moorland surrounded by smaller scale settled landscapes to the south and in the Glenluce area. There is also widespread visibility of this wind farm extending across Luce Bay and the Stranraer Basin and affecting the eastern coast of The Rhins. Both the 150m and 200m scenario would overwhelm the scale of the landscape seen in the foreground of the view. It is likely that both scenarios, and particularly the 200m turbines, would greatly exacerbate the impact on views already experienced from the A75, The Rhins and the Stranraer Basin.
<b>View 2: Entrance to Barlockhart wind farm, A747</b>	<b>Carscreugh, Glenchamber, Artfield/Balmurrie Fell (3.2 - 9.5km from view)</b>	The foreground to the view comprises a medium scale landscape of enclosed fields but with more open hill ground visible in the distance. Four wind farms are inter-visible and the variety of turbine sizes, overlap, rotation speeds and siting in relation to landform results in a cluttered and visually confused appearance. Increasing the size of the Carscreugh turbines to 150m, and especially to 200m, would incur the greatest effect on this view and turbines of this size would dominate smaller scale farmland and settlement seen in the view. Cumulative effects between these wind farms are additionally a key constraint to accommodating much larger turbines.
<b>View 3: A75 East of Glenluce</b>	<b>Carscreugh (1.7km distance)</b>	Sustained views of the Carscreugh wind farm are visible from the A75 in this area. This wind farm is seen in the context of a medium-large scale landscape. Increasing the existing 70m turbine size to 150m, and especially to 200m, would overwhelm the relatively low ridge of Carscreugh Fell which the wind farm is sited on and the small farms and other small scale features seen in the view. It would also be likely to exacerbate the overlap of rotating blades which is a feature of the present development seen at this angle, although the layout could be redesigned to reduce this effect. 200m high turbines in particular would be a far more dominant feature in views from the A75.
<b>View 4: Minor road Mains of Larg</b>	<b>Kilgallioch (5.8km distance) Other wind farms are also seen to the east of this view</b>	The under-construction Kilgallioch wind farm comprises turbines 146.5m. The visualisations show 150m high turbines which are close to the consented height and these are clearly seen above the Water of Luce valley and the small settlement of New Luce although their impact is reduced by only blades or the upper portion of the majority of the turbines being visible. Increasing turbines to 200m would have a much more significant effect on the scale of the valley and New Luce but also on views as a greater proportion of turbines are visible above hub height and the turbines become more dominant. It may be possible to reduce this effect by redesigning the turbine layout although other sensitivities occur to the east of this wind farm and the number of turbines may need to be reduced.
<b>View 5: Minor road Mains of Larg</b>	<b>Balmurrie and Artfield Fell, Glenchamber (5.3-6.1km distance)</b>	The Balmurrie and Artfield Fell turbines are sited on prominent but relatively low hills. Increasing the height of these turbines to 150m, and especially 200m high, (from their present height of 76/80m) would result in them significantly overwhelming the scale of these hills. These wind farms are also widely visible (see ZTV map) largely because of their prominent siting. The Glenchamber wind farm is sited in a dip and additionally screened by woodland. The 200m scenario would however increase visibility with blades visible above woodland although the full extent and scale of increased height turbines would not be discernible in this view.
<b>View 6: A702 east of St John's Town of Dalry</b>	<b>Blackcraig (6.6km)</b>	The under-construction Blackcraig wind farm is located on a pronounced ridge which backdrops smaller scale rolling farmland to the south and west. In this view, 150m high turbines would dominate the relief of Blackcraig Hill and would not accord with SNH guidance on siting and design of wind farms in relation to the vertical scale of the landform. The 200m scenario would form a particularly dominant feature significantly affecting both the ridge and the character of adjacent smaller scale farmland.

Viewpoint	Wind farm(s) seen in the view	Effects of increasing height of turbines
<b>View 7: Minor road to Merkland off A76</b>	<b>Dalswinton (5.5km)</b>	The existing Dalswinton wind farm is located on the edge of the hills which contain Nithsdale to the east. This increases the prominence of the wind farm in views between Thornhill and Dumfries. In this view the turbines appear to sit in a slight dip between higher ridges and this helps to reduce visual impact to some degree. Increasing the current 125m high turbines to 150m would result in the front turbines being particularly prominent and appearing to extend above the containment provided by higher ground either side of the wind farm. The 200m scenario would significantly extend above containing ground either side of the wind farm and would also dominate the vertical scale of the uplands which backdrop Nithsdale.
<b>View 8: Minor road near Moniaive looking NW</b>	<b>Wether Hill (9.2km)</b>	The Wether Hill wind farm is clearly associated with a more extensively scaled upland landscape, appearing distant from the smaller scale settled valleys in the foreground of the view. The existing 93m high turbines appear subservient to the vertical scale of the upland area they are sited on. The 150m scenario would have a similar satisfactory fit in relation to the scale of the upland landscape although the 200m high scenario would dominate the scale of these uplands and significantly detract from the key focus of the view which is the meeting of the three glens.
<b>View 9: Minor road near Moniaive looking SW</b>	<b>Blackcraig (9.3km distance)</b>	The under-construction Blackcraig wind farm does not appear to be located in a more extensive upland area unlike Wether Hill when looking NW from this viewpoint. The eye is likely to be drawn to this wind farm, despite its distance from the view, because of its position on a pronounced hill seen at the end of the Castlefairn Water valley. Increasing the consented 110m high turbines to 150m would be likely to have a limited effect in terms of the fit with the vertical scale of the hill in this view. However, an increase to 200m would overwhelm the size of Fell End hill and significant detract from the focus of the view which is the valley and its intricate patterning of fields, woodlands and settlement.
<b>View 10: Minor road above Sanquhar</b>	<b>Whiteside Hill (7.3km)</b>	Whiteside wind farm is currently under-construction. When built, it will occupy a relatively small part of the long skyline seen in this view. The consented, but not yet constructed, wind farm of Sanquhar will appear almost contiguous with Whiteside and will significantly increase the extent of wind farm development seen on the skyline. Increasing the consented 121m high turbines to 150m would have less of an effect in this view as they would be seen in the context of the broad valley of Upper Nithsdale and would be clearly associated with an extensive upland landscape. The 200m scenario would however appear to dominate the vertical scale of the uplands. Key constraints to any proposal for substantially larger turbines within the Southern Uplands - Nithsdale character area seen in this view will be cumulative effects with other wind farms and also the effect on views from the sensitive small scale Scaur Water valley to the SE.
<b>View 11: Minor hill road west of Ae Forest</b>	<b>Harestanes (5.6km)</b>	The base of most of the 125m high turbines in this view is screened by the gently undulating landform and this, together with the simple and expansive character of the moorland context, minimises their effect on landscape scale. Increasing the turbines to 150m high would be unlikely to incur any noticeable change and would still fit with the scale of the landscape in this view. An increase to 200m however would tip the balance in terms of the dominant effect on Wee Queensberry Hill which is seen to the left of the wind farm in the visualisation. Redesign of the wind farm could reduce this effect.



Viewpoint	Wind farm(s) seen in the view	Effects of increasing height of turbines
<b>View 12: A701 NE of Dumfries</b>	<b>Harestanes (5.8km)</b> <b>The Dalswinton wind farm is also visible to the NW</b>	The 125m high turbines of the operational Harestanes wind farm sit between and behind pronounced rounded hills on the outer edge of these Foothills with Forest in this view. The 150m scenario would result in the turbines being more prominent and some blades over-topping the hills which presently contain the wind farm. These effects could be minimised/avoided through redesign of the wind farm. The 200m scenario would significantly dominate the scale of the valley and foreground hills in this view and more radical redesign of the wind farm and omission of turbines would be needed to reduce these effects. Key constraints to accommodating substantially larger turbines in this area are the effect on the band of open and high hills of the Southern Uplands to the north which are important in separating the Harestanes and Clyde wind farms and in providing a scenic backdrop to Nithsdale and Annandale and cumulative effects with the Minnygap wind farm.
<b>View 13: Junction 20 M74</b>	<b>Minsca (5.8km distance)</b>	The Minsca wind farm is located in the Foothills - Annandale landscape character area. They are sited on a subtle hill divided by settled and more intensively farmed valleys. The current 120m high turbines are already at the limit of acceptability in terms of effects on the scale of these foothills. Increases to both 150m and especially to 200m would dominate the vertical relief of these hills and affect the smaller scale settled Upland Fringe seen in the foreground of the view. The focus provided by the distinctive Burnswark Hill would be also be affected, particularly so by the 200m scenario.
<b>View 14: South of Moffat</b>	<b>Harestanes and Minnygap (7.5km)</b>	In this view the Harestanes and Minnygap wind farms appear as a single development. The majority of the turbines are partially screened so their full height is not appreciated. Views to these wind farms are generally not sustained from within the well-wooded landscape of Annandale. The 150m scenario could be accommodated as the increase in effect would be unlikely to be noticeable at this distance. At 200m however, there is a much more dominant effect on the skyline and on the setting of the prominent Queensberry Hill.

## Key findings of the assessment

Our assessment from representative viewpoints in the field concluded that the degree of impact or intrusion associated with increased heights of turbine would be principally influenced by the distance of the viewpoint from the wind farm, its siting and the context of the view.

The wind farm sites located in more expansive upland areas, and which are also generally set back from surrounding roads and settlement, were judged to be able to accommodate larger turbines. This is because wind farms in these areas are usually not seen close to smaller scale features resulting in their size being less easy to gauge. The Eskdalemuir unit of the Southern Uplands with Forest (19a) and the less sensitive core of the Plateau Uplands and Plateau Uplands with Forest (17, 17a) landscape character types form particularly expansive landscapes which are distant from more settled areas.

While it was concluded that increases of turbine height to 150m could theoretically be accommodated in the areas of Southern Uplands with Forest (19), Southern Uplands (19a) and Foothills with Forest (18a) occupied by the wind farms considered in the study, increasing turbines to 200m to blade tip in these landscapes would be likely to have more unacceptable significant landscape and visual effects. These include effects on nearby more prominent hills, on surrounding smaller scale landscapes such as settled valleys or

on the visual containment provided by adjacent higher ground. While there may be opportunities to minimise these effects through redesign of wind farms, cumulative effects with other nearby operational and consented wind farms are also a major constraint to accommodating much larger wind turbines on some development sites.

Smaller upland areas seen in close proximity to more settled landscapes, for example the areas of the Foothills (18), Foothills with Forest (18a) and Upland Fringe (16) landscape character types occupied by the Blackcraig, Minsca and Carsecreugh wind farms, would be more sensitive to increased heights of turbine. The low relief of these landscapes and their limited extent are key constraints to accommodating larger turbines. In these landscapes, wind farm development is not seen in the context of an extensive upland area but often forms a backdrop to more settled smaller scale landscapes where relative scale can be more readily judged. Some wind farms, for example the Blackcraig and Artfield/Balmurrie Fell wind farms, are clearly associated with a particular landscape feature - in these cases prominent small hills/ridges - and much larger turbines would dominate the scale of these features and would be contrary to SNH best practice guidance on the siting and design of wind farms.

## Conclusions

The extent of new visibility associated with increasing turbines to 150m and 200m within operational and under-construction wind farms within Dumfries and Galloway would not be substantial in most cases. In developments where the present turbines are relatively small, and also in some instances where they are particularly prominently sited, a more significant increase in the extent of visibility is displayed.

The key differences in significantly increasing turbine size would mainly be experienced in elevation in the field, although the degree of impact will be greatly influenced by distance, turbine size and the context of the view. In general, the larger the extent and scale of upland landscape and its distance from more well-settled areas, the more scope there is for larger turbines to be accommodated. Other landscape and visual constraints come into play though and these include potential cumulative effects with other nearby wind farms related to contrasts between different turbine sizes but also blade rotation speeds and designs which have potential to create a visually confusing image.

It is concluded that turbines towards 200m high to blade tip would be too large to accommodate as new developments in landscape and visual terms anywhere in Dumfries and Galloway apart from the Eskdalemuir unit of the Southern Uplands with Forest (19a). This is either because the receiving

landscape is insufficiently extensive to minimise effects on adjacent smaller scale and/or more sensitive landscapes or because more extensive and large scale landscapes already accommodate many wind farms of varied heights and designs and cumulative effects would be a major constraint. The Eskdalemuir area of the Southern Uplands with Forest does not accommodate any existing wind energy development. It also extends into adjacent Scottish Borders in the Craik Forest area (an area with similar character and sensitivity) thus increasing the extensiveness of this landscape and the distance from more sensitive landscape and visual receptors.

The sensitivity assessment set out in Section B of this report considers adding Very Large turbines (>150m) to a baseline where wind farms are usually already present and are likely to result in potential cumulative effects. Repowering of some operational, under-construction and consented wind farms may, however, provide opportunities to accommodate much larger turbines in future. More acceptable candidates for replacement with turbines closer to 200m high (in terms of minimising landscape and visual and cumulative impacts) comprise wind farms sited in the less sensitive core areas of the Plateau Moorland with Forest (17a) and Plateau Moorland (17) which are relatively distant from settlement and well-used roads. These may include the Aries, Kilgallioch and Arcleoch developments. Even in these less sensitive areas, repowering schemes would need to

involve redesign of turbine layout and a possible reduction in numbers to avoid significantly exacerbating effects on adjacent more sensitive valleys in Dumfries and Galloway and South Ayrshire.

There is some scope to replace more sensitively sited operational and consented wind turbines with turbines around 150m high in parts of the Southern Uplands - Nithsdale, Southern Uplands with Forest - Ken and Carsphairn (19a) and the Foothills with Forest - Ae (18a). Much larger turbines (up to 200m) would be likely to dominate the scale of these less extensive hills and may also adversely affect adjacent small scale glens, dales and landmark hills.

The Annandale unit of the Foothills (18) and the Stroan unit of the Foothills with Forest (18a) accommodate operational and consented wind farms. These upland areas are generally less extensive and lie closer to more sensitive settled landscapes. It was concluded that increases in turbine heights (currently around 110-126m) could not be accommodated.

Many wind farms in these landscapes are under-construction or consented and are therefore unlikely to be repowered in the near future. Cumulative effects with existing nearby wind farms comprising smaller turbines will therefore need to be carefully assessed when considering repowering proposals. Redesign of wind farm developments as part of the repowering process, including

altering the layout/number of turbines, may offer opportunities to avoid exacerbating effects on adjacent more sensitive landscapes and on views and reducing cumulative effects.

This assessment has been based on ZTV mapping and visualisations prepared from a very limited range of viewpoints. Detailed assessment informed by a more comprehensive range of visualisations would be necessary to fully consider landscape and visual impacts for specific proposals. Redesign of turbine layout and omission of some turbines could also reduce some of the effects identified in Table B.

