South Ayrshire Landscape Wind Capacity Study

Updated August 2018

Carol Anderson Landscape Associates

South Ayrshire Landscape Wind Energy Capacity Study

Final Report, August 2018

Carol Anderson Landscape Associates

South Ayrshire Council

Scottish Natural Heritage
Dualchas Nàdair na h-Alba
All of nature for all of Scotland
Nàdar air fad airson Alba air fad

Summary

This study revises and updates the 2013 South Ayrshire Landscape Wind Capacity study (SALWCS). It aims to inform strategic planning for wind energy development in line with Scottish Planning Policy and to also provide guidance on the appraisal of individual wind farm and wind turbine proposals in South Ayrshire. The study considers the landscape and visual sensitivity of 20 landscape character types within South Ayrshire to a range of wind turbine developments; these principally categorised on the basis of turbine height. This study also considers scope for repowering existing wind farms using larger wind turbines. Potential cumulative issues associated with operational and consented wind farm developments are additionally considered. Guidance on the constraints and opportunities for wind energy development within each landscape character type is set out in the study.

Main findings

- Operational wind farms located in the more extensive upland landscapes which occur between South Ayrshire and Dumfries and Galloway generally have relatively limited visibility from the more settled lowlands, coasts and valleys of South Ayrshire. Some wind farms (including recent consents) are located in narrower bands of uplands lying between settled valleys and/or coasts and are consequently more visible.
- The *Plateau Moorland with Forestry and Wind Farms* landscape character type presents the only landscape in South Ayrshire where some scope for very large turbines >130m were identified as being able to be accommodated in South Ayrshire as either additional new developments or ‘repowered’ schemes for existing well-sited wind farms. There is also some potential to accommodate additional large turbines (70-130m) in this landscape. Turbines would need to be set well back from the sensitive outer edges of this landscape to minimise effects on adjacent smaller scale settled valleys and landscapes with a strong sense of wildness. The presence of the Dark Skies Park is a major constraint to turbines >150m which may require lighting.
- There may be some very limited scope to accommodate additional large turbines (70-130m high) within the *Foothills with Forest and Wind Farms* landscape character type although effects on the adjacent Stinchar and Girvan valleys, the Carrick Forest and cumulative effects with existing wind farms present key constraints likely to severely limit the extent of development that can be accommodated.
- There is no scope to accommodate turbines above 50m height within the smaller scale foothills, lowlands and valleys of South Ayrshire due to their increased landscape sensitivity to tall turbines, including potential cumulative effects with wind farm development in adjacent upland areas.
- Narrow and diverse valleys, the coastal edge and the Carrick Forest area are highly sensitive to most forms of wind turbine development.

CONTENTS

1 INTRODUCTION

1.1 Policy context

The Scottish Government is committed to increasing the amount of electricity generated from renewable sources. The current target is to meet the equivalent of 100% of Scotland's electricity requirement from renewable sources by 2020. Most of this capacity is likely to be met from hydro-electric and on-shore wind power, but in due course there is expected to be a wider range of productive renewable technologies, including off-shore wind power as well as biomass, solar, energy from waste and landfill gas and wave and tidal power.

1.1.1 *Scottish Planning Policy 2014*

Scottish Planning Policy 2014 (SPP) seeks to support the initiatives set out above. It 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 further 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. 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 Background to the study

The 2013 South Ayrshire Landscape Wind Capacity Study (SALWCS) considered different scales of wind energy development with turbine heights ranging from 15m to over 70m high to blade tip and a baseline of operational and consented wind farms. Since 2013, additional wind farms have been consented and/or constructed both in South Ayrshire and close-by in the neighbouring authorities of East Ayrshire and Dumfries and Galloway and this has changed the landscape and

visual baseline. In addition, interest in smaller wind turbines has reduced in South Ayrshire since 2013 probably due to changes in the feed-in tariff subsidy and much larger onshore wind turbines are now available.

This updated and revised study principally considers any changes to sensitivity to larger wind farm developments, including in some landscapes, very large turbines over 130m high and reviews the cumulative baseline and potential effects in detail.

1.3 Study objectives

The study aims to inform both strategic spatial planning for wind energy developments and to provide guidance on the appraisal of individual wind farm and wind turbine proposals. In summary, it provides:

- A landscape and visual sensitivity assessment for wind farms and wind turbine developments within different landscape character types in South Ayrshire considering potential cumulative effects with other operational and consented wind energy developments.
- An appraisal of potential scope for repowering operational wind farms (which is likely to involve replacement of existing turbines with new larger turbines) while minimising landscape and visual effects.
- Definition of clear spatial principles as to what height of turbine would be appropriate, in landscape and visual terms, within the different landscape character types considered in the study.
- Provision of design and siting guidance for use by the Council and applicants to promote good practice in locating and siting individual and small groups of lower height turbines.

1.4 Structure of the report

This report sets out the methodology adopted for the study in Section 2, together with the landscape character types and turbine development typologies considered in detail in the study. Operational and consented wind farm and turbine developments which form the baseline for the study are also identified.

The key findings of the study are summarised in Section 3 of the report and precede the more detailed landscape and visual sensitivity assessments which have been produced for 20 landscape character types within South Ayrshire. Guidance is provided on cumulative issues, opportunities and constraints and on siting and design for each landscape character type within these assessments.

2 STUDY METHODOLOGY

The study methodology is based on landscape and visual capacity assessment, which uses sensitivity assessment to determine the ability of the landscape character and visual amenity to accommodate changes brought about by new development.

2.1 Background to landscape capacity

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'* [1]

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 the online Toolkit which was informed by it). More detailed guidance is also provided by SNH in the document *Siting and Designing Wind Farms in the Landscape* Version 3 (2017) and a new annex on the siting and design of turbines between 15-50m to replace previous SNH guidance published in 2012. A full list of reference material used in the study is set out in Annex A.

Most landscape capacity studies consider the potential sensitivity of key characteristics of landscape character types and areas 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 brief for this study required that landscape designations and other recognised values should not be considered in the sensitivity assessment (although some qualities relating to the Merrick Wild Land Area and the Galloway Forest Dark Skies Park are addressed within the *perceptual qualities* sensitivity assessment criterion).

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 SALWCS, GLVIA3 makes it clear that the purposes of assessing sensitivity in the wider arena of landscape planning is different to that undertaken as

[1] Swanwick, Carys and Land Use Consultants, *Landscape Assessment Guidance for England and Scotland*, 2002, Countryside Agency and Scottish Natural Heritage.

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:

Landscape character assessment

Landscape character assessment is a standard methodology for identifying, classifying and mapping which is distinctive about landscapes. It helps to understand what makes one landscape different from another. Landscape character relates not only to the physical attributes of the land, such as landform, land cover and settlement pattern, but also to perceptual responses to the landscape.

Landscape sensitivity

Sensitivity relates to landscape character and how susceptible 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. Sensitivity is assessed by considering the effect of different heights of wind turbine development on the physical and perceptual characteristics of landscapes. In this study, the nature of views and visibility and the value associated with a landscape are also considered in determining sensitivity.

Landscape capacity

The terms landscape sensitivity and capacity are often used interchangeably in Scotland to refer to landscape studies that assess a landscapes susceptibility to a particular form of development. Capacity relates to the extent to which a landscape is able to accommodate development without significant adverse impacts occurring on its character. In this study, landscape capacity is determined by the nature and degree of effects likely to occur on key characteristics and on the value of the landscape. This is explained in more detail in 2.8 of this report.

2.3 General approach to the study

Our 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 recent landscape capacity studies we have undertaken for wind energy development. It involves the following key tasks:

- Field review of the landscape character types identified in the Ayrshire Landscape Assessment (LUC, 1998) published by Scottish Natural Heritage (SNH) and identification of any sub-divisions or boundary alterations necessary for the purposes of this sensitivity assessment.
- Identification of existing and consented wind farm developments in South Ayrshire and within adjoining authorities to inform the baseline for this study and understand development trends and potential cumulative effects.
- Identification of the wind turbine development typologies to be assessed in the study.

- Definition of landscape and visual sensitivity criteria to be used in the assessment.
- Production of computer-generated Zone of Theoretical Visibility (ZTV) mapping and visualisations to allow comparisons of different turbine heights to be made in the field.
- Field work to assess the sensitivity of different landscape character types to the agreed development typologies using identified sensitivity criteria.
- Guidance on the siting of smaller turbines (<50m high), principally informed by field work undertaken across Ayrshire.
- Provision of an overview of landscape and visual sensitivities across the study area and recommendations on strategic landscape and visual considerations for wind farms and single and smaller wind turbines, updating the information contained in the 2013 SALWCS.

2.4 Operational and consented wind farms and turbines

The following operational and consented wind farm developments in South Ayrshire and neighbouring authorities listed in Table 1 have formed the baseline for the landscape and visual sensitivity assessment. A cut-off date of April 2018 was set for the study. These developments are shown in Figure 1.

Table 1: Wind Farm/turbine baseline for the South Ayrshire study

Windfarm	***Turbines***	***Height to blade tip***	***Authority***
Operational wind farms and turbines > 50m high			
Hadyard Hill	52	110m	SAC
Mark Hill	28	110m	SAC
Arecleoch	60	135m	SAC
Kilgallioch	97	146.5m	SAC/Dumfries and Galloway
Dersalloch	23	115/125m	SAC
Assel Valley	10	110m	SAC
Glen App	11	126.5m	Dumfries and Galloway
Consented wind farms and turbines >50m high			
Kirk Hill	8	110m	SAC
Tralorg	8	100m	SAC
Stranoch	24	110/125m	Dumfries and Galloway
South Kyle	50	149.5m	EAC
Chirmorrie	21	146.5m	SAC

2.4.1 *Smaller wind turbines*

A relatively limited number of small single or small groups of 'farm-based' turbines <30m high are present in South Ayrshire. There are some larger single turbines above 30m high and these are shown in Figure 2.

2.5 Baseline landscape character

This capacity study has been informed by the landscape characterisation set out in the Ayrshire Landscape Assessment (LUC 1998). The landscape character types set out in this 1998 study were reviewed in the field for the 2013 SALWCS with

minor changes made to the boundaries and classification of some landscape character types. The western boundary of the *Foothills with Forest and Wind Farms* (Landscape Character Type 17c) has been extended in this revised study to include wind farm developments consented and constructed since 2013. A new numerical referencing system has been adopted for the landscape units considered in this study with this being explained in Annex B. The character types considered in this study are shown on Figure 3.

2.6 Development typologies

2.6.1 *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.

Turbines below 15m height to blade tip have been excluded from the detailed sensitivity assessment. This is because turbines of this size can be successfully accommodated within most landscapes subject to careful siting and design. Landscape and visual issues associated with turbines of this size are however generally considered within the sensitivity assessments and within the guidance on the siting of smaller turbines contained in Appendix F of this report.

We have categorised smaller turbines as being those under 50m height to blade tip. 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. Two 'smaller' typologies have therefore been assessed in detail within more settled lowland landscapes in the study based on turbines 15-30m and 30m-50m height to blade tip.

2.6.2 *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 although some indication is given 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 type. The assessment therefore is applicable to both single, small groups and larger groups of turbines comprising 'wind farm' developments.

This updated and revised capacity study additionally considers sensitivity to very large wind turbines >130m high to blade tip in selected landscape character types which either already accommodate commercial wind farms and/or where scope for the large typology (turbines 70m+) was identified in the 2013 SALWCS.

2.6.3 *Summary of development typologies considered*

The following development typologies are considered in the study:

- ***Small turbines 15-30m high***
- ***Small-medium turbines 30m to 50m high***
- ***Medium turbines 50m to 70m high***
- ***Large turbines 70-130m high***
- ***Very Large turbines over 130m high***

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 small, small-medium and medium typologies will comprise single and small groups of turbines rather than more extensive commercial 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.

In addition, possible extensions and repowering projects associated with existing wind farm developments have been considered in the guidance provided within each sensitivity assessment with recommendations given on the appropriate height of turbines and the general extent of development that could be accommodated.

2.7 The sensitivity assessment

The capacity study considers the sensitivity of key characteristics of each landscape character type or sub-type to different types of wind farm or turbine development. The assessment process uses a range of sensitivity criteria to do this based on key landscape and visual characteristics. The sensitivity assessment combines landscape sensitivity, visual amenity and existing cumulative effects. Landscape designations and other recognised interests such as the Dark Skies initiative, Inventory designed landscapes and Wild Land Areas are not considered in the sensitivity assessment (although some of the qualities relevant to these valued landscapes are considered within sensitivity criteria such as *land cover pattern* and *perceptual qualities*). Landscape designations and other interests form another layer of information considered in strategic planning for wind farm/turbine development in South Ayrshire in addition to the guidance contained in the SALWCS.

2.7.1 *Landscape and visual sensitivity criteria*

The sensitivity assessment considers the following criteria in assessing the potential effects of wind turbines and associated infrastructure on the landscape character types:

- Landscape context
- Scale and openness
- Landform

- Land cover pattern
- Built environment
- Perceptual qualities
- Visual amenity
- Cumulative effects

A detailed description of the factors considered within the sensitivity assessment is set out in Annex C.

2.7.2 *Field assessment*

The sensitivity assessments have been informed by extensive field work undertaken by two landscape architects. Computer-generated visualisations from relevant Environmental Statements were used, where available, to inform the assessment of potential cumulative visual issues. A number of computer-generated comparative Zone of Theoretical Visibility maps and visualisations illustrating a range of turbine heights from key viewpoints were also produced to inform the sensitivity assessment in the field.

2.8 Sensitivity ratings

Each of the sensitivity criterion set out in paragraph 2.7.1 has been scored using a five-point scale. An overall landscape and visual sensitivity rating is also set out considering all landscape and visual criteria. The overall landscape and visual sensitivity rating has been arrived at by considering the combined weight of evidence set out in the sensitivity assessment using professional judgement, rather than using a numerical scoring system. This is interpreted in the following table:

Table 4: Explanation of Sensitivity Ratings

Overall Sensitivity rating	**Definition**
Low	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.
Medium - low	Some limited sensitivities although there are opportunities to accommodate the development typology in most locations.
Medium	Some key landscape characteristics or aspects of visual amenity are sensitive but there is still some ability to accommodate development in some locations with acceptable character change and/or visual impact; the development typology relates to some aspects of landscape character.
High-medium	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.

High	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.

2.9 Repowering of existing wind farms

An assessment has been undertaken to consider opportunities for repowering existing wind farms (assumed to principally comprise replacement with larger turbines) and for very large wind turbines (>130m 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 assessment of scope for very large turbines >130m high (as new developments or repowering projects) has been undertaken for the following landscape character types in South Ayrshire:

- 17b *Foothills with Forest West of Doon Valley*
- 17c *Foothills with Forest and Wind Farms*
- 17d *Maybole Foothills*
- 18c *South Ayrshire Plateau Moorland and Forest*

An assessment of overall scope for repowering existing wind farms in Ayrshire is set out in Annex D and summarised in Section 3 of this report.

2.10 Cumulative issues and overall capacity assessment

There are two outputs from the assessments in relation to cumulative landscape and visual assessment.

2.10.1 *Cumulative effects*

We have firstly considered cumulative effects in the sensitivity assessments. This is one of the criteria listed in the detailed sensitivity assessments and considers the implications of existing and consented turbines and wind farms within the landscape character type and nearby.

2.10.2 *Potential cumulative issues*

We have also identified potential cumulative landscape and visual issues. These are more speculative potential impacts and reflect what might happen depending on the number and type of developments which might be introduced into the landscape character type which is the subject of the assessment. These potential issues are listed prior to identifying opportunities and constraints to different development typologies within the sensitivity assessments undertaken for each landscape character type.

Potential landscape and visual cumulative impacts considered 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 type, 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 a type is likely to be lost or significantly diminished by the addition of one or more wind farms or multiple wind turbines to multiple existing and consented wind farms or turbines;
- Loss of recognisable development pattern – i.e where wind farms or turbines are introduced into a landscape where existing wind farms or turbines already create a recognisable pattern of development which complements the existing character, 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.

2.11 Overall sensitivity ratings

We advise that there is no scope for development within landscape character types concluded to have a ***High*** overall sensitivity.

Within landscape character types found to be of ***High-medium*** sensitivity, we consider that there is either no scope or very limited scope for development in a small part of the character type only. Within these High-medium sensitivity landscapes, it is recommended that developers should be required to demonstrate how they have dealt with the identified constraints in the siting and design of wind farm developments.

We consider that there is some scope for development where a ***Medium or lower sensitivity*** is identified in the study. Medium and lower sensitivity landscapes are not without constraints however and developers should be required to take note of these in the siting and design of wind energy proposals.

2.12 The significance of landscape and visual effects

Most large-scale wind energy developments are likely to incur significant adverse landscape and visual effects. This study sets out guidance on the likely nature, extent and severity of potential effects and proposes a strategy aimed at identifying scope for additional wind energy development while protecting the most sensitive landscapes within South Ayrshire from inappropriate development. The SALWCS only considers landscape and visual sensitivity and a range of environmental and other issues need to be considered in determining the overall acceptability of wind energy development

2.13 Guidance for siting smaller turbines

Guidance on the siting of wind turbines below 50m height is provided in Annex F. This work supplements SNH's published guidance Siting and Designing Windfarms in the Landscape, Version 3 (2017) which includes an annex addressing the siting and design of wind turbines between 15 and 50 metres.

North Ayrshire

North Ayrshire

East Ayrshire

South Ayrshire

Dumfries & Galloway

TROON to Lame 2 hrs (summer only)

CAIRNRYAN to Larne 2 hrs

Larne 1 hr

STRANRAER to Belfast 3 hrs

Belfast 2 hrs

Windfarm Name

1 Hadyard Hill
2 Mark Hill
3 Arecleoch
4 Kilgallioch
5 Dersalloch
6 Assel Valley
7 Glen App
8 Kirk Hill
9 Tralorg
10 Stranoch
11 Chirmorie

Legend

East Ayrshire

County Boundary

Status

Consented

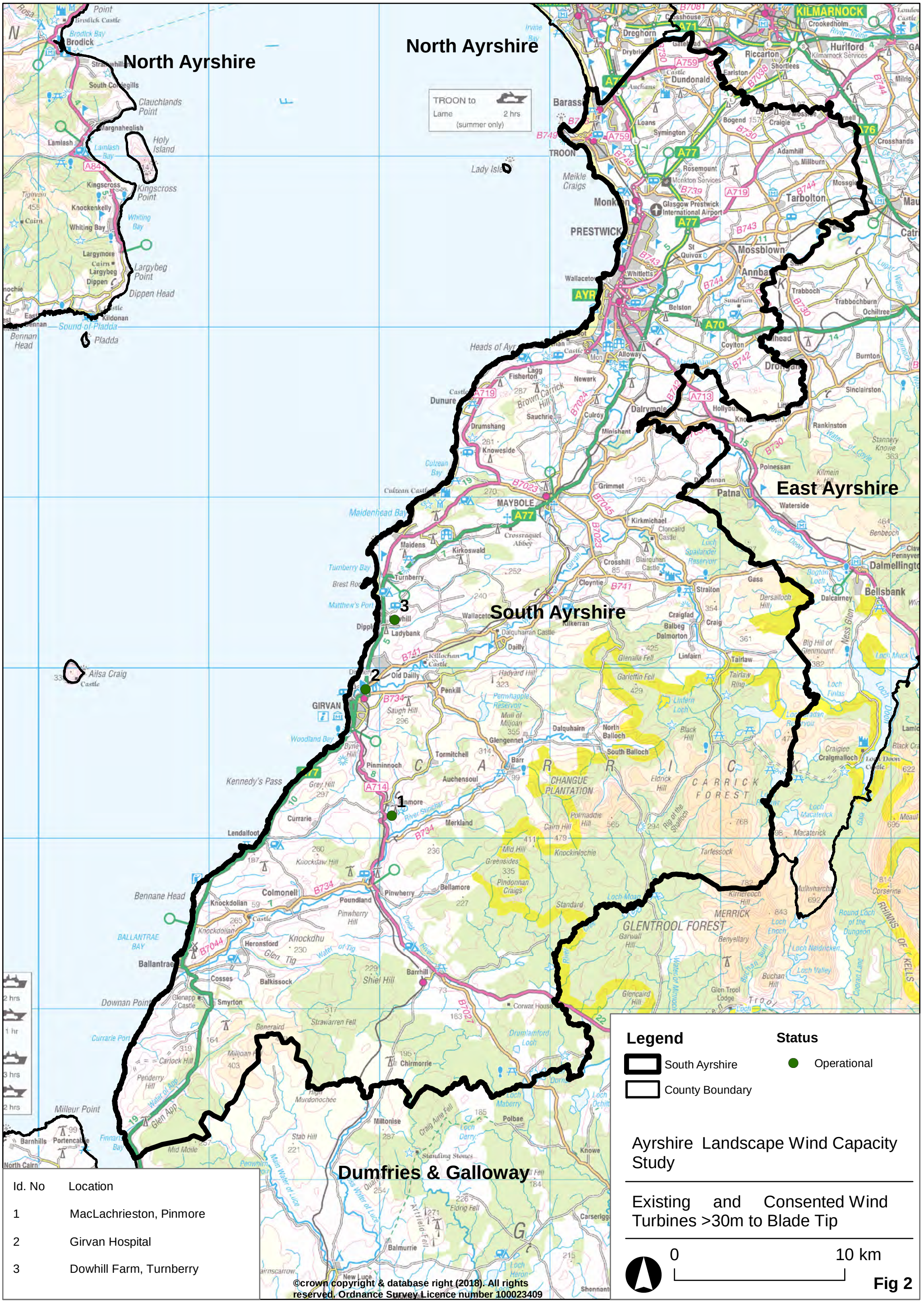
Operational

Ayrshire Landscape Wind Capacity Study

Existing and Consented Wind Farm Developments

0 10 km

Fig 1


North Ayrshire
North Ayrshire
East Ayrshire
South Ayrshire
Dumfries & Galloway
TROON to Lame 2 hrs (summer only)
1
2
3
Id. No Location
1 MacLachrieston, Pinmore
2 Girvan Hospital
3 Dowhill Farm, Turnberry
Legend
South Ayrshire
County Boundary
Status
Operational
Ayrshire Landscape Wind Capacity Study
Existing and Consented Wind Turbines >30m to Blade Tip
0
10 km
Fig 2
©crown copyright & database right (2018). All rights reserved. Ordnance Survey Licence number 100023409

No	Character Type
1c	Raised Beach Coast with Flat Fields & Headlands
1d	Raised Beach Coast with Rocky Shore
2b	Coastal Edge
4b	Brown Carrick Hills
5	Coastal Valley with Policies
7d	South Ayrshire Lowlands
9	Lowland River Valley
11	Lower Dale
12	Middle Dale
13	Intimate Pastoral Valley
14	Upland Glen
16	Lowland Hills
17b	Foothills with Forest west of Doon Valley
17c	Foothills with Forest & Wind Farm
17d	Maybole Foothills
17e	Coastal Foothills
18c	South Ayrshire Plateau Moorlands + Forestry + Wind Farms
20b	South Ayrshire Southern Uplands
21	Rugged Uplands, Lochs & Forest
22	Glenapp Coastal Farmland & the Policies
URBAN	URBAN

Legend

- South Ayrshire
- County Boundary
- South Ayrshire Landscape Character Types

Ayrshire Landscape Wind Capacity Study

Landscape Character Types Used in the Study

0 — 10 km

Fig 3

3 SUMMARY OF FINDINGS AND RECOMMENDATIONS

3.1 Introduction

This section of the report summarises the key findings of the sensitivity assessment undertaken as part of the study. It addresses the landscape and visual issues associated with wider strategic planning of wind farm and turbine developments in South Ayrshire and outlines recommendations for a landscape strategy.

The study has considered the sensitivity of 20 landscape character types within South Ayrshire to wind turbines between 15m and over 130m high to blade tip. While the landscape character types used in the sensitivity assessment were informed by the published Ayrshire Landscape Character Assessment (1998), a number of these landscape character types have been sub-divided and reclassified to better reflect local character and context (and potential issues in relation to operational and consented wind farm developments), for the purposes of this study.

The sensitivity assessment set out in this study identifies constraints in analysis at a strategic scale. Developers would need to demonstrate how they have dealt with potential effects on the constraints identified in the sensitivity assessment when preparing proposals*.*

3.2 Key findings of the sensitivity assessment

3.2.1 *Scope for turbines >70m high*

South Ayrshire already accommodates extensive operational and consented wind farm development in the expansive plateau moorland uplands, which extend into neighbouring Dumfries and Galloway, and within the less broad band of uplands which lie between the Girvan and Stinchar valleys. The extent of operational and consented wind farm development restricts scope for additional larger wind turbines to be accommodated. This is because the generally less sensitive parts of these uplands are already occupied by wind farms with remaining undeveloped areas either lying on the periphery of these uplands close to more sensitive settled landscapes and/or close to landscapes with a strong sense of wildness. Cumulative effects are also more likely to occur with existing wind farms affecting surrounding more sensitive landscapes and views.

The sensitivity assessment concluded that only the ***Plateau Moorland with Forestry and Wind Farms*** (18c) had some very limited scope to accommodate very large turbines (>130m) although effects on adjacent sensitive valleys and on the Carrick Forest area, cumulative effects with existing wind farms and potential effects of fixed lighting required on turbines >150m high on the Dark Skies Park present key constraints to this size of turbine in this landscape character type. Very large turbines may be more able to be accommodated if replacing existing well-sited wind farms as part of a repowering scheme.

Some additional large turbines (70-130m) may also be able to be accommodated in parts of the *Plateau Moorland with Forestry and Wind Farms* although the

constraints noted above in relation to effects on sensitive valleys and the Carrick Forest uplands and cumulative effects with other wind farms also apply.

The sensitivity assessment found that there may be some very limited scope to accommodate additional large turbines (70-130m) in the ***Foothills with Forest and Wind Farms*** (17a) landscape character type although effects on the adjacent Stinchar and Girvan valleys and on the Carrick Forest area present key landscape and visual constraints to development.

A summary table listing the sensitivity of each landscape character type to the wind turbine typologies is contained in Annex G.

3.2.2 *Repowering of operational and consented wind farms*

An assessment has been undertaken to consider scope for accommodating 150m and 200m turbines as part of repowering (or amending) operational and consented wind farms. Comparative ZTV mapping and visualisations were prepared for representative wind farms in a variety of landscapes across Ayrshire. These informed field work undertaken to consider the potential landscape and visual effects of increasing turbine heights within existing and consented developments as part of the updated sensitivity assessment. The background study is contained in Annex D.

The assessment concluded that there was no scope to increase the heights of the operational wind farm of Dersalloch because of the likely exacerbation and extension of already significant effects on the Doon Valley (and particularly the Craigengillan designed landscape) in East Ayrshire and increases in the extent of visibility and degree of intrusion on the Girvan Valley in South Ayrshire.

The Hadyard Hill, Tralorg and Assel Valley wind farms lie in a relatively narrow band of uplands and any increases in turbine height are likely to adversely affect character and views within the Girvan and/or Stinchar Valleys which lie either side. Both the Tralorg and Assel Valley wind farms are located on well-defined hills which lie close to Girvan and the coast unlike Hadyard Hill wind farm which is located in a simpler undulating plateau which is partially screened by higher hills on the periphery of these uplands. Replacing the Assel Valley and Tralorg wind farm sites with larger turbines would be likely to significantly exacerbate effects on the setting of Girvan and the coast, views from surrounding roads and settlement and on the character of these more prominent hills.

Increasing the height of turbines within the consented Kirk Hilll wind farm would significantly exacerbate effects on the scale of the *Maybole Foothills* (17d) LCT within which this development is sited and on the sensitive Girvan Valley which is well-settled and accommodates a number of designed landscapes.

There was found to be some scope to increase the height of existing turbines within the Arecleoch and Mark Hill wind farms due to their location within the more extensive *Plateau Moorland with Forestry* (20c) LCT. Larger turbines may incur additional effects on the adjacent lower Stinchar Valley and the Duisk Valley north-west of Barrhill although this could potentially be mitigated through redesign and a

possible reduction in the number of turbines. The Arecleoch wind farm is set further back into this upland area and therefore potentially offers more scope for turbines up to 200m to be accommodated although a significant exacerbation of effects on the highly sensitive Stinchar Valley could occur which may be able to be mitigated through redesign/omission of more prominent turbines lying on the outer edges of the upland area. Cumulative effects with the nearby Glen App, Stranoch, Chirmorrie and Kilgallioch wind farms are likely to form major constraints to repowering with turbines of this height and would need to be carefully considered. The Mark Hill wind farm has a greater visual effect than Arecleoch (principally affecting settlement close to Barrhill in the upper Duisk valley). Increasing turbine heights to around 150m would be more likely to minimise effects on these views.

3.2.3 *Smaller turbines*

The sparsely settled upland landscapes are less likely to be attractive for the development of turbines below 50m. There are currently very few applications for this size of turbine probably due to changes in subsidy payments. The sensitivity assessment concluded that there was scope to accommodate the small-medium typology (turbines 30-50m) within the *South Ayrshire Lowlands* (7d), the *Maybole Foothills* (17d) and the *Coastal Foothills* (17e) although some opportunities may also be present within limited parts of other landscape character types as well. Many of these more settled landscapes have an even dispersal of small farms and other buildings and landscape/visual capacity would be quickly reached if even a small number of these where to feature a turbine of this height with multiple turbines in close proximity likely to overwhelm landscape features.

Turbines <30m would fit more comfortably with the scale of the settled lowlands, farmlands and lower hill slopes of the foothill landscapes within South Ayrshire incurring fewer landscape and visual effects and allowing a greater number of turbines to be accommodated.

3.3 Strategic Landscape Issues

3.3.1 *Introduction*

The sensitivity assessment identifies constraints and opportunities within each landscape character type/area. Although landscape context is considered as one of the key sensitivity criteria, the assessment essentially relates to specific landscapes and any effect on immediately adjacent character types in isolation. It is important to also take into account the experience and appreciation of the landscape of South Ayrshire as a whole and to ‘stand back’ from the individual assessments to consider the wider implications of the judgements made on sensitivity. The following text provides a landscape overview, summarises current issues relating to wind farm and turbine development and also addresses strategic cumulative landscape and visual effects before outlining strategic landscape recommendations.

3.3.2 *The landscape of South Ayrshire*

An extensive band of uplands lies on the southern and eastern boundaries of South Ayrshire. To the south these uplands form a relatively low-lying and gently undulating plateau which extends into Dumfries and Galloway. These uplands are

more diverse in the east in the Carrick Forest area between East and South Ayrshire however, forming higher steep-sided and often craggy hills containing small lochs and narrow valleys. The sparse settlement and the ruggedness of this eastern upland area can instil a strong sense of wildness and it is a popular area for recreation. These uplands form dramatic complex skylines glimpsed from hill tops and distant views across lowland South Ayrshire.

Narrower upland bands contain the main valleys within the southern part of South Ayrshire and these often provide steep backdrops and often rugged skylines to the coast and more settled areas. These include the widely visible Brown Carrick Hills, which are important in providing the setting to Ayr and Culzean, the narrow band of small but rugged hills immediately backing the coast between Girvan and Ballantrae and the bands of hills separated by the Girvan and Stinchar valleys. A number of well-defined hills, usually lying on the fringes of these upland areas, form landmark features and some are also important in providing containment to operational wind farm development.

The South Ayrshire coast extends from Ayr to Glen App and comprises a largely consistent narrow raised beach, interrupted by more dramatic headlands such as the Heads of Ayr. The Brown Carrick Hills and the coastal hills between Girvan and Ballantrae form an integral part of the character of the coast and the wider Firth of Clyde seascape being highly visible both from the sea and the coastal edge. The South Ayrshire coast is enriched by the presence of Culzean Castle and its extensive policies and also includes a section of remoter coast to the south which is backed by the rolling farmland and policies of Glen App.

South Ayrshire features a number of richly diverse river valleys. These include the narrow and deeply incised sinuous valleys of the Ayr and Doon lying within the farmed lowlands of South Ayrshire, the Girvan valley which forms a broad undulating dale in its lower section but is increasingly constricted by steep-sided hills towards its head and the Stinchar and Duisk valleys which lie close to more extensive plateau uplands in the south. All these valleys are well-settled with small enclosed fields, extensive wooded policies, riparian woodlands and a rich architectural heritage evident in small settlements, castles, mansion houses and archaeological features.

3.3.3 *Analysis of the existing pattern of wind farm development*

The operational wind farms of Arecleoch, Kilgallioch and Mark Hill are located within an extensive and sparsely settled upland plateau. These developments have relatively limited effects on adjacent smaller scale valleys and the coast although they form an extensive array of development seen from the upper Duisk valley south-east of Barrhill. The Hadyard Hill wind farm is located in an upland area with a more limited extent and although its location in a shallow basin edged by higher hills reduces landscape and visual effects to some degree, this development is intrusive in the Barr area within the Stinchar valley. The Assel Valley and Tralorg wind farms contrast with the approach to siting adopted by other wind farms in South Ayrshire in that they are located within a group of well-defined and prominent hills near Girvan and the coast. The Glen App wind farm is

more visible from neighbouring Dumfries and Galloway with only blade tips briefly seen from the A77 in South Ayrshire.

The consented wind farm of Kirk Hill will introduce larger turbines to a less extensive and smaller scale upland area in South Ayrshire significantly affecting character and views within the Girvan Valley but also resulting in some visibility from the coast. The consented Chirmorrie wind farm is sited between the operational Kilgallioch and Arecleoch wind farms and as such will be likely to incur minimal increases in landscape and visual effects.

Although locally prominent, the single operational turbine at Girvan Hospital is clearly associated with a larger building on the edge of Girvan which reduces its impact on landscape character. Single large turbines at Dowhill Farm, near Turnberry and near Pinwherry are also locally prominent and appear overly large in relation to their surroundings.

3.3.4 *Current trends and issues related to wind farm/turbine development*

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

- Pressure for wind farms comprising larger turbines within the *Foothills with Forest west of the Doon Valley* (17b), the *Foothills with Forest and Wind Farms* (17c) and the *Coastal Foothills* (17e) which comprise fairly narrow upland bands which lie close to more settled and smaller scale valleys within East Ayrshire and South Ayrshire thus increasing potential for significant landscape and visual impacts to arise.
- Pressure for wind farms closer to the more sensitive outer fringes of the *Plateau Moorlands with Forestry and Wind Farms* (18c) where they would impact more on character and views from the adjacent well-settled valleys of the Duisk and Stinchar and also on the remote Carrick Forest area (the *Rugged Uplands with Lochs and Forest* landscape character type).
- Potential demand for extensions to operational wind farms that could exacerbate intrusion on adjacent more sensitive landscapes and could also affect the design integrity of the original development.
- Potential cumulative landscape and visual impacts between operational, consented and proposed larger wind farms sited in upland areas but also with any single and small groups of turbines of all heights sited in adjacent more settled landscapes.

3.4 Key cumulative issues

The following key cumulative landscape and visual issues have been identified during the course of the study and are likely to additionally limit scope for development in some areas:

- Simultaneous and sequential cumulative visual effects experienced from the designated Tourist Route of the A714 where the large wind farm developments of Arecleoch, Kilgallioch and Mark Hill are already prominent in the more open and elevated sections of this route, south-east of Barrhill.

- Potential cumulative landscape and visual effects on the small-scale well-settled Stinchar Valley where the Mark Hill wind farm is prominent in the Poundland area and where the Hadyard Hill wind farm forms a dominant feature significantly affecting the setting of Barr and impacting on views in this part of the valley.
- Cumulative effects on the setting and on views from popularly accessed hills including Knockdolian, Kildoach Hill, Beneraird and Byne Hill.
- Cumulative effects that could arise on the Girvan Valley if additional wind farm developments were to be located within the *Foothills with Forest west of Doon Valley* (17b), the *Foothills with Forest and Wind Farms* (17c) and the *Maybole Foothills* (17d) affecting containing skylines and potentially being perceived as an encircling and dominant effect.
- Cumulative effects on the character, setting and views to and from the dramatic rugged spine of high granite hills which focus on Merrick and extend northwards into South/East Ayrshire which could occur if further wind farm developments were located in eastern parts of the *Plateau Moorlands with Forest and Wind Farms* (18c) (and similar landscapes within Dumfries and Galloway) and the *Foothills with Forestry and Wind Farms* (17c).
- Multiple developments of smaller turbines within the *South Ayrshire Lowlands* (7d), the lower hill slopes of the *Maybole Foothills* (17d), the *Intimate Pastoral Valleys* (13), the *Lower Dale* (11) and *Middle Dale* (12) which are fairly densely settled with small farms and where cumulative effects could quickly arise if turbines (and particularly turbines of varying sizes and designs) were associated with a number of land holdings.

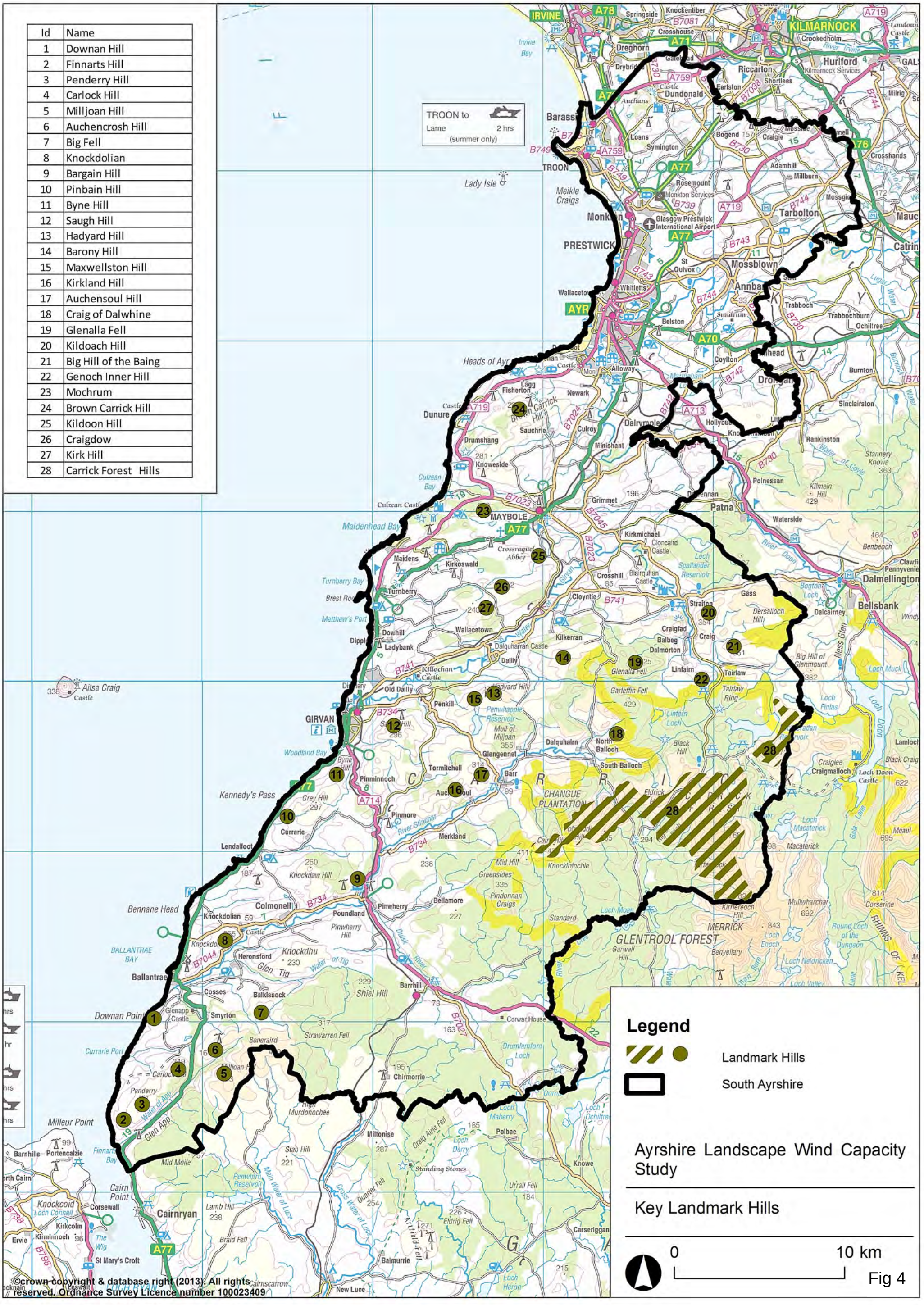
3.5 A recommended landscape strategy

- ***Protect the rugged and highly scenic coast*** which is a key asset of South Ayrshire, featuring dramatic headlands, the extensive wooded policies of Culzean, more remote coastline in the south and breath-taking views over the Firth of Clyde to Arran and Ailsa Craig. Even small turbines could affect the character of the coast and intrude on views. Turbines in adjacent landscapes should also be sited to avoid being visible on containing skylines against the coast.
- Glen App forms the 'threshold' to Scotland experienced from the A77 when leaving the Northern Ireland ferries for many travellers and it is important to conserve the setting of this dramatically contained glen (by avoiding turbines visible on skylines) and the open views which are suddenly revealed across the Firth to Ailsa Craig from this road above the rolling farmland and wooded policies of the Glenapp Estate.
- ***Maintain the rugged scenery and sense of wildness associated with the Carrick Forest area*** by directing wind farm development away from this landscape and ensuring that development sited in surrounding landscapes avoid significant impact on its setting and experiential qualities including its dark skies.
- ***Protect the landmark hills and their setting*** these steep-sided and well-defined hills generally lie on the edge of the more complex foothills and form highly visible backdrops and diverse skylines to the Girvan and Stinchar valleys and the South Ayrshire coast. Wind farm development on

or near these hills would detract from their distinct form and character and would also be visually prominent from these sensitive coasts and valleys. These landmark hills are shown in Figure 4 and their key qualities are described in Annex E.

- ***Protect the richly diverse valleys of the Ayr, Doon, Girvan, Stinchar and lower Duisk*** Larger turbines situated in these valleys would dominate the small scale of these valleys and significantly detract from their richly diverse land cover pattern and built heritage. Turbines sited within adjacent upland landscapes should be set well back into the upland interior (and with thorough consideration of limitations in turbine height) to minimise intrusion on containing skylines and avoid significant cumulative impacts with operational wind farm developments.
- ***Ensure that any further development of larger typologies (turbines >50m) is associated with less sensitive upland landscapes*** where the more extensive scale of these landscapes can better accommodate and provide an appropriate wider setting to large developments. Impacts on adjacent more sensitive smaller scale settled landscapes should be minimised by setting development well back into the upland interior and also considering limitations in the height of turbines. This strategy would consolidate the generally successful established association of larger turbines with a particular landscape character, minimising cumulative impacts that would be likely to occur where different sizes and designs of turbines are sited in all landscapes irrespective of character.
- ***Retain the integrity of some of the more sensitive Foothill landscapes*** by directing larger turbines/wind farm developments away from the *Coastal Foothills* (17e) and the *Maybole Foothills* (17d). There are less sensitive pockets of land within these foothills but these are limited in extent and visual intrusion will increase due to the relative proximity of these landscapes to more densely settled lowlands, valleys and coasts.
- ***Ongoing review of cumulative landscape and visual effects*** will be necessary to ascertain when capacity is close to being reached. This will particularly apply to the upland areas where some scope has been identified for larger typologies.

Id	Name
1	Downan Hill
2	Finnarts Hill
3	Penderry Hill
4	Carlock Hill
5	Milljoan Hill
6	Auchencrosh Hill
7	Big Fell
8	Knockdolian
9	Bargain Hill
10	Pinbain Hill
11	Byne Hill
12	Saugh Hill
13	Hadyard Hill
14	Barony Hill
15	Maxwellston Hill
16	Kirkland Hill
17	Auchensoul Hill
18	Craig of Dalwhine
19	Glenalla Fell
20	Kildoach Hill
21	Big Hill of the Baing
22	Genoch Inner Hill
23	Mochrum
24	Brown Carrick Hill
25	Kildoon Hill
26	Craigdow
27	Kirk Hill
28	Carrick Forest Hills



4 SENSITIVITY ASSESSMENT OF LANDSCAPE CHARACTER TYPES

4.1 Introduction

Sensitivity assessments have been undertaken for 20 landscape character types lying within South Ayrshire. These landscape character types are shown on Figure 3. More detailed maps, showing each landscape character type and their immediate context, are contained within each of the sensitivity assessments. The assessments which follow consider the sensitivity of each landscape character type/area to different wind energy typologies, based on the height of the turbines ***taken to blade tip***.

An introduction to each landscape character area is set out in the sensitivity assessments that follow. This briefly describes the location of the character type/area and outlines operational and consented wind energy developments located both within the subject landscape character type/area and sited in the surrounding area (and clearly visible from the landscape character area being assessed).

A summary of sensitivity is provided with a combined rating given for landscape and visual sensitivity and a separate rating in relation to landscape values. Potential cumulative issues and key constraints and opportunities to development are set out for each landscape character type/area and the sensitivity assessment concludes with recommendations related to the scope of capacity and guidance on the siting of development. Further detail on the method of assessment is included in section 2 and Annex B.

Detailed sensitivity assessment for turbines > 130m high, either as new developments or repowering of existing schemes, has been undertaken for upland landscapes found to have some limited scope for the large typology (turbines 70m+) in the 2013 South Ayrshire Landscape Wind Capacity Study and/or landscape already accommodating operational and consented wind farms. These landscapes are:

- 17b *Foothills with Forest West of Doon Valley*
- 17c *Foothills with Forest and Wind Farms*
- 17d *Maybole Foothills*
- 18c *South Ayrshire Plateau Moorland and Forest*

4.2 How to use the study

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 occurs across adjacent character types/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 therefore recommended that when considering individual proposals, the sensitivity assessments outlined for both the landscape character type/area that the development lies in and immediately adjoining it and any other close-by landscape character types/areas are reviewed as wider

sensitivities may apply. In some instances landscape character types/areas extend into adjacent authorities and these areas also need to be considered.

4.2.1 *Interpreting the sensitivity scores*

Caution is needed in interpreting the sensitivity scores outlined in the above tables as these represent an average across landscape character types. Considerable variation can occur within these landscape and the detailed sensitivity assessments should therefore be read and fully reviewed in terms of specific constraints and opportunities when considering individual development proposals. The assessment identifies constraints in analysis 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 when preparing proposals*.*

Landscapes with a 'High' combined score will present major landscape and visual constraints to the specific development typology assessed, with unavoidable significant adverse impacts occurring across the majority of key sensitivity criteria. A 'High-medium' combined sensitivity indicates a landscape where the constraints are such that there would be likely to be unavoidable significant adverse impacts on some key sensitivity criteria despite other criteria being potentially less sensitive to the development typology or where there is very limited scope for development in a relatively small part of the landscape character type only.

A landscape accorded 'Medium' sensitivity would have increased opportunities for wind farm/turbines, although there would still be some constraints (including any cumulative effects) which would be likely to restrict the geographic scope for development and/or the ability to accommodate multiple developments. 'Medium-low' sensitivity landscapes would have fewer constraints and therefore present greater scope for accommodating multiple developments, although careful siting and design would still be necessary to mitigate effects on more sensitive landscapes or limit visual intrusion in some instances. No landscapes with a low sensitivity to any of the development typologies were identified in the assessment.

The findings on landscape and visual sensitivity set out for each landscape character type are based on the present situation with operational and consented wind farms and turbine development taken into account. As additional wind farm and turbine developments are constructed in future within South Ayrshire and surrounding authorities, sensitivities will be likely to change and periodic monitoring of the cumulative landscape and visual situation is therefore essential.

4.2.2 *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 overly complex to appraise a wide range of turbine typologies in a strategic landscape capacity study. Some flexibility on turbine heights may need to be applied when considering individual applications. Where turbines are slightly above the height threshold of the typologies assessed in this study or proposed within more sensitive landscapes, they should be subject to careful and thorough consideration with the developer being requested to demonstrate how they have

dealt with potential effects on the constraints identified in the sensitivity assessment.

4.2.3 *The need for more detailed appraisal of specific proposals*

The combined sensitivity scores set out in this report 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 consider landscape and visual effects at a more detailed level.

5 CHARACTER TYPE 1C: RAISED BEACH COAST WITH FLAT FIELDS AND HEADLANDS

5.1 Introduction

This section of the report is the landscape sensitivity assessment which has been undertaken for the sub-type *Raised Beach Coast with Flat Fields and Headlands* (1c), which extends along the entire length of the coast between Ayr and Ballantrae, except where it is interrupted by the *Coastal Valley with Policies* (5) and the *Lower Dale* (11).

The detailed assessment considers both larger and smaller development typologies.

5.1.1 *Operational/consented wind farms*

There are very few wind turbines located in this landscape. A small single turbine near Drumshang (south east of Dunure) is sited at the transition with the lower hill slopes of the *Coastal Headlands: Brown Carrick Hills* (4b) and a single turbine, 77m high to blade tip, is located east of Dowhill Farm near Turnberry at the transition between this character type and the adjacent *Maybole Foothills* (17d).

A single operational turbine at Girvan hospital (47.4m to blade tip) is located in the adjacent *Lower Dale* (11) and the operational Tralorg, Hadyard Hill and Assel Valley wind farms are also visible from parts of this landscape character type. The consented Kirk Hill wind farm will also be theoretically visible from this landscape character type in the Turnberry area.

Character Type 1c: Raised Beach Coast with Flat Fields and Headlands – Sensitivity assessment for large and medium typologies

Topic and summary description	Assessment of large typology (70m+)	Assessment of medium typology (50-70m)
Landscape context This landscape forms a narrow coastal margin contained by steep raised beaches. These sometimes form more dramatic, higher cliffs and bluffs, and often merge with the higher hills of the hinterland character types, including the *Carrick Hills* (4b), the *Maybole Foothills* (17d) and the *Coastal Foothills* (17e). Inter-visibility with adjacent character types can be limited by the steep face of the raised beaches, but from the sea and higher elevations, these hinterland landscape types contribute to the setting of the coast and vice versa. This landscape type is very narrow and linear in extent, although it is adjacent to the expanse of the Firth of Clyde.	The landscape type is small in extent, and the size of this typology would be difficult to absorb wholly within the limited extent of this landscape type. Turbines of this size would not be contained and would therefore impact on the character and setting of adjacent landscape types. This height of typology would also impact on the wider setting of the Firth of Clyde as experienced from the sea. ***High sensitivity***	The landscape type is small in extent, and the size of this typology would be difficult to absorb wholly within the limited extent of this landscape type. Turbines of this size would not be contained and would therefore impact on the character and setting of adjacent landscape types. This height of typology would also impact on the wider setting of the Firth of Clyde as experienced from the sea. ***High sensitivity***
Scale Although the sea gives a sense of expansiveness, the enclosure created by the raised beaches and the higher cliffs forms a small scale, contained landscape. The relief of the raised beach is low and it frequently contains a narrow strip of small fields. The less frequent higher cliffs and bluffs rise directly from long stretches of even narrower shingle beach occasionally interrupted by small bays.	This typology would dominate the low relief of the raised beach and the narrowness of the contained coastal margin and would impact on the perceived height and vertical scale of the cliffs and bluffs that form the dramatic headlands. The settlement in this landscape would also provide ready scale references against which this height of turbine could be assessed. ***High sensitivity***	This typology would dominate the low relief of the raised beach and the narrowness of the contained coastal margin and would impact on the perceived height and vertical scale of the cliffs and bluffs that form the dramatic headlands. The settlement in this landscape would also provide ready scale references against which this height of turbine could be assessed. ***High sensitivity***
Landform The raised beaches form an abrupt upper edge. These raised beaches enclose a narrow strip of flat, fertile fields with occasional rocky out crops. The cliffs and higher headlands of terraced,	The simple landform of the flat fields and the gently undulating landforms is less sensitive to this typology, but the profile of the raised beaches and more complex topography of the headlands and shattered cliff faces increases	The simple landform of the flat fields and the gently undulating landforms is less sensitive to this typology, but the profile of the raised beaches and more complex topography of the headlands and shattered cliff faces increases sensitivity to this

slumped raised beach are more complex, with fragmented rocky shorelines and narrow shingle bays backed by elevated, gently sloping fields and rolling landform.	sensitivity to this typology. ***High-medium sensitivity***	typology. ***High-medium sensitivity***
Landscape pattern Mixed vegetables, potatoes and small pastures are found on the narrow strip of fertile flat fields. The raised beaches and cliffs are covered with unimproved grassland, whin and, especially where there are sheltered inlets, occasional scrubby woodland.	The general simplicity of the landscape pattern is not sensitive to this type of development. ***Low sensitivity***	The general simplicity of the landscape pattern is not sensitive to this type of development. ***Low sensitivity***
Built environment Buildings are nearly all associated with the long stretches of narrow coastal plain, with settlements located with river mouths. And houses and farms tucked against the raised beach. There are occasional larger buildings and works, as well as some caravan parks and golf courses along this coast. There are a number of archaeological or cultural features along this coast, several of which are perched on top of, or associated with, the raised beach. Specific sites include Sawney Bean's cave, Ardmillan Castle and Carleton Castle at Lendalfoot.	This typology would dominate the setting of buildings set along the narrow coastal strip and would overlook the setting of settlement tucked against the raised beaches. Many of the buildings are small in size and would be easily overwhelmed in scale by this size of typology. The setting of landmark buildings and archaeological features would also be highly sensitive to this typology.	This typology would dominate the setting of buildings set along the narrow coastal strip and would overlook the setting of settlement tucked against the raised beaches. Many of the buildings are small in size and would be easily overwhelmed in scale by this size of typology. The setting of landmark buildings and archaeological features would also be highly sensitive to this typology.
Perceptual qualities A strong sense of seclusion and drama can be found on the coastlines dominated by less accessible cliffs and headlands, especially at the Heads of Ayr and Bennane Head, where the rugged rocky coastline and semi-natural vegetation reinforce the sense of naturalness.	Turbines of this size would intrude on the sense of seclusion and naturalness experienced along the less accessible headlands and cliffs, but elsewhere the sense of naturalness is limited and the coastline is less dramatic. ***High-medium sensitivity***	Turbines of this size would intrude on the sense of seclusion and naturalness experienced along the less accessible headlands and cliffs, but elsewhere the sense of naturalness is limited and the coastline is less dramatic. ***High-medium sensitivity***
Visual amenity The abrupt upper edge of the raised beach creates a very prominent skyline when viewed	This size of turbine would be highly visible from roads, settlement, recreational areas such as key beaches and the Ayrshire Coastal Path, as	This size of turbine would be highly visible from roads, settlement and recreational areas within this character type where it would form a dominant

from much of the coastal road. The Heads of Ayr and Bennane Head are highly visible prominent landmark features when looking along the coast and from the sea, while views to Ailsa Craig are a characteristic of this coast. The Ayrshire Coastal Path extends along much of this coastline, as does the A77. Additional viewpoints include views from the sea, especially the boat trip to and from Ailsa Craig from Girvan and from stretches of accessible sandy beach, such as at Turnberry.	well as from the sea, within this character type where it would form a dominant feature and detract from key views and visual foci. ***High sensitivity***	feature and detract from key views and visual foci. ***High sensitivity***
Cumulative effects The raised beach edge tends to restrict views of operational wind turbines from much of this LCT although there are views of wind farms located in the hinterland from more open coastal areas. A single 77m high wind turbine is locally intrusive in the Turnberry area.	While cumulative effects would occur in association with consented developments in the Turnberry and Girvan areas, potentially affecting views from the A77, other sections of coast would not be affected. ***Medium-low sensitivity***	While cumulative effects could occur in association with consented developments in the Turnberry and Girvan areas, potentially affecting views from the A77, other sections of coast would not be affected. ***Medium-low sensitivity***

Character Type 1c: Raised Beach with Flat Fields and Headlands – Sensitivity assessment for small-medium and small typologies

Topic and summary description	Assessment of small-medium typology (30m-50m)	Assessment of small typology (15m-30m)
Landscape context This landscape forms a narrow coastal margin contained by steep raised beaches. These sometimes form more dramatic, higher cliffs and bluffs, and often merge with the higher hills of the hinterland character types, including the Carrick Hills (4b), the Maybole Foothills (17d) and the Coastal Foothills (17e). Inter-visibility with adjacent character types can be limited by the steep face of the raised beaches, but from the sea and higher elevations, these hinterland landscape types contribute to the setting of the coast and vice versa. This landscape type is very narrow and linear in extent, although it is adjacent to the expanse of the Firth of Clyde.	The landscape type is small in extent, and the size of this typology (especially the taller turbines) could be difficult to absorb wholly within the limited extent of this landscape type. The larger size of this typology could also impact on the wider setting of the Firth of Clyde as experienced from the sea, especially if located on prominent skylines. However, there may be some very limited opportunities to site turbines of this size to avoid sustained significant impact on adjacent character types. ***High-medium sensitivity***	The landscape type is small in extent, but the smaller size of these turbines would have less of an effect on the character of adjoining landscape types. This size of typology may have a modest impact on the wider setting of the Firth of Clyde as experienced from the sea, especially if located on prominent skylines. ***Medium sensitivity***
Scale Although the sea gives a sense of expansiveness, the enclosure created by the raised beaches and the higher cliffs forms a small scale, contained landscape. The relief of the raised beach is low and it frequently contains a narrow strip of small fields. The less frequent higher cliffs and bluffs rise directly from long stretches of even narrower shingle beach occasionally interrupted by small bays.	This typology would dominate the low relief of the raised beach and the narrowness of the contained coastal margin and would impact on the perceived height and vertical scale of the cliffs and bluffs that form the dramatic headlands. The settlement in this landscape would also provide ready scale references against which this height of turbine could be assessed. ***High sensitivity***	Even this small typology could dominate the low relief of the raised beaches. It could also impact on the perceived height and vertical scale of the cliffs and bluffs that form dramatic headlands along this coast. The transition with the larger scale rolling hinterland or adjacent lower hill slopes offers limited opportunity for this typology. ***High-medium sensitivity***
Landform The raised beaches form an abrupt upper edge. These raised beaches enclose a narrow strip of flat, fertile fields with occasional rocky out crops.	The simple landform of the flat fields and the gently undulating landforms is less sensitive to this typology, but the profile of the raised beaches and complex topography of the headlands and shattered cliff faces	The profile of the raised beaches and the complex topography of the headlands and shattered cliff faces could be sensitive even to this small typology.

The cliffs and higher headlands of terraced, slumped raised beach are more complex, with fragmented rocky shorelines and narrow shingle bays backed by elevated, gently sloping fields and rolling landform.	increases sensitivity to this typology. ***High-medium sensitivity***	However, there may be scope to associate this size of typology with the larger, wider stretches of flat coastal plain. ***Medium sensitivity***
Landscape pattern Mixed vegetables, potatoes and small pastures are found on the narrow strip of fertile flat fields. The raised beaches and cliffs are covered with unimproved grassland, whin and, especially where there are sheltered inlets, occasional scrubby woodland.	The general simplicity of the landscape pattern is not sensitive to this type of development. ***Low sensitivity***	The general simplicity of the landscape pattern is not sensitive to this type of development. ***Low sensitivity***
Built environment Buildings are nearly all associated with the long stretches of narrow coastal plain, with settlements located with river mouths. And houses and farms tucked against the raised beach. There are occasional larger buildings and works, as well as some caravan parks and golf courses along this coast. There are a number of archaeological or cultural features along this coast, several of which are perched on top of, or associated with, the raised beach. Specific sites include Sawney Bean's cave, Ardmillan Castle and Carleton Castle at Lendalfoot.	This typology would dominate the setting of buildings set along the narrow coastal strip and would overlook the setting of settlement tucked against the raised beaches. Many of the buildings are small in size and would be easily overwhelmed in scale by this size of typology. The setting of landmark buildings and archaeological features would also be highly sensitive to this typology. ***High-medium sensitivity***	This typology could dominate the setting of buildings set along the narrow coastal strip and could overlook the setting of settlement tucked against the raised beaches if sited on containing skylines. The setting of landmark buildings and archaeological features would also be highly sensitive to this typology. Nevertheless, due to the smaller height of this typology, there is likely to be more scope to site these turbines to avoid impacts on setting. ***Medium sensitivity***
Perceptual qualities A strong sense of seclusion and drama can be found on the coastlines dominated by less accessible cliffs and headlands, especially at the Heads of Ayr and Bennane Head, where the rugged rocky coastline and semi-natural vegetation reinforce the sense of naturalness.	Turbines of this size would intrude on the sense of seclusion and naturalness experienced along the less accessible headlands and cliffs, but elsewhere the sense of naturalness is limited and the coastline is less dramatic. There is scope for this typology to be sited away from the more secluded stretches of coastline. ***Medium sensitivity***	Turbines of this size would intrude on the sense of seclusion and naturalness experienced along the less accessible headlands and cliffs, but elsewhere the sense of naturalness is limited and the coastline is less dramatic. There is scope for these smaller turbines to be sited away from the more secluded stretches of coastline. ***Medium-low sensitivity***

Visual amenity The abrupt upper edge of the raised beach creates a very prominent skyline when viewed from much of the coastal road. The Heads of Ayr and Bennane Head are highly visible prominent landmark features when looking along the coast and from the sea, while views to Ailsa Craig are a characteristic of this coast. The Ayrshire Coastal Path extends along much of this coastline, as does the A77. Additional viewpoints include views from the sea, especially the boat trip to and from Ailsa Craig, and from stretches of accessible sandy beach, such as at Turnberry.	This size of turbine would be highly visible from roads, settlement, recreational areas such as key beaches and the Ayrshire Coastal Path, as well as from the sea, within this character type from where it would form a dominant feature and detract from key views and visual foci. ***High sensitivity***	Even turbines of this size could be visually intrusive as seen from from roads, settlement, recreational areas such as key beaches and the Ayrshire Coastal Path, from where it would form a dominant feature and detract from key views and visual foci. However, the smaller typology will limit the degree and extent of visual impact within areas of more varied landform. ***High-medium sensitivity***
Cumulative effects The operational 77m high turbine at Dowhill is visible between Turnberry Point and Girvan but with no visibility from other sections of this character type.	While cumulative effects would occur in association with consented developments in the Turnberry and Girvan areas, potentially affecting views from the A77, other sections of coast would not be affected. ***Medium-low sensitivity***	These smaller turbines would have fewer cumulative effects although they should not be sited close to existing larger turbines. ***Low sensitivity***

5.2 Summary of sensitivity

The *Raised Beach Coast with Flat Fields and Headlands* (1c) alternates between small, cultivated fields enclosed by the steep faces of raised beaches and more rugged, less accessible cliffs and headlands. It is linear and limited in extent. While the fertile and farmed flat coastal plain is the focus for development, including small settlements, golf courses and a busy A class road, the headlands and cliffs are more secluded, with rocky fragmented shorelines battered by the sea. This character type is characterised by the small scale of the landscape, reinforced by the low relief and the enclosure created by the raised beaches. However, the higher cliffs and headlands appear higher than they are, and the sense of vertical scale is a key sensitivity which also creates a sense of visual drama. There are small settlements and buildings on the coastal plain, often tucked against the raised beaches and sometimes close to accessible, sandy beaches. There are a number of archaeological features associated with the higher ground. The profiles of the raised beaches and the headlands, often seen against the sky or standing out as an interim skyline against higher land, are very prominent. They can be viewed from both land and sea, with views from the road and the Ayrshire Coastal Path as well as settlements and accessible shorelines.

The narrowness and limited extent of this character type, the small scale of the landform, the relatively low relief and the sense of enclosure which further reduces scale of the landscape, the well settled stretches of coast and the contrasting secluded and often dramatic headlands as well as the high visibility of this coast all combine to increase sensitivity to turbine developments. There would be a ***High*** sensitivity to the large, medium and the small-medium typology (turbines above 30m high). Sensitivity to the small typology (turbines 15m-30m) would be ***High-medium***.

5.2.1 *Potential cumulative issues*

Potential cumulative effects with the single wind turbine at Girvan hospital could occur, especially terms of sequential visibility when travelling along the coast. Any development of larger typologies in the *Lower Dale* (11), the *Maybole Foothills* (17d) and the *Coastal Foothills* (17e) character types should be clearly set back within these character types, to limit cumulative visual sequential effects on views from the A77.

5.2.2 *Constraints*

- The narrowness and limited extent of this character type which limits scope for larger and multiple turbine developments to be physically accommodated without impinging on neighbouring landscape character types
- The small scale and enclosure of this character type, reinforced by the containment provided by the raised beaches.
- The low relief and the dramatic verticality of the raised beaches, cliffs and headlands, all of which are very sensitive to any development which reduces the perceived height and the drama of the vertical scale.
- The abrupt profile of the raised beaches, with their pronounced skylines and the more complex landform of the headlands

- The sense of seclusion along the less accessible stretches of coast at the Heads of Ayr and Bennane Head
- The small scale of some of the buildings – for example the houses at Lendalfoot – and the setting of settlements, which is associated with dips in the raised beach where rivers flow into the sea. The sensitivity of setting of some buildings is reinforced if they are tucked against the raised beach, making the skyline even more sensitive to development
- The visual prominence of the skyline of the raised beaches and the rounded mass of the Heads of Ayr and Bennane Head, when viewed both from along the coast and from the sea
- The lack of development between the road and the coast, which often allows uninterrupted views of the sea and Ailsa Craig.
- The attraction of the south Ayrshire coast for recreation, increasing sensitivity to turbines which could be seen from roads, golf courses, sandy stretches of beach and the Ayrshire Coastal Path, and which would impinge on key views to Ailsa Craig.
- Views form the sea, especially from recreational boats which come and go from Girvan, including day trips to Ailsa Craig.
- The setting of archaeological features and castles

5.2.3 *Opportunities*

- There are very limited opportunities for the small typology to be accommodated within this character type only.
- The occasional stretches of more undulating landform on the landward side of the coast road where development could be sited away from the prominent skyline of the raised beaches and associated clearly with the lower slopes of adjacent higher hill character types

5.3 Guidance for development

There is ***very limited*** scope for occasional, single turbines of the small typology only (turbines 15-30m high). The key sensitivities for this typology are potential impacts on the perceived height of the vertical scale of the raised beaches and steep headlands and the visual impacts of turbines 'perched' on higher ridges and skylines. Therefore no opportunities were identified in this assessment for even this height of turbine on the raised beaches and more complex landforms or along the prominent skylines of the headlands.

Opportunities are limited to the hinterland areas which merge with higher land, along the lower fringes of the *Maybole Foothills* (17d) and the *Coastal Foothills* (17e) and the lower hill slopes of the Brown Carrick Hills, on the landward side of the A77. Even here, scale may be a sensitivity and the size of turbines could be a constraint, with a preference for the smaller turbines towards the lower height band of this typology.

Small turbines below 15m high could also be accommodated but should be sited where they can be clearly associated with existing built development to minimise visual clutter. Detailed siting and design should accord with the guidance set out in Annex F.

Long stretches of this coast are backed by a narrow strip of fertile coastal plain, on which there are small fields used for grazing and growing vegetables

The raised beach forms an abrupt edge to the flat coastal plain. It Is not very high, therefore has low relief, and it forms a prominent skyline.

Looking along the coast towards the Heads of Ayr, the dramatic verticality of the headlands is apparent.

There are views of Ailsa Craig and the island of Arran from this coast, which in clear light can appear remarkably close to Ayrshire.

The more rugged headland of Bennane Head, where the forces of the sea create a natural coastline, which is also the location of the alleged cannibal clan, led by Sawney Bean

An overview of this coast, with the raised beaches picked out in shadow behind the flat pastures. The hinterland is dominated by landmark hills.

6 CHARACTER TYPE 1D: RAISED BEACH COAST WITH ROCKY SHORE

6.1 Introduction

This section of the report is the landscape sensitivity assessment which has been undertaken for the sub-type *Raised Beach Coast with Rocky Shore* (1d), which extends south of Ballantrae to Finnarts Bay and Glen App.

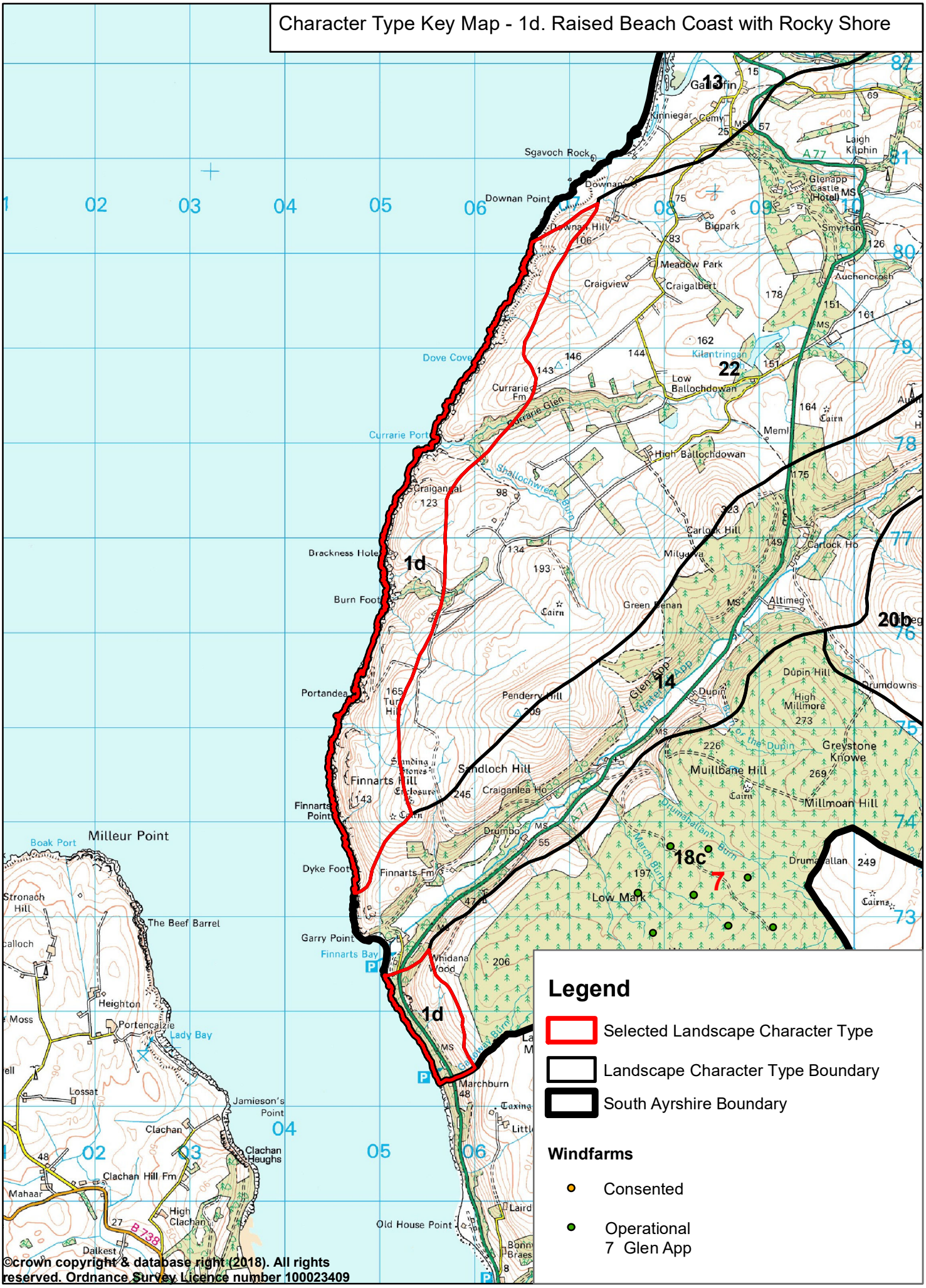
The detailed assessment considers both larger and smaller development typologies.

6.1.1 *Operational/consented wind farms*

No operational or consented wind turbines are located in this character type.

No operational wind farm and turbine developments located in other landscape character types within Ayrshire and neighbouring Dumfries and Galloway are visible from this character type.

Character Type Key Map - 1d. Raised Beach Coast with Rocky Shore



Legend

- Selected Landscape Character Type
- Landscape Character Type Boundary
- South Ayrshire Boundary

Windfarms

- Consented
- Operational
  7 Glen App

Character Type 1d: Raised Beach Coast with Rocky Shore – Sensitivity assessment for large and medium typologies

Topic and summary description	Assessment of large typology (70m+)	Assessment of medium typology (50-70m)
Landscape context This landscape forms a narrow coastal margin contained by cliffs and bluffs rising to higher cliffs and rounded headlands. It backs onto the Glenapp Coastal Farmland and Policies (22) character type. Inter-visibility with this adjacent character type is limited by the steep face of the cliffs, although there is a gradual merging where farmland extends across the boundary between these LCTs. This landscape type is very narrow and linear in extent, although it is adjacent to the expanse of the Firth of Clyde and is strongly influenced by the sea.	The landscape type is small in extent, and the size of this typology would be difficult to absorb wholly within the limited extent of this landscape type. Turbines of this size would not be contained and would therefore impact on the character and setting of adjacent landscape types. In this location, this size of typology would also impact on the wider setting of the firth of Clyde as experienced from the sea. ***High sensitivity***	The landscape type is small in extent, and the size of this typology would be difficult to absorb wholly within the limited extent of this landscape type. Turbines of this size would not be contained and would therefore impact on the character and setting of adjacent landscape types. In this location, this size of typology would also impact on the wider setting of the firth of Clyde as experienced from the sea. ***High sensitivity***
Scale The sea gives a sense of vast expansiveness, but the perceived vertical scale of the precipitous seaward slopes is dramatic. On the landward side, the landform becomes more gently undulating and perceived relief is consequently lower. Complexity of landform, for example at the mouths of valleys, further reduces scale and the long stretches of narrow shingle beach are occasionally interrupted by small bays.	This typology would impact significantly on the perceived height and vertical scale of the cliffs and bluffs along this coast. This typology would also dominate the low relief of the landform inland, especially when seen in conjunction with the shallow valleys. ***High sensitivity***	This typology would impact significantly on the perceived height and vertical scale of the cliffs and bluffs along this coast. This typology would also dominate the low relief of the landform inland, especially when seen in conjunction with the shallow valleys. ***High sensitivity***
Landform While strongly characterised by the steep seaward slopes, which include crumbling raised beaches, high hill slopes and more rounded bluffs, the landform becomes more gently	The drama of the steep, seaward slopes and the profile of the upper edge as viewed from the sea and along the coast are sensitive to this typology, as are the settings of the landmark hills. The simpler, more gently undulating topography on	The drama of the steep, seaward slopes and the profile of the upper edge as viewed from the sea and along the coast are sensitive to this typology, as are the settings of the landmark hills. The simpler, more gently undulating topography

undulating on the landward side. There are also areas of more complex, smaller scale landform associated with river valleys and slumped raised beaches. Downan Hill and Finnart Hill are prominent landmark hills.	the landward side of this landscape type is less sensitive. ***High-medium sensitivity***	on the landward side of this landscape type is less sensitive. ***High-medium sensitivity***
Landscape pattern Most of this landscape is uncultivated rough grassland, heath and scrubby whin, with a transition to farmed land along its landward edge.	The general simplicity of the landscape pattern is not sensitive to this type of development. ***Low sensitivity***	The general simplicity of the landscape pattern is not sensitive to this type of development. ***Low sensitivity***
Built environment There are very few buildings along this coast, with only the occasional farm sheltered in the lee of higher ridges at the land ward side of this character type. The conical, prominent Downan Hill contributes to the setting of Ballantrae.	If sited close to the farm buildings, this typology would dominate their setting, but there is scope to site turbines where they would have less impact on setting and scale of buildings. Downan Hill is nevertheless, very sensitive in relation to the setting of Ballantrae. ***Medium-low sensitivity***	If sited close to the farm buildings, this typology would dominate their setting, but there is scope to site it where it has less impact on setting and scale of buildings. Downan Hill is nevertheless, very sensitive in relation to the setting of Ballantrae. ***Medium-low sensitivity***
Perceptual qualities A strong sense of remoteness can be found on these less accessible cliffs and headlands, reinforced by the influence of the power and natural forces associated with the sea. This elemental quality is reinforced by the rugged rocky coastline and semi-natural vegetation.	This typology would have a significant impact on the experience of remoteness along this stretch of coast. ***High sensitivity***	This typology would have a significant impact on the experience of remoteness along this stretch of coast. ***High sensitivity***
Visual amenity The upper edge of the cliffs and bluffs creates a prominent skyline when viewed from the sea, or when looking along the coast from elevated access routes. The lack of accessibility reduces the number of viewpoints, but the Ayrshire Coastal Path extends along much of this coast, often elevated allowing long views of the coast. Downam Hill is a visual focus. There are also key views from the ferry from	This size of turbine would be visible from the Ayrshire Coastal Path for a prolonged period, as well as from the sea, within this character type where it would form a dominant feature and detract from key views and visual foci, including towards Downan Hill ***High-medium sensitivity***	This size of turbine would be visible from the Ayrshire Coastal Path, as well as from the sea, within this character type where it would form a dominant feature and detract from key views and visual foci, including towards Downan Hill. Smaller turbines in this typology may be less widely visible for less prolonged periods. ***Medium sensitivity***

Northern Ireland, which arrives in Scotland at Cairn Ryan, passing close to Finnarts Hill.		
Cumulative effects There are no existing turbines which would result in cumulative effects with new development.	There are no existing turbines which would result in cumulative effects with new development. ***Low sensitivity***	There are no existing turbines which would result in cumulative effects with new development. ***Low sensitivity***

Character Type 1d: Raised Beach Coast with Rocky Shore – Sensitivity assessment for small-medium and small typologies

Topic and summary description	Assessment of small-medium typology (30m-50m)	Assessment of small typology (15m-30m)
Landscape context This landscape forms a narrow coastal margin contained by cliffs and bluffs rising to higher cliffs and rounded headlands. It backs onto the Glenapp Coastal Farmland and Policies (22) character type. Inter-visibility with this adjacent character type is limited by the steep face of the cliffs, although there is a gradual merging where farmland extends across the boundary between these LCTs. This landscape type is very narrow and linear in extent, although it is adjacent to the expanse of the Firth of Clyde and is strongly influenced by the sea.	The landscape type is small in extent, and the size of this typology would be difficult to absorb wholly within the limited extent of this landscape type. Turbines of this size would be difficult to contain and would therefore impact on the character and setting of adjacent landscape types, although careful siting could limit significant impact on adjacent character types. In this location, the larger sizes of this typology could also impact on experience from the sea, especially if located on prominent skylines. ***High-medium sensitivity***	The landscape type is small in extent, but the smaller size of these turbines would have less of an effect on the character of adjoining landscape types and careful siting would limit significant impact. In this location, this size of typology may have some modest impact on experience from the sea, especially if located on prominent skylines. ***Medium sensitivity***
Scale The sea gives a sense of vast expansiveness, but the perceived vertical scale of the precipitous seaward slopes is dramatic. On the landward side, the landform becomes more gently undulating and perceived relief is consequently lower. Complexity of landform, for example at the mouths of valleys, further reduces scale and the long stretches of narrow shingle beach are occasionally interrupted by small bays.	This typology would impact significantly on the perceived height and vertical scale of the cliffs and bluffs along this coast. This typology, especially the taller turbines, would also impact on the low relief of the inland landform, especially when seen in conjunction with the shallow valleys. ***High sensitivity***	Even this small height typology could impact significantly on the perceived height of cliffs and bluffs along this coast, although turbines could be set well inland from the more dramatic vertical cliffs and associated with the undulating hinterland will have less of an impact. ***High-medium sensitivity***
Landform While strongly characterised by the steep seaward slopes, which include crumbling raised beaches, high hill slopes and more rounded bluffs, the landform becomes more gently undulating on the landward side. There are also areas of more complex, smaller	The drama of the steep, seaward slopes and the profile of the upper edge as viewed from the sea and along the coast are sensitive to this typology, as are the settings of the landmark hills. The simpler, more gently undulating topography on the landward side of this landscape type is less sensitive.	The drama of the steep, seaward slopes and the profile of the upper edge as viewed from the sea and along the coast are sensitive to this typology, as are the settings of the landmark hills. The simpler more gently undulating topography on the landward side of this landscape type is less sensitive, and there is likely to be increased scope to

scale landform associated with river valleys and slumped raised beaches. Downan Hill and Finnart Hill are prominent landmark hills.	***High-medium sensitivity***	site this height of turbine where it is associated only with this landform. ***Medium sensitivity***
Landscape pattern Most of this landscape is uncultivated rough grassland, heath and scrubby whin, with a transition to farmed land along its landward edge.	The general simplicity of the landscape pattern is not sensitive to this type of development. ***Low sensitivity***	The general simplicity of the landscape pattern is not sensitive to this type of development. ***Low sensitivity***
Built environment There are very few buildings along this coast, with only the occasional farm sheltered in the lee of higher ridges at the land ward side of this character type. The conical, prominent Downan Hill contributes to the setting of Ballantrae.	If sited close to the farm buildings, this typology would dominate their setting, but there is scope to site it where it has less impact on setting and scale of buildings. Downan Hill is nevertheless very sensitive in relation to the setting of Ballantrae. ***Low sensitivity***	This height of turbine, especially the smaller sizes, could be sited to have a relationship with larger sheds, and there is also scope to site it where it has less impact on setting and scale of buildings. Downan Hill is nevertheless very sensitive in relation to the setting of Ballantrae. ***Low sensitivity***
Perceptual qualities A strong sense of remoteness can be found on these less accessible cliffs and headlands, reinforced by the influence of the power and natural forces associated with the sea. This elemental quality is reinforced by the rugged rocky coastline and semi-natural vegetation.	This typology could have a significant impact on the experience of remoteness along this stretch of coast, although there may be very limited scope for it to be located well into the hinterland where impacts could be reduced. ***High sensitivity***	Turbines of this size could be sited where they are strongly associated with the farms and the more cultivated farmland to the eastern, landward side of this type and therefore may have more limited impact on the experience of remote coast. The remaining less accessible coast is still sensitive, even to this height of turbine. ***High-medium sensitivity***
Visual amenity The upper edge of the cliffs and bluffs creates a prominent skyline when viewed from the sea, or when looking along the coast from elevated access routes. The lack of accessibility reduces the number of viewpoints, but the Ayrshire Coastal Path extends along much of this coast, often elevated allowing long views of the coast. Downam Hill is a visual focus. There are also key views from the ferry from Northern Ireland, which arrives in Scotland at Cairn Ryan, passing close to Finnarts Hill.	This size of turbine would be seen from the Ayrshire Coastal Path, as well as from the sea, within this character type where it would form a highly visible feature especially if located on the tops of hills, ridges and prominent skylines. Smaller turbines towards the lower height band of this typology would be less widely visible. ***Medium sensitivity***	Even turbines of this size would be seen from the Ayrshire Coastal Path, as well as from the sea, within this character type where it would form a highly visible feature especially if located on the tops of hills, ridges and prominent skylines. However, overall, the smaller typology will limit the degree and extent of visual impact, especially within areas of more varied landform. ***Medium-low sensitivity***

Cumulative effects There are no existing turbines which would result in cumulative effects with new development.	There are no existing turbines which would result in cumulative effects with new development. ***Low sensitivity***	There are no existing turbines which would result in cumulative effects with new development. ***Low sensitivity***

6.2 Summary of sensitivity

The *Raised Beach with Rocky Shore* character type (1d) is the most remote stretch of coastline in mainland Ayrshire. Its precipitous slopes rise to slumped cliffs and rounded bluffs, as well as the pronounced landmark summits of Downan Hill and Finnarts Hill. The dramatic sense of height along the coast is partly a perception created by the lack of features against which the actual height can be gauged. Inland, this type merges with the undulating landform and farmland of the *Glenapp Coastal Farmland and Policies* (22) character type. The sense of remoteness is emphasised by the natural processes and elemental quality of the sea, which batters the rocky shoreline, as well as its lack of accessibility. The coast is most easily reached from land by the Ayrshire Coastal Path. The vegetation immediately adjacent to the coast is rough grazing with occasional scrub, although cultivated grassland fields extend to the tops of the steep slopes where the terrain is more undulating. Settlement is very sparse, with occasional farms accessed by long farm roads along the landward side of this type. The northern stretch of this coast is highly visible from Ballantrae, where Downan Hill forms part of the wider settlement setting. This coast is also visible from the sea, especially from the ferry link from Northern Ireland, which arrives at Cairn Ryan.

The narrowness and limited extent of this character type, the remote and dramatic coastal experience, the perceived height of the cliffs and headlands and the presence of the landmark hills combines to increase sensitivity to turbine developments. There would be a ***High*** sensitivity to the large, medium and the small-medium typology (turbines above 30m high). Sensitivity to the small typology (turbines 15m-30m) would be ***High-medium.***

6.2.1 *Potential cumulative issues*

Potential cumulative effects could occur with any development located in this character type and any developments located within the neighbouring *Glenapp Coastal Farmland and Policies* (22). There could also be cumulative effects experienced from hill tops in this character type and the wider surrounding area (for example from Knockdolian or Beneraird Hills which are popularly accessed by walkers) where the large scale operational Arecleoch wind farm is visible in close proximity and where further large-scale wind farm development may be sited in the *Plateau Moorland with Forestry and Wind Farms* (18c) character type. Views to the coast and Firth of Clyde form the key focus of views from these hills.

6.2.2 *Constraints*

- The narrowness and limited extent of this character type restricts scope for larger and multiple turbine developments to be physically accommodated without impinging on neighbouring landscape character types
- The dramatic verticality of the precipitous slopes, cliffs and headlands, all of which are very sensitive to any development which reduces the perceived height and the drama of the vertical scale.
- The sense of remoteness, which is emphasised by the perceived naturalness of the area, the integrity of the long length of undeveloped coast and the sense of exposure and relative wildness of the sea.

- The pronounced skylines formed along the top of the steep slopes and headlands, especially where these are seen against the sky when viewed both from along the coast and from the sea
- The landmark hills of Downan Hill and Finnarts Hill and the contribution made by Downan Hill to the setting of Ballantrae.
- The sense of arrival to Cairn Ryan and Scotland from the Northern Ireland ferry, which passes close to the southern section of this coast.
- Views from this most remote stretch of the Ayrshire Coastal Path
- The setting of archaeological features and castles

6.2.3 *Opportunities*

- There are very limited opportunities for the small typology to be accommodated within this character type only.
- The more undulating landform on the landward side of this LCT, where development could be sited away from the remote stretches of coast and the prominent skylines and where turbines can be strongly associated with undulating landform and with the farmed interior.

6.3 Guidance for development

There is ***very limited*** scope for occasional, single turbines of the small typology (turbines 15-30m high) only. The key sensitivities for this typology are potential impacts on the sense of remoteness, on the perceived height of the vertical scale of the seaward slopes and the visual impacts of turbines 'perched' on higher ridges, land mark hills and skylines. Therefore no opportunities were identified in this assessment for even this height of turbine along the immediate coastal edge, more secluded coasts and the upper slopes of more prominent landmark hills. Opportunities are limited to the hinterland areas which merge with the landward, inland undulating farmland and more simple unimproved grassland areas associated with the *Coastal Rolling Farmland and Policies* (22).

Small turbines below 15m high could also be accommodated but should be sited only where they can be clearly associated with existing built development to minimise visual clutter. Even this size of turbine should be resisted in areas of remote character and along prominent skylines.

Turbines should not be sited on the top of cliffs, knolls, ridges, promontories or above abrupt steep slopes where they would be likely to be more prominent. They should also take into account the setting of landmark hills. Detailed siting and design should accord with the guidance set out in section 24 of this report.

Steep slopes, with moorland and upland grasses, drop down to the sea from high prominent summits at Finnan Head

The steep slopes which characterise this raised beach coast back onto elevated pasture and farmland where valleys meet the sea

The abrupt skyline at the top of the steep seaward slopes is evident in this photograph, as well as the view to Ailsa Craig

From Ballantrae, the clear and prominent summit of Downan Hill is a landmark feature along this stretch of coast.

7 CHARACTER TYPE 2B: COASTAL EDGE

7.1 Introduction

The *Coastal Edge* character type occurs intermittently between Saltcoats to Ayr, its continuity broken by the settlements of Irvine, Troon and Prestwick. The detailed assessment considers both larger and smaller development typologies within the whole of this landscape character type (which extends into North Ayrshire).

7.1.1 *Operational/consented wind farms*

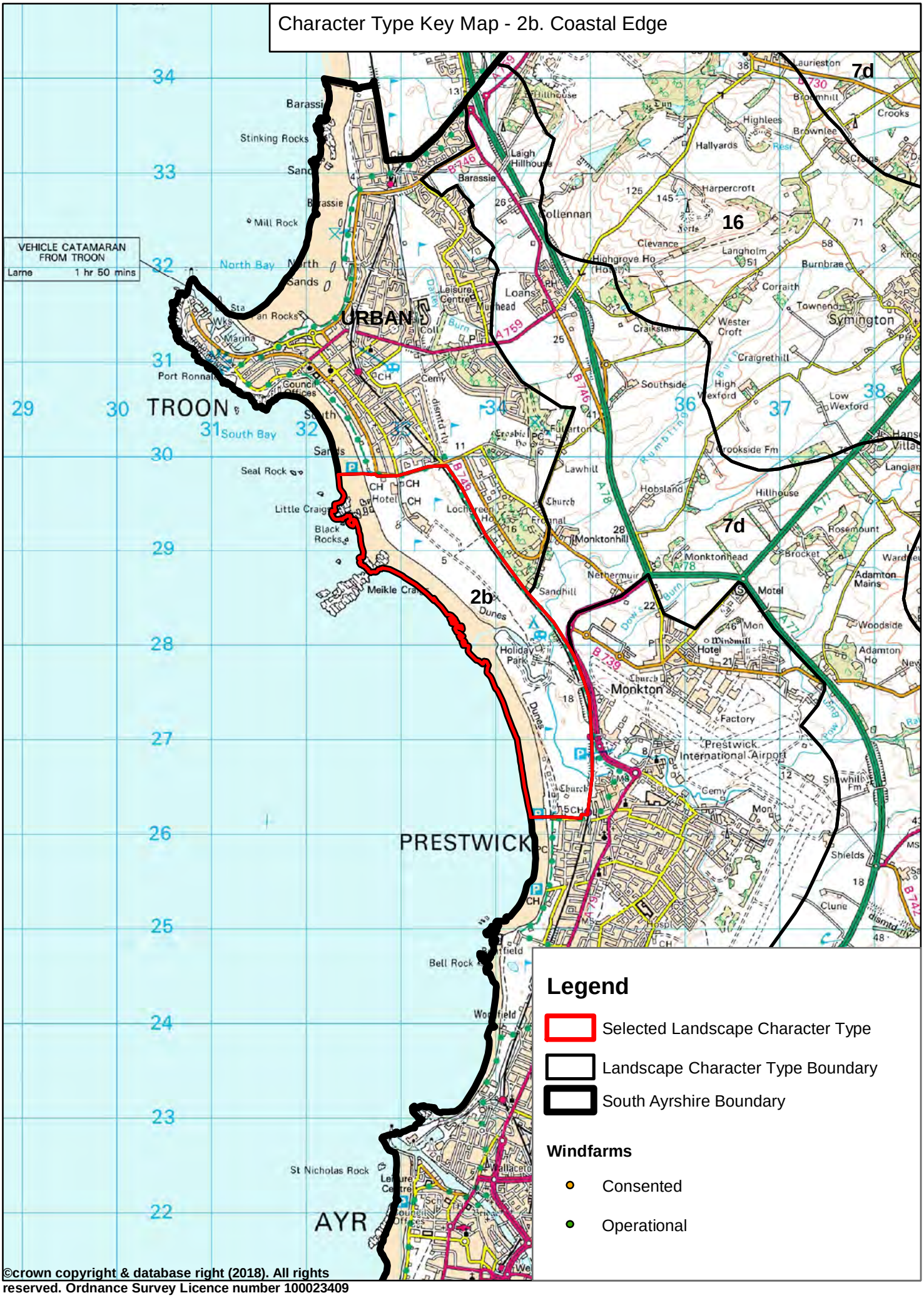
There are no operational or consented turbines in this character type.

Two operational turbines (110m high) are located at the Glaxo Smith Kline industrial plant within the *Coastal Lowlands with Industry* (2a) and would lie approximately 2km at the nearest point to this landscape.

The operational Kelburn, Ardrossan, Dalry and Millour Hill wind farms are located in the southern uplands of the Clyde Muirshiel Park approximately 5km north of this character type at the nearest point. Together, these wind farms comprise 41 turbines between 100 and 125m high. Visibility of these wind farms is fairly limited from much of the Coastal Edge, particularly where dunes inland offer a degree of containment.

A single turbine (75m high) has been consented at Ailsa Hospital, Ayr and would lie approximately 9km from this character area. Views of this turbine from the *Coastal Edge* are likely to be screened by urban development.

Character Type Key Map - 2b. Coastal Edge



Legend

- Selected Landscape Character Type
- Landscape Character Type Boundary
- South Ayrshire Boundary

Windfarms

- Consented
- Operational

Character Type 2b: Coastal Edge – Sensitivity assessment for large and medium typologies

Topic and summary description	Assessment of large typology (70m+)	Assessment of medium typology (50-70m)
Landscape context This landscape forms the narrow coastal margin of Ayr Bay which is interrupted inland by a number of large urban settlements. A complex band of dunes provides some containment between this character type and the *Coastal Lowlands with Industry* (2a) between Ardeer and Irvine. There is a greater degree of inter-visibility between the *Coastal Edge* and LCT 2a where dunes are lower between Irvine and Troon, although the presence of major roads and large industrial buildings clearly demarcate the boundaries between the two character types. A more gradual merging occurs to the south-east of Troon with the *South Ayrshire Lowlands* (7d). The *Lowland Hills* (16) form a band of small hills lying close to the coast and providing a prominent backdrop to Troon and Prestwick.	The size of this typology would be difficult to contain within the limited extent of this landscape type and would therefore impact on the character and setting of adjacent landscape types. This would result in less of an impact on the *Coastal Lowlands with Industry* which is characterised by large industrial buildings and a fragmented pattern of disturbed ground. Impacts on the setting of coastal settlements would however be significant and turbines of this size would also dominate the small *Lowland Hills* (16). This height of typology would also impact on the wider setting of the Firth of Clyde as experienced from the sea. ***High sensitivity***	The size of this typology would be difficult to contain wholly within the limited extent of this landscape type and would therefore impact on the character and setting of adjacent landscape types. This would result in less of an impact on the *Coastal Lowlands with Industry* which is characterised by large industrial buildings and a fragmented pattern of disturbed ground. Impacts on the setting of coastal settlements would however be significant. Turbines of this size would also dominate the small *Lowland Hills* (16). This height of typology would also impact on the wider setting of the Firth of Clyde as experienced from the sea. ***High sensitivity***
Scale Although the coastal edge is narrow, the sea gives a sense of expansiveness and scale and openness is additionally increased where parts of this coast are less contained by urban development. A degree of containment is provided inland in places by the more extensive and higher dune systems. Nearby buildings also provide ready scale references.	This typology would dominate the scale of houses within nearby urban areas. Sensitivity would be reduced in less densely settled sections of coastline although turbines of this size would dominate the small scale of more complex dune systems. ***High-medium sensitivity***	This typology would dominate the scale of houses within nearby urban areas. Sensitivity would be reduced in less densely settled sections of coastline although turbines of this size would dominate the small scale of more complex dune systems. ***High-medium sensitivity***
Landform Long gently curved sandy beaches are backed by dunes and more gently undulating grassy links. Landform is particularly diverse in the Ardeer area where the dunes are more pronounced and	Turbines of this size would significantly detract from complex dunes, estuarine features and sandy beaches. More gently undulating dunes/grassland inland would be less sensitive. ***High-medium sensitivity***	Turbines of this size would significantly detract from complex dunes, estuarine features and sandy beaches. More gently undulating dunes/grassland inland would be less sensitive. ***High-medium sensitivity***

complex and at the confluence of the Garnock and Irvine.		
Landscape pattern Natural dune vegetation and estuarine flats and marsh are diverse features. More gently undulating dunes and links inland are managed as golf courses. Occasional areas of fenced pasture patterned by gorse and small windswept trees are also present on the outer inland and urban fringes of this character type.	All wind farm development typologies would adversely affect the integrity of more natural coastline and detract from the diverse estuarine vegetation at the confluence of the Garnock and Irvine. More managed grassland would be less sensitive. ***Medium sensitivity***	All wind farm development typologies would adversely affect the integrity of remaining stretches of more natural coastline and detract from the diverse estuarine vegetation at the confluence of the Garnock and Irvine. More managed grassland would be less sensitive. ***Medium sensitivity***
Built environment Golf courses, small caravan parks and the Glasgow-Ayr railway lie in this character type and the settlements of Saltcoats, Irvine, Troon, Prestwick and Ayr strongly influence character. Major roads, Prestwick Airport and large scale industrial development are located in the immediate hinterland.	This typology would significantly affect the setting and separation these open naturalistic stretches of coast provide to coastal settlements. ***High sensitivity***	This typology would significantly affect the setting and separation these open naturalistic stretches of coast provide to coastal settlements. ***High sensitivity***
Perceptual qualities Although the beaches, more intact dune systems and the Firth of Clyde have a naturalistic character the proximity of urban areas, larger industrial development, road, rail and air traffic limits the sense of seclusion experienced in less contained areas.	Turbines of this size would diminish the sense of seclusion and naturalness experienced in more strongly contained stretches of coast away from urban areas. Elsewhere the sense of naturalness and seclusion is limited. ***High-medium sensitivity***	Turbines of this size would diminish the sense of seclusion and naturalness experienced in more strongly contained stretches of coast away from urban areas. Elsewhere the sense of naturalness and seclusion is limited. ***High-medium sensitivity***
Visual amenity This character type is very well-used for recreation and is also highly visible from urban areas, roads and the railway. It is also seen in relative proximity in elevated views from the nearby *Brown Carrick Hills* (4b), *Lowland Hills* (16) and parts of *Haupland Muir* (19e) and from the sea. Views from the coastal edge focus on the expansive Ayr Bay, enclosed by the Heads of Ayr to the south, and to Arran. Dunes restrict views of	This size of turbine would be highly visible from roads, the railway and nearby urban areas and from well-used beaches, dunes and footpaths settlement where it would form a dominant feature and detract from key views and visual foci. It would also be highly visible from nearby coastal hills and from the sea. ***High sensitivity***	This size of turbine would be highly visible from roads, the railway and nearby urban areas and from well-used beaches, dunes and footpaths settlement where it would form a dominant feature and detract from key views and visual foci. It would also be highly visible from nearby coastal hills and from the sea. ***High sensitivity***

development in the hinterland from the well-used sandy beaches.		
Cumulative effects Although visibility of existing wind farms from the Coastal Edge is restricted by dunes and built development, the consented GSK turbines in the adjacent *Coastal Lowlands with Industry* (2a) will be visible from some more open inland areas of this landscape.	Cumulative effects would be limited from beaches where dunes and settlements provide some screening. Cumulative effects between turbines of this size sited in this landscape and seen with the GSK turbines would however be experienced from elevated roads, settlement and footpaths within the nearby *Lowland Hills* (16) and from the Firth of Clyde. Specific cumulative effects could include those on the setting of coastal settlements particularly likely to occur if multiple turbines of this size were spread along the coast and in the immediate hinterland. ***High-medium sensitivity***	Cumulative effects would be limited from beaches where dunes and settlements provide some screening. Cumulative effects between turbines of this size sited in this landscape and seen with the GSK turbines would however be experienced from elevated roads, settlement and footpaths within the nearby *Lowland Hills* (16) and from the Firth of Clyde. Specific cumulative effects could include those on the setting of coastal settlements particularly likely to occur if multiple turbines of this size were spread along the coast and in the immediate hinterland. ***High-medium sensitivity***

Character Type 2b: Coastal Edge – Sensitivity assessment for small-medium and small typologies

Topic and summary description	Assessment of small-medium typology (30m-50m)	Assessment of small typology (15m-30m)
Landscape context This landscape forms the narrow coastal margin of Ayr Bay which is interrupted inland by a number of large urban settlements. A complex band of dunes provides some containment between this character type and the *Coastal Lowlands with Industry* (2a) between Ardeer and Irvine. There is a greater degree of inter-visibility between the *Coastal Edge* and LCT 2a where dunes are less complex between Irvine and Troon, although the presence of major roads and large industrial buildings clearly demarcate the boundaries between the two character types. A more gradual merging occurs to the south-east of Troon with the *South Ayrshire Lowlands* (7d). The *Lowland Hills* (16) form a band of small hills lying close to the coast and providing a prominent backdrop to Troon and Prestwick.	The landscape type is narrow in extent, and the size of this typology (especially the taller turbines of this height band) would not be wholly contained. This would result in less of an impact on the Coastal Lowlands with Industry (2a) which is characterised by large industrial buildings and a fragmented pattern of disturbed ground. Impacts on the setting of coastal settlements could arise if turbines were sited close-by although there may be some very limited opportunities to site turbines of this size to avoid sustained significant impact on more sensitive adjacent character types such as the *Lowland Hills* (16). ***High-medium sensitivity***	Although this landscape type is small in extent, the smaller size of these turbines would have less of an effect on the character of adjoining landscape types. ***Medium sensitivity***
Scale Although the coastal edge is narrow, the sea gives a sense of expansiveness and scale and openness is additionally increased where parts of this coast are less contained by urban development. A degree of containment is provided inland in places by the more extensive and higher dune systems. Nearby buildings in urban areas provide ready scale references.	This typology would dominate the scale of houses within urban areas if sited close-by and the small size of more complex dune systems. There may be some limited scope to site these turbines in less settled stretches of coast to minimise scale effects. ***Medium sensitivity***	Even this small typology could dominate the low relief of dunes and small buildings if sited close-by although there is increased scope to minimise effects on the scale of buildings. ***Medium-low sensitivity***
Landform Long gently curved sandy beaches are backed by dunes and more gently undulating grassy links. Landform is particularly diverse in the Ardeer area where the dunes are more pronounced and complex and at the confluence of the Garnock and Irvine.	Turbines of this size would significantly detract from complex dunes, estuarine features and sandy beaches. More gently undulating dunes/grassland inland would be less sensitive. ***High-medium sensitivity***	There is increased scope to site these small turbines inland and well away from more diverse landform features to minimise effects on landform. ***Medium sensitivity***

Landscape pattern Natural dune vegetation and estuarine flats and marsh are diverse features. More gently undulating dunes and links inland are managed as golf courses. Occasional areas of fenced pasture patterned by gorse and small windswept trees are also present on the outer inland and urban fringes of this character type.	All wind farm development typologies would adversely affect the integrity of more natural coastline and detract from the diverse estuarine vegetation at the confluence of the Garnock and Irvine. More managed grassland would be less sensitive. ***Medium sensitivity***	All wind farm development typologies would adversely affect the integrity of remaining stretches of more natural coastline and detract from the diverse estuarine vegetation at the confluence of the Garnock and Irvine. More managed grassland would be less sensitive. ***Medium sensitivity***
Built environment Golf courses, small caravan parks and the Glasgow-Ayr railway lie in this character type and the settlements of Saltcoats, Irvine, Troon, Prestwick and Ayr strongly influence character. Major roads, Prestwick Airport and large scale industrial development are located in the immediate hinterland.	This typology would significantly affect the setting and separation these open naturalistic stretches of coast provide to the coastal settlements. ***High sensitivity***	Turbines of this size would have less of a dominant effect on buildings within urban areas, but could still affect the setting and separation of coastal settlements by introducing built development into these largely open sections of coast. Multiple turbines dispersed along this character type would exacerbate these effects. ***High sensitivity***
Perceptual qualities The beaches, more intact dune systems and the Firth of Clyde have a naturalistic character although the proximity of urban areas, larger industrial development, road, rail and air traffic limits the sense of seclusion experienced in less contained areas.	Turbines of this size would diminish the sense of seclusion and naturalness experienced in more strongly contained stretches of coast away from urban areas. Elsewhere the sense of naturalness and seclusion is limited. ***High-medium sensitivity***	There would be increased opportunities to site these smaller turbines to limit intrusion on more secluded stretches of coast. ***Medium sensitivity***
Visual amenity This character type is very well-used for recreation and is also highly visible from urban areas, roads and the railway. It is also seen in relative proximity in elevated views from the nearby *Brown Carrick Hills* (4b), *Lowland Hills* (16) and parts of *Haupland Muir* (19e) and from the sea. Views from the coastal edge focus on the expansive Ayr Bay, enclosed by the Heads of Ayr to the south, and to Arran. Dunes restrict views of development in the hinterland from the well-used sandy beaches.	This size of turbine would be highly visible from roads, the railway and nearby urban areas and from well-used beaches, dunes and footpaths settlement where it would form a dominant feature and detract from key views and visual foci. It would also be visible from nearby coastal hills and from the sea. ***High sensitivity***	Even the smaller turbines of this typology would be highly visible in this open and very well-used landscape and they could form a dominant feature and detract from key views and visual foci (especially if a number of turbines where sited along the coast). Turbines of this size may be less visible from the sea and from nearby coastal hills however. ***High-medium sensitivity***
Cumulative effects Although visibility of existing wind farms from the	Cumulative effects would be limited from beaches where dunes and settlements provide	The relatively small size of this typology would minimise cumulative effects with operational and

Coastal Edge is restricted by dunes and built development, the operational GSK turbines in the adjacent *Coastal Lowlands with Industry* (2a) in North Ayrshire are visible from some more open inland areas of this landscape.	some screening. Cumulative effects between turbines of this size sited in this landscape and seen with the GSK turbines would however be experienced from elevated roads, settlement and footpaths within the nearby *Lowland Hills* (16) and from the Firth of Clyde. Specific cumulative effects could include those on the setting of coastal settlements particularly likely to occur if multiple turbines of this size were spread along the coast and in the immediate hinterland. ***High-medium sensitivity***	consented turbines in elevated views and views from the sea. ***Medium sensitivity***

7.2 Summary of sensitivity

This character area forms the open coastal margin of the Firth of Clyde from Saltcoats to Ayr and also includes part of the Garnock estuary. The coastal settlements of Irvine, Troon and Prestwick interrupt the continuity of this coastal edge. Although the coastal edge is modified in places by golf courses and isolated built development, it generally has an open and naturalistic character, comprising sandy beaches, dunes and dune slack and lagoon areas. A complex estuarine landscape is found where the Rivers Irvine and Garnock meet at the coast forming a natural harbour sheltered behind Irvine Bar. The beach and dune area is well-used for recreation and is highly visible from the Ayr-Glasgow railway. Dunes often restrict views from beaches inland to nearby housing, industry and airport development, with the sea and Arran forming the key focus of views from this character area.

The naturalistic beaches and sand dunes of this character type would be highly sensitive to all typologies of wind farm development due to their rarity and importance in separating, and providing a landscape setting to, the coastal settlements. This landscape provides a valuable recreational resource within a densely settled area and intrusion on views across the Firth of Clyde to Arran is a key constraint. There would be a ***High*** sensitivity to the large, medium and the small-medium typology (turbines above 30m high). Sensitivity to the small typology (turbines 15m-30m) would be ***High-medium***.

7.2.1 *Potential cumulative issues*

The operational wind farms of Kelburn and Ardrossan, which are sited close to the coast within the Clyde Muirshiel uplands of North Ayrshire, are already highly visible in views from the Firth of Clyde including from the Ardrossan-Arran and Troon-Belfast ferries. Cumulative effects could occur from the Firth of Clyde if wind turbines were sited along the *Coastal Edge* (2b) but also within the small hills backing the Ayrshire Coast, including the *Brown Carrick Hills* (4b) and *Lowland Hills* (16) and within the *Coastal Lowlands with Industry* (2a) and the western part of the *South Ayrshire Lowlands* (7d). The operational GSK turbines within the *Coastal Lowlands with Industry* (2a) in North Ayrshire would contribute to these effects.

7.2.2 *Constraints*

- The narrowness and limited extent of this character type which limits scope for larger and multiple turbine developments to be physically accommodated without impinging on neighbouring landscape character types.
- The low relief and complexity of sand dunes backing beaches which would be dominated by all turbine typologies.
- The naturalistic character of these open stretches of coast, comprising sandy beaches, dunes and dune slack and lagoon areas and a complex estuarine landscape at the confluence of the Rivers Irvine and Garnock.
- The setting these stretches of open and naturalistic coastline provide to the towns of Saltcoats, Irvine, Troon, Prestwick and Ayr and their role in

providing separation and open space between settlements within the densely populated Ayr Bay area.
- The well-used beaches, golf courses and footpaths, including the Ayrshire Coastal Path, and the Glasgow-Ayr railway accommodated within this coastal landscape which increase visual sensitivity.
- Dramatic views from this coast across the Firth of Clyde to Arran and views from the sea to this coastal edge, including those from the Ardrossan-Arran and Troon-Belfast ferries.

7.2.3 *Opportunities*

- There are some limited opportunities for turbines <15m to be accommodated provided they were closely associated with existing buildings such as clubhouses or beach facilities to minimise clutter in these open stretches of coast and intrusion on sea-ward views.

7.3 Guidance for development

No scope has been identified for turbines >15m high to be accommodated in the *Coastal Edge* (2b) in this assessment.

Small turbines below 15m high could be accommodated but should be sited where they can be clearly associated with existing built development to minimise visual clutter and avoid intrusion on views to the sea and Arran.

Turbines should not be sited on the top of more pronounced and complex dunes and should be set well back from the edge of beaches where they would be likely to be more prominent. Special care is needed to ensure that only well-designed turbines are used in this highly sensitive coastal landscape with limits on the range of designs used in order to minimise cumulative landscape and visual effects.

This landscape is highly sensitive to intrusion from any larger turbine typologies sited in adjacent character types, and care should be taken to avoid larger turbines appearing ‘over the skyline’ from low level views along the coast or intruding on the focus provided by the *Brown Carrick Hills* (4b) and the Heads of Ayr in views along the coast.

Detailed siting and design should accord with the guidance set out in Annex F.

Long sandy beaches stretch from Ayr to Saltcoats and are a focus for recreation within this densely settled section of coastline

More extensive dune systems back the less accessible beach adjacent to the Ardeer area

Dunes and dune slack areas often accommodate golf courses and feature fine views to Arran

The beach and dunes of the Ardeer Peninsula seen across the mouth of the Garnock

8 CHARACTER TYPE 4B: COASTAL HEADLANDS – BROWN CARRICK HILLS

8.1 Introduction

This character type only occurs in a single area in Ayrshire. It comprises a compact group of small hills which overlook the Firth of Clyde and Ayr and rise above the *Maybole Foothills* (17d) to the south.

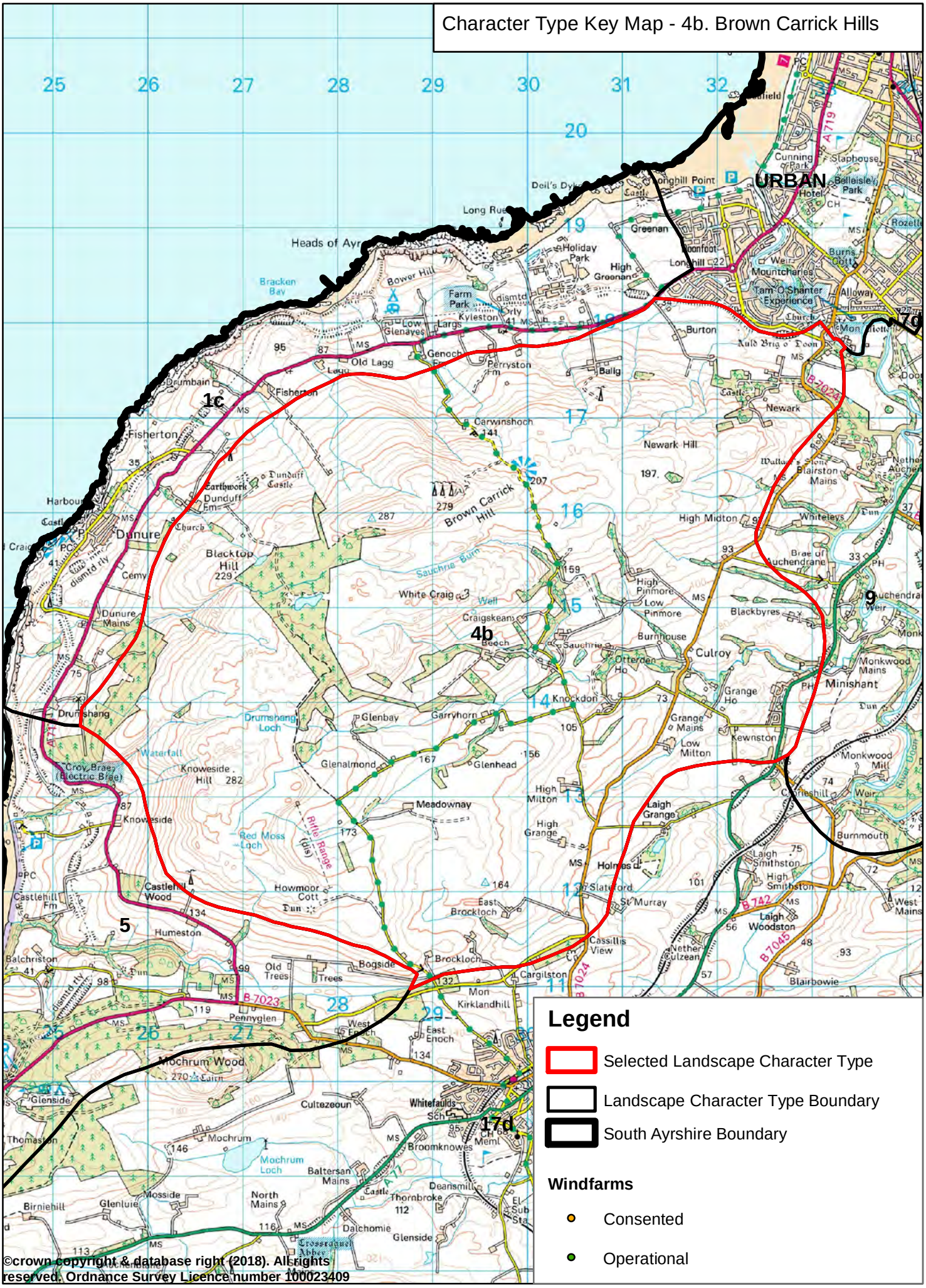
The detailed assessment considers both larger and smaller development typologies.

8.1.1 *Operational/consented wind farms*

No operational or consented wind farms are sited within this area.

The operational Hadyard Hill and Assel Valley wind farms are located between approximately 13km from this character type within the *Foothills with Forestry and Wind Farm* (17c) character type. The consented Tralorg wind farm is also located in this landscape character type. The consented Kirk Hill wind farm is located in the *Maybole Foothills* (17d) approximately 9km from this landscape character type.

Character Type Key Map - 4b. Brown Carrick Hills



Character Type 4b: Coastal Headlands –Carrick Hills – Sensitivity assessment for large and medium typologies

Topic and summary description	Assessment of large typology (70m+)	Assessment of medium typology (50-70m)
Landscape context This compact cluster of rugged hills is widely visible and forms a prominent 'landmark hill' group within Ayrshire. They contribute to the setting of both Ayr and Culzean Castle. They are widely visible from the Firth of Clyde. They also provide the immediate backdrop to the adjacent *Maybole Foothills* (17d), the *Lowland River Valley* (9) of the River Doon, the *Coastal Valley with Policies* (5) and a stretch of the *Raised Beach Coast with Flat Fields and Headlands* (1c).	Although medium in extent the landscape type is made up almost entirely of outward facing slopes radiating from landmark hill summits. This height of typology would affect the character and setting of neighbouring and more distant character types and the setting of the Firth of Clyde as experienced from the sea. Turbines would also impact on the setting of Ayr and nearby Culzean Castle. ***High sensitivity***	Although medium in extent the landscape type is made up almost entirely of outward facing slopes radiating from landmark hill summits. This height of typology would affect the character and setting of neighbouring and more distant character types and the setting of the Firth of Clyde as experienced from the sea. Turbines would also impact on the setting of Ayr and nearby Culzean Castle. ***High sensitivity***
Scale Rising to 287m, these hills are less high than they are perceived to be, and relief is reduced when viewed from the adjacent higher foothills around Maybole. The irregular landform creates a degree of enclosure, with interior settled shallow glens where containment is reinforced by woodland. Elsewhere the landscape is more open, with broad convex slopes creating expanses of medium to larger scale landform.	This typology would dominate the scale of this confined group of low hills, in particular by making them appear smaller than they are currently perceived. They would also impact significantly on the scale of the smaller valleys, within which they would be difficult to contain, and on the pattern of fields along the lower slopes. Settlement would also provide ready scale references against which this height of turbine could be compared. ***High-medium sensitivity***	This typology would dominate the scale of these low hills, in particular by making them appear smaller than they are currently perceived. They would also impact significantly on the scale of the smaller valleys, within which they would be difficult to contain, and on the pattern of fields along the lower slopes. Settlement would also provide ready scale references against which this height of turbine could be compared. ***High-medium sensitivity***
Landform The relatively evenly graded but sometimes steep lower slopes give way to rugged, irregular and more complex uplands. Ridges and shallow valleys create an undulating upland plateau, rising to an irregular skyline of summits. There are occasional areas of less complex plateau-like landform and smoothly graded slopes, but these are small in extent.	The areas of flatter or gently undulating landform are limited in extent. The steep slopes, irregular landform and complex interlocking topography are all sensitive to this typology. The construction of access roads on steep or complex slopes would be a further constraint for this typology. ***Medium sensitivity***	Areas of flatter or gently undulating landform are limited in extent. Steep slopes and complex interlocking topography are all sensitive to this typology. The construction of access roads on steep or complex slopes would be a further constraint for this typology.There may be increased scope to site the smaller heights of this typology in areas of less complex landform. ***Medium sensitivity***

Landscape pattern The upper hill slopes have a simple pattern of unimproved grassland, wetland, and moor broken by occasional small conifer forests and regenerating woodland. Fields, riparian woodlands, shelter woods and occasional policy woodland associated with larger houses overlooking the valley of the Doon create a more diverse pattern across the lower slopes and within the shallow valley west of Culroy.	The open moorland and upland grazing along the upper slopes provide some scope for larger typologies to be accommodated within a simple landscape pattern. Turbines of this height would detract from the more diverse patterns of woodland, policies and enclosed pastures along the lower hill slopes. ***High-medium sensitivity***	The open moorland and upland grazing along the upper slopes provide some scope for larger typologies to be accommodated within a simple landscape pattern. Even turbines of this height would detract from the more diverse patterns of woodland, policies and enclosed pastures along the lower hill slopes, although they could be sited where impact on these characteristics is minimal. ***Medium sensitivity***
Built environment The upland areas are sparsely populated, in contrast to the lower slopes where there are dispersed but frequent farms, houses and other small settlements associated with a network of minor roads. There are several larger houses, including Newark castle and Otterden House, which overlook the valley of the River Doon to the east, and a scattering of archaeological sites. There are three prominent masts on the summit of these hills.	Turbines located on the upper slopes could have some impact on the setting of settlement located along the lower slopes. This typology would dominate the small farms, individual houses and small settlements and archaeological features on the lower slopes, affecting their setting and the scale of built development. The character of narrow roads could additionally be affected by transportation of turbines. ***High-medium sensitivity***	Turbines located on the upper slopes would have limited impact on the setting of settlement located along the lower slopes, and there may be scope to site turbines of this size where potential impacts can be mitigated. This typology would dominate the small farms, individual houses and small settlements and archaeological features on the lower slopes, affecting their setting and the scale of built development. The character of narrow roads could additionally be affected by transportation of turbines. ***Medium sensitivity***
Perceptual qualities The rugged and elevated hills are characterised by semi-natural vegetation which creates a secluded landscape which can in places be experienced as remote. The presence of the masts and the more settled lower slopes, however, as well as the general inter-visibility of the wider farmed and settled landscapes limits any sense of wildness.	It would be difficult to site turbines of this size where they do not intrude on the sense of seclusion and naturalness experienced across the upper slopes of this landscape type. ***High-medium sensitivity***	Turbines of this size would intrude on the sense of seclusion and naturalness experienced along the upper slopes of this landscape type, but elsewhere would have limited impact on these qualities. ***Medium sensitivity***
Visual amenity This character type is a prominent cluster of landmark hills. The profile and skyline of the readily	These hills are widely visible and form a key landmark feature within Ayrshire. Turbines of this height would be extensively visible within the	These hills are widely visible and form a key landmark feature within Ayrshire. Turbines of this height are likely to be extensively visible within

recognisable summits is widely visible. There are views from the viewpoint at the top of the hills, accessed by a narrow road and waymarked cycleway, from the A77 and from the Firth of Clyde, from where it is an easily recognisable headland. Shallow and more contained valleys are less widely visible.	character type, as well as from key viewpoints and more widely. ***High sensitivity***	the character type, as well as from key viewpoints and more widely. ***High sensitivity***
Cumulative effects The operational Hadyard Hill wind farm is located approximately 13km distance from this LCT. Views of this wind farm are limited from this character type, partly due to the screening provided by the *Maybole Foothills* (17d). The consented Kirk Hill wind farm will be more visible from this LCT.	Cumulative effects with operational wind farms would not be significant. Cumulative effects could arise where any development sited in this LCT is seen in conjunction with the consented Kirk Hill wind farm potentially affecting the coast around Turnberry and Culzean Bay and inland in the Maybole area. ***Medium sensitivity***	Cumulative effects with operational wind farms would not be significant. Cumulative effects could arise where any development sited in this LCT is seen in conjunction with the consented Kirk Hill wind farm potentially affecting the coast around Turnberry and Culzean Bay and inland in the Maybole area. ***Medium sensitivity***

Character Type 4b – Coastal Headlands -Carrick Hills – Sensitivity assessment for small-medium and small typologies

Topic and summary description	Assessment of small-medium typology (30m-50m)	Assessment of small typology (15m-30m)
Landscape context This compact cluster of rugged hills is widely visible and forms a prominent 'landmark hill' group within Ayrshire. They contribute to the setting of both Ayr and Culzean Castle. They are widely visible from the Firth of Clyde. They also provide the immediate backdrop to the adjacent Maybole Foothills (17d), the *Lowland River Valley* (9) of the River Doon, the Coastal Valley with Policies (5) and a stretch of the Raised Beach Coast with Flat Fields and Headlands (1c).	Although medium in extent the landscape type is made up almost entirely of outward facing slopes radiating from landmark hill summits. Even this height of typology could affect the character and setting of neighbouring and more distant character types and the setting of the Firth of Clyde as experienced from the sea, especially if located on prominent skyline. Turbines could also impact on the setting of Ayr and nearby Culzean Castle. ***High-medium sensitivity***	Although medium in extent the landscape type is made up almost entirely of outward facing slopes radiating from landmark hill summits. If located on prominent skylines, even the larger sizes of this typology could affect the character and setting of smaller scale neighbouring character types, the setting of the Firth of Clyde as experienced from the sea and the setting of Ayr and Culzean Castle. Smaller turbines in this typology would generally have less impact on adjacent character types however. ***Medium sensitivity***
Scale Rising to 287m, these hills are less high than they are perceived to be, and relief is reduced when viewed from the adjacent higher foothills around Maybole. The irregular landform creates a degree of enclosure, with interior shallow glens where containment is reinforced by woodland. Elsewhere the landscape is more open, with broad convex slopes creating expanses of medium to larger scale landform.	This typology could make the height of these small hills appear smaller than is currently perceived, although the openness and larger scale of simpler slopes is less sensitive. They could also impact on the scale of the smaller valleys and on the pattern of fields along the lower slopes. Settlement would provide scale references against which this height of turbine could be assessed. Smaller sizes of this typology would have less impact. ***Medium sensitivity***	There is increased scope to site these smaller turbines to avoid significant conflicts of scale although they may still make the height of these small hills appear smaller than is currently perceived. While settlement in this landscape would also provide ready scale references against which the taller turbines in this typology could be assessed, there is ample scope for siting them away from the settlement. ***Medium-low sensitivity***
Landform The often evenly graded but sometimes steep lower slopes give way to rugged, irregular and more complex uplands. Ridges and shallow valleys create an undulating upland plateau, rising to an irregular skyline of summits. There are occasional areas of less complex plateau-like landform and smoothly graded slopes, but these are small in extent.	The occasional areas of flatter or gently undulating landform could provide scope for this typology, although the steep slopes, irregular landform and complex interlocking topography are still all sensitive to this typology. There is increased scope to site the smaller heights of this typology which are less likely to impact on complex landform. ***Medium sensitivity***	This typology could be accommodated on even small areas of more simple sloping and gently graded landform, although the tops of small hills and skyline ridges are still constraints. ***Medium-low sensitivity***

Landscape pattern The upper hill slopes have a simple pattern of unimproved grassland, wetland, and moor broken by occasional small conifer forests and regenerating woodland. Fields, riparian woodlands, shelter woods and occasional policy woodland associated with larger houses overlooking the valley of the Doon create a more diverse pattern across the lower slopes and within the shallow valley west of Culroy.	The open moorland and upland grazing along the upper slopes and transition with smaller fields provide scope for turbines to be accommodated within a simple landscape pattern While turbines of this height would detract from the more diverse patterns of woodland and policies along the lower hill slopes, they could be readily sited where impact on these characteristics is minimal. ***Medium-low sensitivity***	The open moorland and upland grazing along the upper slopes and transition with smaller fields provide scope for turbines to be accommodated within a simple landscape pattern There is increased scope for turbines of this height to be sited where they would not detract from the more diverse patterns of woodland and policies along the lower hill slopes.
Built environment The upland areas are sparsely populated, in contrast to the lower slopes where there are dispersed but frequent farms, houses and other small settlements associated with a network of minor roads. There are several larger houses, including Newark castle and Otterden House, which overlook the valley of the River Doon to the east, and a scattering of archaeological sites. There are three prominent masts on the summit of these hills.	Turbines located on the upper slopes or transition with fields would have limited impact on the setting of settlement located along the lower slopes, and there is likely to be scope to site turbines of this size without impacting on the setting of settlement. Nevertheless, the taller sizes in this typology would dominate small farms, individual houses and small settlements and archaeological features on the lower slopes, affecting their setting and the scale of built development. ***Medium-low sensitivity***	There is increased scope to site these smaller turbines where they do not impact on the setting of individual houses and smaller farms. The smaller heights of turbines could also be accommodated near to larger farm buildings and form 'development clusters'. ***Low sensitivity***
Perceptual qualities The rugged and elevated hills are characterised by semi-natural vegetation which creates a secluded landscape which can in places be experienced as remote. The presence of the masts and the more settled lower slopes, however, as well as the general inter-visibility of the wider farmed and settled landscapes limits any sense of wildness.	Turbines of this size would intrude on the sense of seclusion and naturalness experienced along the upper slopes of this landscape type, but elsewhere would have limited impact on these qualities. ***Medium sensitivity***	This small typology would have minimal effects on perceptual qualities, if closely associated with the transition between farmed and upland moors, the farmed landscape and the settled lower slopes. ***Medium-low sensitivity***
Visual amenity This character type is a prominent cluster of landmark hills. The profile and skyline of the readily recognisable summits is widely visible. There are	These hills are widely visible and form a key landmark feature within Ayrshire. This typology would be likely to be moderately visible within the character type, as well as from	These hills are widely visible and form a key landmark feature within Ayrshire. Taller turbines within this typology could be moderately visible within the character type, as

views from the viewpoint at the top of the hills, accessed by a narrow road and waymarked cycleway, from the A77 and from the Firth of Clyde, from where it is an easily recognisable headland. Shallow and more contained valleys are less widely visible.	key viewpoints and more widely, especially if located on prominent ridges, skylines or widely visible upper slopes. ***High-medium sensitivity***	well as from key viewpoints and more widely, especially if located on prominent ridges, skylines or widely visible upper slopes. ***Medium sensitivity***
Cumulative effects The operational Hadyard Hill wind farm is located approximately 13km distance. Views of this wind farm are limited from this character type, partly due to the screening provided by the *Maybole Foothills* (17d). The consented Kirk Hill wind farm will be more visible from the Brown Carrick Hills.	This typology is more likely to comprise single or very small groups of turbines and this, together with the distance of other operational and consented wind farms, would be unlikely to result in significant and widespread cumulative effects. Turbines should however be well-sited, avoiding prominent hill tops. ***Medium-low sensitivity***	This size of turbine would be significantly smaller than existing and consented turbines and cumulative effects would therefore be minimal provided turbines were well sited, avoiding prominent hill tops. ***Low sensitivity***

8.2 Summary of sensitivity

The Coastal Headlands – Carrick Hills (4b) character type is a cluster of rugged, prominent landmark hill summits which are easily recognisable and widely visible over Ayrshire and the outer Firth of Clyde. It provides the immediate backdrop to a number of smaller scale and lower lying character types, including the Raised Beach Coast with Flat Fields and Headlands (1c), the Coastal Valley with Policies (5) and the River Doon Lowland River Valley (9). It also provides the backdrop to Ayr and contributes to the setting of Culzean castle. The hills are perceived to be higher than they are, and the prominence of the three masts near the summit, bear this out. The landform is rugged and can be complex, with varied interlocking terrain, shallow valleys and steep slopes. The vegetation pattern ranges from open wet moor and occasional conifer woodland on the upper slopes to semi-natural broadleaved woodland, enclosed fields, riparian woodland and, to the east, policies associated with larger houses overlooking the Doon valley. Only the lower hill slopes and more sheltered inland valleys are settled, with small settlements as well as farms and single houses connected by a network of narrow roads.

The importance of this group of landmark hills in an Ayrshire wide context, their wide visibility and contribution to the setting of adjacent character types and nearby settlements, their height, which is small relative to their perceived scale, and the complexity of landform, as well as the settled character of the lower slopes combine l to increase sensitivity especially to larger typologies. There would be a ***High*** sensitivity to the large and medium typologies (turbines >50m). Sensitivity would be ***High-medium*** for the small-medium typology (turbines 30-50m) and ***Medium*** to the small typology (turbines 15-30m).

8.2.1 *Potential cumulative issues*

The following issues may arise in connection with any possible development situated in this and adjacent landscapes:

- Sequential and simultaneous views of wind farms sited in this LCT and the *Maybole Foothills* (17d) (the consented Kirk Hill wind farm will contribute to these effects) affecting the skylines of hills which contain the sensitive coastline between Ayr and Turnberry.
- Variations in the type and size of single and small groups of small turbines proposed along the lower slopes of these *Coastal Headlands* and the adjacent *Maybole Foothills* (17d)
- Possible sequential landscape and visual effects on the experience from the A77.
- Possible visual effects related to cumulative effects of turbines on prominent headlands and coastal hills when experienced from the Firth of Clyde.

8.2.2 *Constraints*

- The landmark hill status of this easily recognisable hill group which is visually widely prominent across Ayrshire and the Firth of Clyde
- The extent and configuration of this character type which although moderate in size is a series of outward-facing slopes which radiate from the summits,

which limits scope for larger and multiple turbine developments to be physically accommodated without impinging on neighbouring landscape character types
- The height of the hills, which although in absolute terms is relatively small, appear larger due to their visual prominence
- The small scale of some of the more complex areas of landform, and the steepness of some of the seaward flanks
- The often more diverse landcover on the lower slopes which reduces the landscape scale
- The setting of the settlement along the lower slopes, including a number of estate houses with designed landscapes
- The visual prominence of the skyline which contributes to the setting of Ayr and the nearby Culzean castle, and views from the Castle, as well as to and from Ayr
- The sense of seclusion which can be experienced in the more rugged and semi-natural upland areas
- Cumulative effects with the consented Kirk Hill wind farm sited in the nearby *Maybole Foothills* (17d).
- Views from the A77, the Ayrshire Coastal Path and a number of nearby settlements, including Ayr and Maybole.

8.2.3 *Opportunities*

- The transition between the more simple uplands and the cultivated lower hill slopes, away from prominent skylines and where turbines will not intrude into the setting of smaller scale landscapes, views from Culzean Castle and the setting of Ayr.

8.3 Guidance for development

No scope for any turbines taller than 50m was identified in this assessment.

This assessment found there to be ***limited*** scope for the small-medium typology (turbines 30m- 50m high) and ***some*** scope for the small typology (turbines 15-30m high) to be accommodated in this landscape. The key constraint is potential impacts on the profile of these landmark hills and their contribution to the setting of nearby Ayr and Culzean Castle, as well as their widely visible skylines.

All turbines should be set back from prominent skylines and from smaller scale landscape types or features which might be found in the neighbouring Doon River *Lowland River Valley* (9) or the *Raised Beach Coast with Flat Fields and Headlands* (1c). They should also be sited away from designed landscapes and avoid intrusion on the setting of settlements and historic buildings.

Opportunities are most likely to be found in the more gently graded slopes, dips in less prominent ridges, gentle bowls and lower hill slopes where there is less likelihood of impacting on prominent skylines. The limited scope for turbines 30m-50m high is most likely to be found on the gentle lower hill sides overlooking the *Maybole Foothills* (17d).

Small turbines below 15m high could also be accommodated but should be sited where they can be clearly associated with existing built development to minimise visual clutter.

All turbine developments should avoid significant impact on areas with perceived qualities of seclusion. Turbines should not be sited on the top of knolls or skyline ridges. Limiting the range of heights and designs used will minimise cumulative landscape and visual effects. Detailed siting and design should accord with the guidance set out in Annex F.

The Carrick Hills are prominent in views along the Ayrshire coast - seen here from Culzean Castle

The Carrick Hills from the south, looking over the valley at Glenalmond showing the contrast between the smooth rolling farmed valley and the rugged skyline

Scrubby woodland, and open moorland reinforce the semi-natural character of the top of these hills. The complex landform around these valleys contrasts with more simple slopes

The Carrick Hills are the backdrop to surrounding smaller scale and lowlying LCTs, including the Raised Beach Cast, here inland from Dunure

The extensive policy woodland on these lower slopes reflects the transition with the neighbouring River Doon valley, seen here near Culroy.

More simple slopes in terms of landform still support a diverse and semi-natural land use pattern

9 CHARACTER TYPE 5: COASTAL VALLEY WITH POLICIES

9.1 Introduction

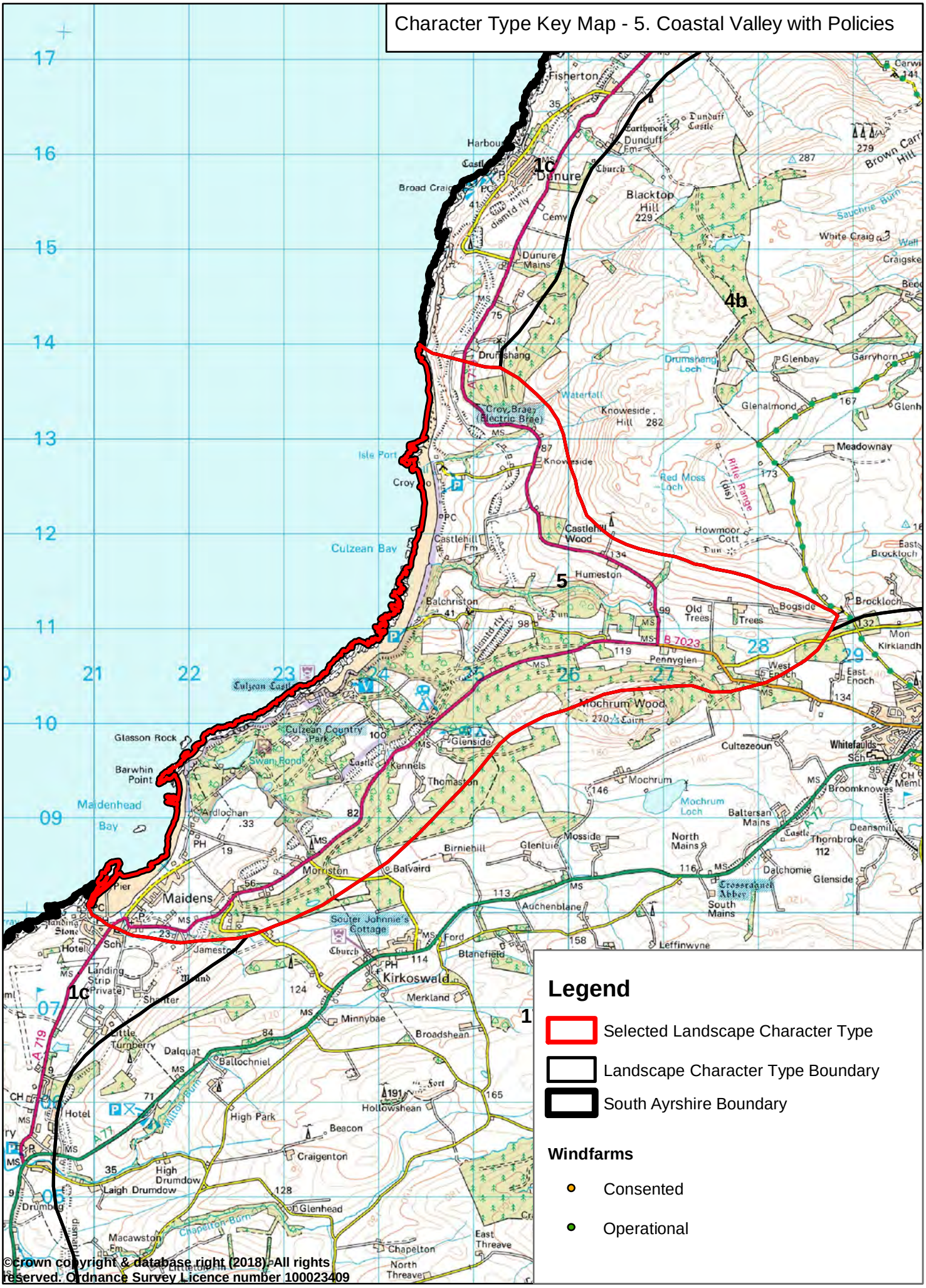
This coastal landscape character type lies only in South Ayrshire, where it extends across the grounds and wider policies of Culzean. To the north it is overlooked by the Coastal Headlands of the *Brown Carrick Hills* (4b) while the *Maybole Foothills* (17d) rise up to contain the southern edge of this character type.

The detailed assessment considers both larger and smaller development typologies.

9.1.1 *Operational/consented wind farms*

No operational or consented wind turbines are located in this character type. The consented Kirk Hill wind farm will be theoretically visible from limited parts of this landscape.

Character Type Key Map - 5. Coastal Valley with Policies



Character Type 5: Coastal Valley with Policies – Sensitivity assessment for large and medium typologies

Topic and summary description	**Assessment of large typology (70m+)**	**Assessment of medium typology (50-70m)**
Landscape context This landscape is contained and overlooked by the higher hills of the *Coastal Headlands* of the Carrick Hills (4b) and the *Maybole Foothills* (17d) which form the side setting of this valley. The valley mouth is largely tucked between headlands associated with the neighbouring *Raised Beach Coast with Flat Fields and Headlands* (1c). This landscape type is small and relatively enclosed but overlooks a wide stretch of the sea and distant southern Arran.	This landscape type is relatively small in extent, and the size of this typology would be difficult to absorb wholly within the limited extent of this landscape type without impacting on the character and setting of adjacent landscape types. This size of typology would impact on the wider setting of the Firth of Clyde as experienced from the sea. ***High-medium sensitivity***	This landscape type is relatively small in extent, and the size of this typology would be difficult to absorb wholly within the limited extent of this landscape type, without impacting on the character and setting of adjacent landscape types. While this typology could also impact on the wider setting of the Firth of Clyde as experienced from the sea, especially if sited on prominent skylines, the way this landscape type is tucked in between headlands may limit some of these potential wider effects. ***Medium sensitivity***
Scale Although the sea gives a sense of expansiveness, the valley is broadly contained by higher enclosing hills, the coast is enclosed by a wooded raised beach, and the landform is rolling and relatively complex, with small features often seen in low relief. The pattern of landuse, which includes numerous fields enclosed by lines of trees and policies, further reduces the scale of this landscape.	This typology would dominate the smaller scale landforms and their low relief within this landscape and would also be out of scale with the pattern of smaller spaces and fields enclosed by woodland. The numerous woodlands in this landscape would also provide ready scale references against which this height of turbine could be assessed. ***High sensitivity***	This typology would dominate the smaller scale landforms, including the raised beach, within this landscape and would also be out of scale with the pattern of smaller spaces enclosed by woodland. The numerous woodlands in this landscape would also provide ready scale references against which this height of turbine could be assessed. ***High sensitivity***
Landform This is a landscape underpinned by relatively complex land form, including a consistent length of raised beach backing onto the fragmented coast, smooth rounded interlocking spurs, shallow side valleys and low hills against more terraced landform on the lower hill slopes.	The consistent complexity of the landform, including interlock and the range of features, limits opportunities for this typology. The construction of access roads on steep or complex slopes would be a further constraint for this typology. ***High-medium sensitivity***	The consistent complexity of the landform, including interlock and the range of features, limits opportunities for this typology. The construction of access roads on steep or complex slopes would be a further constraint for this typology. ***High-medium sensitivity***

Landscape pattern Extensive grounds and policies associated with Culzean castle form the focus for the landuse pattern in this landscape character type. These also provide a contrast to less wooded character elsewhere along this coast. Beyond the extensive grounds, cultivated fields are small and often surrounded by woodland, hedges or lines of trees which reinforce the field pattern. The lower hill slopes are unimproved grassland and whin scrub.	This typology would fragment the complexity and consistency of the land use pattern and the widespread presence of fine policy features which are a key sensitivity. In addition, this height of turbine would detract from the more formal designed elements of the landscape, as it would be likely to appear above the height of the trees. ***High sensitivity***	This typology would fragment the complexity and consistency of the land use pattern and the widespread presence of fine policy features which are a key sensitivity. In addition, this height of turbine could detract from the more formal designed elements of the landscape, as it may appear above the height of the trees. ***High sensitivity***
Built environment A dispersed pattern of small farms and individual estate houses extends across this character type, but Culzean Castle, perched on its rocky fastness, is the key feature. It has an extensive setting and there are further built designed features in the extensive grounds. This landscape provides the setting to the settlement of Maidens and a further point of interest is the 'Electric Brae', a visitor attraction on the A719.	This typology could detract from the setting of individual houses, settlements and the 'Electric Brae'. The height of this typology and the expansiveness of the designed landscape means that there are no locations where it would not intrude into the setting of Culzean castle or its related built features. ***High sensitivity***	This typology could detract from the setting of individual houses, settlements and the 'Electric Brae'. The height of this typology and the extensiveness of the designed landscape means that there are no locations where it would not intrude into the setting of Culzean castle or its related built features. ***High sensitivity***
Perceptual qualities This landscape can be secluded, in part because of the containment provided by the raised beach along the coast and elsewhere by the extensive woodland, but its key quality is the perceived integrity of its historic and overall landscape character and the fine consistency of the diverse policy woodlands.	Turbines of this size would intrude on the sense of seclusion and naturalness experienced along the coast and are likely to intrude into the experience of the perceived historic integrity of this landscape. ***High sensitivity***	Turbines of this size could intrude on the sense of seclusion and naturalness experienced along the coast and are likely to intrude into the experience of the perceived historic integrity of this landscape. Even at this smaller size, scope for siting turbines which do not intrude into these qualities is likely to be limited. ***High sensitivity***
Visual amenity Culzean castle is the visual focus of views more widely across this character type, and views from the Castle, including from the interiors, are an additional consideration. Other viewpoints include a number of locations around the Culzean grounds, the accessible coast, which is accessible from the Ayrshire Coastal Path	This size of turbine would be highly visible from the elevated Castle, possibly features within the grounds, the A77 and the Ayrshire Coastal Path, as well as from the sea, within this character type where it would form a dominant feature and detract from visual foci. The setting of the conical landmark Mochrum Hill is a further sensitivity. ***High sensitivity***	This size of turbine would be highly visible from the elevated Castle, possibly features within the grounds, the A77 and the Ayrshire Coastal Path, as well as from the sea, within this character type where it would form a dominant feature and detract from visual foci. The setting of the conical landmark Mochrum Hill is a further sensitivity. ***High sensitivity***

and from the 'Electric Brae'. The conical Mochrum Wood is a landmark hill.		
Cumulative effects Operational wind farms are not visible from this LCT. The consented Kirk Hill wind farm will be visible on the skyline of the *Maybole Foothills* (17d) to the east from more open parts of this landscape.	Cumulative effects could occur on the setting of Culzean designed landscape and on views from the A719. ***High-medium sensitivity***	Cumulative effects could occur on the setting of Culzean designed landscape and on views from the A719. ***High-medium sensitivity***

Character Type 5: Coastal Valley with Policies – Sensitivity assessment for small-medium and small typologies

Topic and summary description	Assessment of small-medium typology (30m-50m)	Assessment of small typology (15m-30m)
Landscape context This landscape is contained and overlooked by higher hills of the Coastal Headlands of the *Carrick Hills* (4b) and the *Maybole Foothills* (17d) which form the wider setting of this valley. The valley mouth is largely tucked between headlands associated with the neighbouring *Raised Beach Coast with Flat Fields and Headlands* (1c). This landscape type is small and relatively enclosed, but overlooks a wide stretch of the sea and distant southern Arran.	This landscape type is relatively small in extent, and the larger sizes of this typology would be difficult to absorb within the limited extent of this landscape type without impacting on the character and setting of adjacent landscape types. While this typology could also impact on the wider setting of the Firth of Clyde as experienced from the sea, especially if located on prominent skylines, the way this type is tucked in between headlands will limit wider effects on adjacent types. ***Medium sensitivity***	The landscape type is relatively small in extent, but the smaller size of these turbines would have less of an effect on the character of adjoining landscape types. This size of typology might have a modest impact on the wider setting of the Firth of Clyde as experienced from the sea, especially if located on prominent skylines. The way this type is tucked in between headlands will limit wider effects on adjacent types. ***Medium-low sensitivity***
Scale Although the sea gives a sense of expansiveness, the valley is broadly contained by higher enclosing hills, the coast is enclosed by a wooded raised beach, and the landform is rolling and relatively complex, with small features often seen in low relief. The pattern of landuse, which includes numerous fields enclosed by lines of trees and policies, further reduces the scale of this landscape.	This typology would dominate the smaller scale landforms, including the raised beach, within this landscape and would also be out of scale with the pattern of smaller spaces within the designed landscape and its wider setting of field enclosures, although the transition with larger scale adjacent uplands may offer limited opportunities for this typology. ***High-medium sensitivity***	Even this small height typology could dominate the low relief of the raised beaches and smaller spaces within the designed landscape and its wider setting of field enclosures, although the transition with larger scale adjacent uplands may offer limited opportunities for this typology. ***High-medium sensitivity***
Landform This is a landscape underpinned by relatively complex land form, including a consistent length of raised beach backing onto the fragmented coast, smooth rounded interlocking spurs, shallow side valleys and low hills against more terraced landform on the lower hill slopes.	The consistent complexity of the landform, including interlock and the range of features, limits opportunities for the larger sizes of this typology, but the less complex landform, and gentle slopes along the lower foothills are simpler. ***Medium sensitivity***	The consistent complexity of the landform, including interlock and the range of features, limits opportunities for even this typology, but the less complex landform, and gentle slopes along the lower foothills are simpler. ***Medium-low sensitivity***
Landscape pattern Extensive grounds and policies associated with	This typology would fragment the complexity and consistency of the land use pattern and the	Even this typology would fragment the complexity and consistency of the land use

Culzean castle form the focus for the landuse pattern in this landscape character type. These also provide a contrast to less wooded character elsewhere along this coast. Beyond the extensive grounds, cultivated fields are small and often surrounded by woodland, hedges or lines of trees which reinforce the field pattern. The lower hill slopes are unimproved grassland and whin scrub.	widespread presence of fine policy features which are a key sensitivity. In addition, the taller versions of this height of turbine would detract from the more formal designed elements of the landscape, as they are likely to appear above the height of the trees. ***High sensitivity***	pattern and the widespread presence of fine policy features which are a key sensitivity and the extensive designed landscape should be avoided. However, this smaller height of turbine is less likely to have as wide or recurrent an impact as the larger typologies elsewhere in this landscape. ***Medium sensitivity***
Built environment A dispersed pattern of small farms and individual estate houses extends across this character type, but Culzean Castle, perched on its rocky fastness, is the key feature. It has an extensive setting and there are further built designed features in the extensive grounds. This landscape provides the setting to the settlement of Maidens and a further point of interest is the 'Electric Brae', a visitor attraction on the A719.	This typology would detract from the setting of individual houses, settlement and the Electric Brae if located nearby. It could also intrude into the setting of Culzean castle or its related built features seen in key views. ***High-medium sensitivity***	This typology would detract from the setting of individual houses, settlement and the Electric Brae if located nearby. It could also intrude into the setting of Culzean castle or its related built features. However, there may be limited opportunities for these smaller turbines to be located to avoid impact on the setting of built features. ***Medium sensitivity***
Perceptual qualities This landscape can be secluded, in part because of the containment provided by the raised beach along the coast and elsewhere by the extensive woodland, but its key quality is the perceived integrity of its historic and overall landscape character and the fine consistency of the diverse policy woodlands.	Turbines of this size could intrude on the sense of seclusion and naturalness experienced along the coast and are likely to intrude into the experience of the perceived historic integrity of this landscape. Even at this smaller size, scope for siting turbines which do not intrude into these qualities is likely to be limited. ***High sensitivity***	Turbines of this size could intrude on the sense of seclusion and naturalness experienced along the coast and are likely to intrude into the experience of the perceived historic integrity of this landscape. There is likely to be limited scope for these smaller turbines to be sited away from the most sensitive historic and secluded locations. ***High-medium sensitivity***
Visual amenity Culzean castle is the visual focus of views more widely across this character type, and views from the Castle, including from the interiors, are an additional consideration. Other viewpoints include a number of locations around the Culzean grounds, the accessible coast, which is accessible from the Ayrshire Coastal Path and from the 'Electric Brae'. The conical Mochrum	This size of turbine, especially the taller turbine sizes, is likely to be visible from the elevated Castle and possibly features within the grounds, the A77 and the Ayrshire Coastal Path, as well as from the sea, where it would form a dominant feature and detract from visual foci. The setting of the conical landmark Mochrum Hill is a further sensitivity. Woodland cover close to viewpoints is likely to	This size of turbine could be visible from the elevated Castle, and possibly also from features within its grounds, from the A77 and the Ayrshire Coastal Path, as well as from the sea. Even this small size could form a distraction from key visual foci. However, turbines towards the lower height band of this typology will limit the degree and extent of visual effects.

Wood is a landmark hill. The extent of woodland in this character type limits visibility from some viewpoints.	limit visibility of smaller turbines in this typology, for example from the coast. ***High sensitivity***	Woodland cover close to viewpoints is likely to limit visibility of smaller turbines in this typology, for example from the coast. ***Medium sensitivity***
Cumulative effects Operational wind farms are not visible from this LCT. The consented Kirk Hill wind farm will be visible on the skyline of the *Maybole Foothills* (17d) to the east from more open parts of this landscape.	This typology is most likely to comprise single and very small groups of turbines. Cumulative effects are likely to be minimal provided turbines were sited on less prominent landform. ***Medium-low sensitivity***	Turbines of this size sited in this LCT would have minimal cumulative effects with operational and consented wind farms. ***Low sensitivity***

9.2 Summary of sensitivity

The *Coastal Valley with Policies* (5) occupies the wide mouth of a valley contained by higher hills to the north and south and tucked between headlands of adjacent Raised Beach coastal landscape types. It is an extensively wooded landscape, from semi-natural woodland along the dramatic raised beaches on the foreshore, to formal policies providing the setting to the extensive grounds of Culzean Castle and lines of trees framing the fields. This landscape is a pronounced contrast to the less wooded stretches of adjacent coast. The landform is small scale and often complex, underpinned by river deposits, while the pattern of small spaces and the enclosure of the woodland reinforce a small scale, often contained landscape. The settlement pattern is sparse, but there is consistency in the estate type buildings, and the prominent Culzean castle is the structural focus for the extensive designed landscape and a visual focus more widely. The Castle grounds and their setting, extending out into the wider pattern of fields and shelterbelts, creates a landscape of considerable integrity and historic landscape value. This can be experienced from within the designed landscape, a key visitor attraction, from the A719 and the Ayrshire Coastal Path.

The containment of the valley, the small scale of the landform and the pattern of spaces and woodland, fine quality and integrity of the extensive policies and setting for Culzean Castle and its important visual focus combine to increase sensitivity of this landscape character type. There would be a ***High*** sensitivity to the large, medium and the small-medium typology (turbines above 30m high). Sensitivity to the small typology (turbines 15m-30m) would be ***High-medium***.

9.2.1 *Potential cumulative issues*

Key considerations for any future potential cumulative effects include the need to appraise inter-visibility of any smaller wind turbines sited on the lower slopes of the hills which contain this landscape with the consented Kirk Hill wind farm which will be visible on the skyline of the adjacent *Maybole Foothills* (17d).

9.2.2 *Constraints*

- The small extent of this character type which limits scope for larger and multiple turbine developments to be physically accommodated without impinging on neighbouring landscape character types
- The small scale of the landform and spaces enclosed by woodland within this character type
- The low relief, interlocking arrangement and complexity of the landform, as well as the abrupt upper edge of the raised beach
- The sense of seclusion along the coast and also within some of the more extensive policy woodland areas
- The fine quality, extent and integrity of the designed landscape and its wider setting
- The visual focal point of Culzean Castle, which is a structural focus for the designed landscape, but also a visual feature more widely
- Views to and from Culzean castle and a wide range of features within the well visited castle grounds

- The setting of the conical landmark hill of Mochrum Wood
- Views from the A77 the Ayrshire Coastal Path and the setting of the Electric Brae, an additional visitor attraction in this area.

9.2.3 *Opportunities*

- The occasional stretches of larger scale and more simple landform along the lower hill slopes at the transition of neighbouring more upland type landscapes on the landward side of the A77 where smaller turbines could be accommodated.

9.3 Guidance for development

There is ***no scope*** to accommodate turbines over 30m high.

There is ***very limited*** scope for occasional, single turbines of the small typology only (turbines, 15-30m high). The key sensitivities for this typology are potential impacts on the integrity and quality of the designed landscape and its wider setting, the visual focus of Culzean castle, views from and to Culzean and features in its grounds, the seclusion of the coast and the small scale and complexity of some of the landform. No opportunities were therefore identified in this assessment for even this height of turbine on the coast, within the designed landscape and its setting or within the small-scale fields and complex topography enclosed by woodland within the lower valley.

Opportunities are limited to the hinterland areas which merge with higher land, along the lower hill slopes of the *Brown Carrick Hills* (4b) and the lower fringes of the *Maybole Foothills* (17d). Even here, scale may be a sensitivity, as is the setting of the landmark hill of Mochrum Wood and the size of turbines could be a constraint, with a preference for turbines towards the lower height band of the small typology (<20m).

Small turbines below 15m high could be accommodated in this character type, but only where they do not intrude into the designed landscape or setting of Culzean Castle or other key features, or views to and from key features. Turbines should be located where they should be sited where they can be clearly associated with existing built development to minimise visual clutter.

All turbine developments should avoid coastal areas with perceived qualities of seclusion and be sited well away from the prominent raised beaches, more complex small-scale landforms and the tops of small hillocks or interlocking ridges. Turbines should also not be sited between the A719 and the coast on the north side of the valley, to avoid intrusion on dramatic views to the sea and Culzean Castle. Special care is needed to ensure that only well-designed turbines are used in this highly sensitive landscape with limits on the range of designs used in order to minimise cumulative landscape and visual effects. Detailed siting and design should accord with the guidance set out in Annex F.

This landscape is highly sensitive to intrusion from any larger turbine typologies sited in the adjacent character types of the *Maybole Foothills* (17d) and the *Coastal Headlands – Brown Carrick Hills* (4b).

The wider setting of the grounds and designed landscape is characterised by a field pattern which is reinforced by hedges and tree lines

The Maybole Foothills (17d), and particularly the landmark hill of Mochrum, provide a highly visible backdrop to the extensive designed landscape of Culzean and the coast.

Culzean Castle, here seen perched on the cliffs overlooking the coast, is the focus of its designed landscape and associated policies

The coastal woodlands are an extension of the policies, and cover a raised beach, which has a clear skyline and is of low relief. Here it provides the backdrop to Croy Beach.

10 CHARACTER TYPE 7D: SOUTH AYRSHIRE LOWLANDS

10.1 Introduction

This landscape character type occurs extensively across Ayrshire where it covers most of the Ayrshire Basin. This assessment considers the part of the Ayrshire Lowlands which occur within South Ayrshire only.

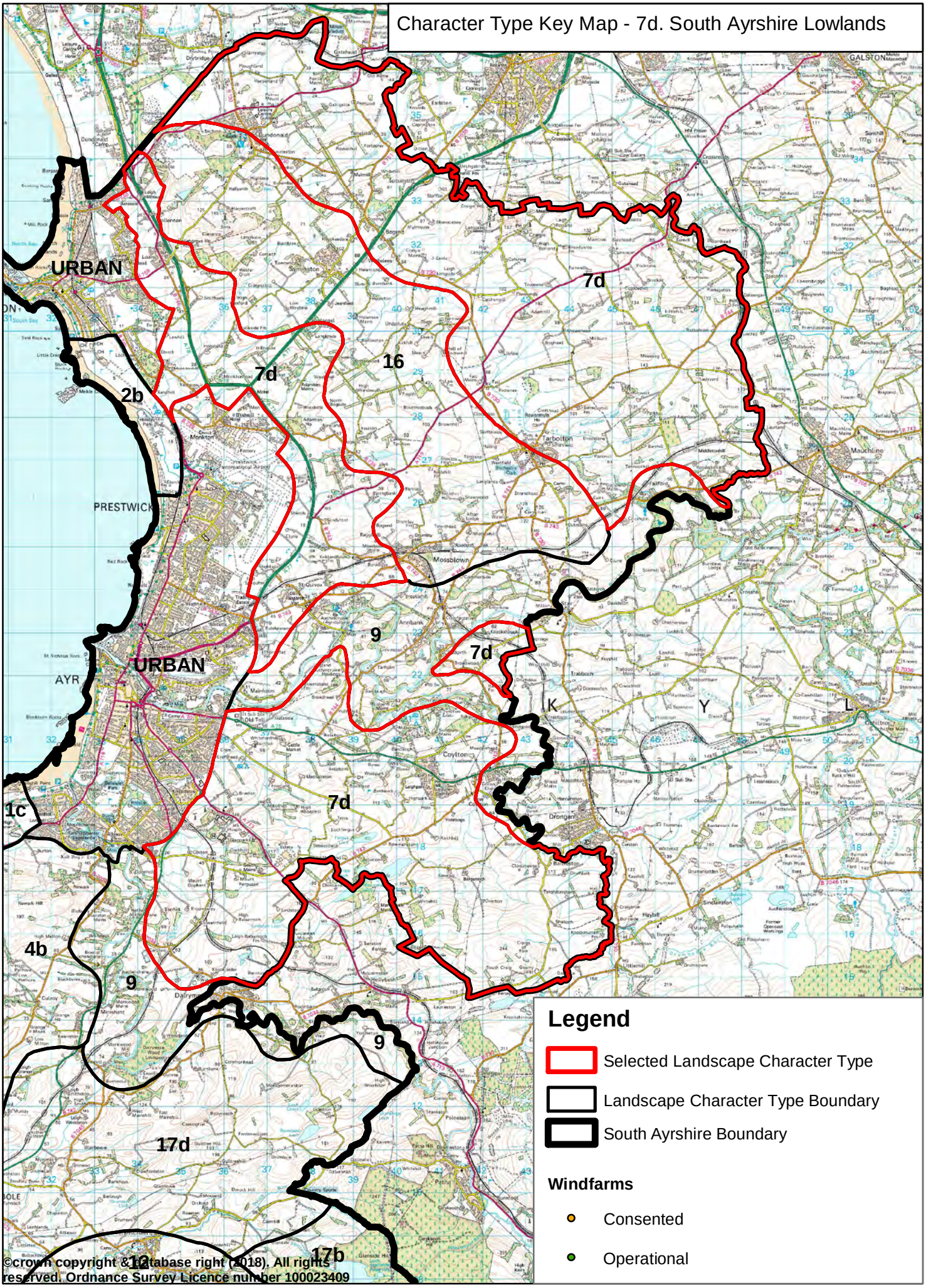
This assessment considers both smaller and larger development typologies in detail.

10.1.1 *Operational/consented wind farms*

Some smaller turbines <30m high are operational across this character type.

Although the operational wind farm developments of Hadyards, Whitelee and the developments sited within the Clyde Muirshiel uplands of North Ayrshire are visible from more open and elevated parts of the *South Ayrshire Lowlands*, the generally low-lying and rolling landform of this landscape, its containment by the higher *Foothills* and *Foothills with Forestry* (17c) to the south and the distance from these developments generally limits their influence on character and views.

Character Type Key Map - 7d. South Ayrshire Lowlands



Character Type 7d: South Ayrshire Lowlands – Sensitivity assessment for large and medium typologies

Topic and summary description	Assessment of large typology (70m+)	Assessment of medium typology (50-70m)
Landscape context This character type covers a fairly extensive area across Ayrshire. Within South Ayrshire this landscape occurs in two areas either side of the *Lowland Hills* (16) and in a third area south of the *Lowland River Valley* (9) of the Ayr valley. The South Ayrshire Lowlands form the edge to the smaller scale and diverse *Lowland River Valleys* (9) of the Ayr and Doon. It also backs the coastal settlements of Troon, Prestwick and Ayr. This landscape gradually merges with the more extensive and sparsely settled south-eastern part of the *East Ayrshire Lowlands* (7c) where they border the upland landscape of the *Foothills with Forest and Opencast Mining* (17a).	The large extent of this overall character type reduces sensitivity in relation to potential effects on adjacent character types although turbines of this size would dominate the intimate scale of *the Lowland River Valleys* (9) if sited so visible on containing skylines. They would also affect the prominent but relatively lowly *Lowland Hills* (16) and the setting of the settlements of Troon, Prestwick and Ayr if sited close-by. Sensitivity is reduced where this landscape merges with the more sparsely settled southern fringes of the *East Ayrshire Lowlands* (7c) and where it is back-dropped by the simple and larger scale *Foothills with Forest and Opencast Mining* (17a). ***Medium sensitivity***	The large extent of this overall character type reduces sensitivity in relation to potential effects on adjacent character types although turbines of this size would dominate the intimate scale of the *Lowland River Valleys* (9) if sited so visible on containing skylines. They would also affect the prominent but relatively lowly *Lowland Hills* (16) and the setting of the settlements of Troon, Prestwick and Ayr if sited close-by. Sensitivity is reduced where this landscape merges with the more sparsely settled southern fringes of the *East Ayrshire Lowlands* (7c) and where it is back-dropped by the simple and larger scale *Foothills with Forest and Opencast Mining* (17a). ***Medium sensitivity***
Scale The gently rolling landform combines with the strongly enclosed field pattern and regularly spaced dispersed small farms, houses and woodlands to create a small to medium scale landscape, dependant on the complexity of landform and land cover pattern. Larger buildings occur on the outer edge of the coastal settlements of Prestwick and Ayr. Some small but prominent hills occur in places and scale is increased in the south around the Craigs of Kyle which rise to 244m and are more open and less well settled.	This typology would appear very large compared with the relatively low relief of occasional small prominent hills. It would also dominate buildings, woodlands and trees which regularly pattern this landscape and provide ready scale references. ***High sensitivity***	This typology would appear very large compared with the relatively low relief of occasional small prominent hills. This typology would dominate small hills and ridges and buildings, woodlands and trees which regularly pattern this landscape and provide ready scale references. ***High sensitivity***
Landform A gently undulating to rolling landform with occasional more defined small hills and ridges. Broader valleys contain flat areas of wetter pasture in the eastern part	The generally simple, gently undulating landform of this landscape reduces sensitivity although this typology would detract from more complex rolling landform, which particularly occurs on the edges	The generally simple, gently undulating landform of this landscape reduces sensitivity although this typology would detract from more complex rolling landform, which particularly occurs on the

of this landscape. Landform becomes more complex at the transition with the *Lowland River Valley* (9) of the Ayr and Doon. The Craigs of Kyle on the southern fringes of this character type are more rugged in character, forming a locally prominent small hill with long northern slopes.	of the Ayr and Doon valleys, and from more defined small hills and rare craggy summits if sited on or nearby these landform features. ***Medium sensitivity***	edges of the Ayr and Doon valleys, and from more defined small hills and rare craggy summits if sited on or nearby these landform features. ***Medium sensitivity***
Landscape pattern This farmed landscape has small to medium sized pastures, often strongly enclosed by intact hedgerows with field trees in places. Rougher more open pasture covers the top of the Craigs of Kyle. Small mixed woodlands and shelterbelts are also common features. Areas of wetter grassland occur in flatter areas between rounded hills. A number of small estates with wooded policies occur at the foot of the *Lowland Hills* (16) and occasionally elsewhere across this landscape. Small elongated lochs also lie to the north-west of the Craigs of Kyle.	Turbines of this height would detract from the rich patterning of small hedged fields and woodlands which is characteristic of many parts of this landscape. More diverse wooded policies and the setting of small lochs would be particularly sensitive. ***High-medium sensitivity***	Turbines of this height would detract from the rich patterning of small hedged fields and woodlands which is characteristic of many parts of this landscape. More diverse wooded policies and the setting of small lochs would be particularly sensitive. ***High-medium sensitivity***
Built environment A regular and fairly dense pattern of small farms, these often located on low hill tops and ridges, is characteristic of this landscape together with some small settlements. The landscape becomes more fragmented by roads, industry and other built infrastructure on the fringes of the Irvine valley and adjacent to Ayr and Prestwick. This landscape is crossed by a network of roads and high voltage transmission lines are also present in the Coylton and Craigs of Kyle areas.	This size of turbine (and particularly multiple turbines) would significantly intrude on the setting of small settlements and farms which are closely spaced across this landscape. They would also affect the setting of Troon which is less fragmented than other settlements, featuring extensive wooded policies on its eastern edge. Areas with a more 'semi-industrial' character would be less sensitive although turbines could add to the clutter of disparate built features and disturbance in some areas. ***High-medium sensitivity***	This size of turbine (and particularly multiple turbines) would significantly intrude on the setting of small settlements and farms which are closely spaced across this landscape. They would also affect the setting of Troon which is less fragmented than other settlements, featuring extensive wooded policies on its eastern edge. Areas with a more 'semi-industrial' character would be less sensitive although turbines could add to the clutter of disparate built features and disturbance in some areas. ***High-medium sensitivity***
Perceptual qualities Although this landscape does not have any sense of wildness, lush rolling pastures with intact hedgerows and traditional white-rendered small farms give a	The introduction of multiple turbines of this size to this landscape could affect the perception of rural character if sited within more intact farmland although sensitivity is generally reduced in	The introduction of multiple turbines of this size to this landscape could affect the perception of rural character if sited within more intact farmland although sensitivity is generally reduced in

distinctly rural character in some areas away from major roads and larger urban centres.	relation to the key perceptual qualities of wildness. ***Medium-low sensitivity***	relation to the key perceptual qualities of wildness. ***Medium-low sensitivity***
Visual amenity This character type is criss-crossed by a dense network of minor roads as well as the major routes of the A77, A78 and A70 and A719 It is also very well settled. The rolling landform and presence of woodlands, hedgerows and trees restricts long views in some areas although occasional open and elevated sections of minor roads provide extensive views across this landscape and the wider area. This landscape provides the foreground to views to the Firth of Clyde and Arran from roads and settlement in the adjacent *Lowland Hills* (16) character type.	Turbines of this size would be highly visible from more open elevated roads and from settlement. Multiple turbines of this size dispersed across this landscape would be inter-visible and seen in close proximity due to the dense network of roads and settlement. Turbines would intrude on key views to the sea if located in more open areas between the coastal settlements of Troon and Prestwick. ***High sensitivity***	Turbines of this size would be highly visible from more open elevated roads and from settlement. Multiple turbines of this size dispersed across this landscape would be inter-visible and seen in close proximity due to the dense network of roads and settlement. Turbines would intrude on key views to the sea if located in more open areas between the coastal settlements of Troon and Prestwick. ***High sensitivity***
Cumulative effects The operational wind farm of Whitelee is clearly visible from more open elevated parts of this landscape although it is seen at distances >15km which lessens intrusion. Operational wind farms within the uplands of mainland North Ayrshire are also visible but seen at even greater distances. A single operational turbine at Crosshouses (within the East Ayrshire Lowlands 7c) is locally visible.	Although significant cumulative visual effects would be unlikely to occur with operational wind farms, turbines of this size sited in the *Ayrshire Lowlands* would be contrary to the established association of larger wind farm developments with more expansive, simpler and less settled upland landscapes. ***Medium sensitivity***	Although significant cumulative visual effects would be unlikely to occur with operational wind farms, turbines of this size sited in the Ayrshire Lowlands would be contrary to the established association of larger wind farm developments with more expansive, simpler and less settled upland landscapes. ***Medium sensitivity***

Character Type 7d: South Ayrshire Lowlands – Sensitivity assessment for small-medium and small typologies

Topic and summary description	Assessment of small-medium typology (30m-50m)	Assessment of small typology (15m-30m)
Landscape context This character type covers a fairly extensive area across Ayrshire. Within South Ayrshire this landscape occurs in two areas either side of the *Lowland Hills* (16) and in a third area south of the *Lowland River Valley* (9) of the Ayr valley. The *South Ayrshire Lowlands* form the edge to the smaller scale and diverse *Lowland River Valleys* (9) of the Ayr and Doon. It also backs the coastal settlements of Troon, Prestwick and Ayr. This landscape gradually merges with the more extensive and sparsely settled south-eastern part of the *East Ayrshire Lowlands* (7c) where they border the upland landscape of the *Foothills with Forest and Opencast Mining* (17a).	This typology would have minimal effects on surrounding landscapes although turbines should not be sited close to the *Lowland Hills* (16) and the *Coastal Edge* (2b). Turbines should also be set well back from the edge of the *Lowland River Valleys* (9) to avoid intrusion on sensitive skylines. ***Medium-low sensitivity***	This typology would have minimal effects on surrounding landscapes although turbines should be set back from the edge of the *Lowland River Valleys* (9) to avoid intrusion on sensitive skylines. ***Low sensitivity***
Scale The gently rolling landform combines with the strongly enclosed field pattern and regularly spaced dispersed small farms, houses and woodlands to create a small to medium scale landscape, dependant on the complexity of landform and land cover pattern. Larger buildings occur on the outer edge of the coastal settlements of Prestwick and Ayr. Some small but prominent hills occur in places and scale is increased in the south around the Craigs of Kyle which rise to 244m and are more open and less well settled.	Turbines of this size would still appear large in relation to more complex rolling landform, occasional defined small hills, farms and domestic buildings, trees and woodlands and areas with a small-scale field enclosure pattern. There is some limited scope to accommodate this typology in more open areas of less rolling landform and sparser settlement in the south-east of this character type. Turbines of this size would also have a less dominant effect on larger industrial, commercial and institutional buildings. ***Medium sensitivity***	There is increased scope to site these smaller turbines to avoid conflicts of scale. ***Medium-low sensitivity***
Landform A gently undulating to rolling landform with occasional more defined small hills and ridges. Broader valleys contain flat areas of wetter pasture in the eastern part	The generally simple, gently undulating landform of this landscape reduces sensitivity although this typology would detract from more complex rolling landform and occasional small hills if sited	These smaller turbines could fit more easily within areas with a more complex rolling landform although the tops of drumlins and more pronounced small hills are sensitive.

of this landscape. Landform becomes more complex at the transition with the Lowland River Valley (9) of the Ayr and Doon. The Craigs of Kyle on the southern fringes of this character type are more rugged in character, forming a locally prominent small hill with long northern slopes.	nearby. Broader ridges and gentler hill slopes would be less sensitive. This typology is less likely to involve significant numbers of turbines thereby reducing potential impacts associated with producing an integrated layout and access tracks in more complex rolling landform. ***Medium sensitivity***	***Medium-low sensitivity***
Landscape pattern This farmed landscape has small to medium sized pastures, often strongly enclosed by intact hedgerows with field trees in places. Rougher more open pasture covers the top of the Craigs of Kyle. Small mixed woodlands and shelterbelts are also common features. Areas of wetter grassland occur in flatter areas between rounded hills. A number of small estates with wooded policies occur at the foot of the Lowland Hills (16) and occasionally elsewhere across this landscape. A number of small elongated lochs lie to the north-west of the Craigs of Kyle.	Turbines of this size would detract from areas with a strong enclosure pattern, policy woodlands, field trees and small lochs. Areas with a simpler land cover pattern would be less sensitive. ***Medium sensitivity***	This typology could be more easily accommodated without detracting from more pronounced land cover pattern although the setting of rare small lochs remains sensitive. ***Medium-low sensitivity***
Built environment A regular and fairly dense pattern of small farms, these often located on low hill tops and ridges, is characteristic of this landscape together with some small settlements. The landscape becomes more fragmented by roads, industry and other built infrastructure on the fringes of the Irvine valley and adjacent to Ayr and Prestwick. This landscape is crossed by a network of roads and high voltage transmission lines are also present in the Coylton and Craigs of Kyle areas.	This size of turbine (and particularly multiple turbines) could significantly intrude on the setting of small settlements and farms which are closely spaced across this landscape. Areas with a more semi-industrial character and the sparsely settled upland fringes would be less sensitive to this typology. The setting to Troon would be sensitive to this typology. ***Medium sensitivity***	These smaller turbines are more likely to be able to be partially screened by landform and vegetation and would have a less dominant scale (particularly if multiple turbines were dispersed across this landscape) thus limiting impacts on the setting of settlement. ***Low sensitivity***
Perceptual qualities Although this landscape does not have any sense of wildness, lush rolling pastures with intact hedgerows and traditional white-rendered small farms give a	While multiple turbines of this size could affect the strongly rural character experienced in parts of this landscape, sensitivity is reduced however due to the absence of key perceptual qualities.	This small typology would have minimal effects on perceptual qualities ***Low sensitivity***

distinctly rural character in some areas away from major roads and larger urban centres.	***Medium-low sensitivity***	
Visual amenity This character type is criss-crossed by a dense network of minor roads as well as the major routes of the A77, A78 and A70 and A719 It is also very well settled. The rolling landform and presence of woodlands, hedgerows and trees restricts long views in some areas although occasional open and elevated sections of minor roads provide extensive views across this landscape and the wider area. This landscape provides the foreground to views to the Firth of Clyde and Arran from roads and settlement in the adjacent *Lowland Hills* (16) character type.	Turbines of this size would extend above woodlands and would be visible from roads and settlement although there may be some scope to site turbines towards the lower height band of this typology to minimise visual intrusion. Turbines could intrude on key views to the sea if located in more open areas between the coastal settlements of Troon and Prestwick. ***High-medium sensitivity***	There are greater opportunities to site these smaller turbines to minimise effects on views and utilise containment by low hills and ridges and woodland. ***Medium sensitivity***
Cumulative effects The operational wind farm of Whitelee is clearly visible from more open elevated parts of this landscape although it is seen at distances >15km which lessens intrusion. Operational wind farms within the uplands of mainland North Ayrshire are also visible but seen at even greater distances. A single operational turbine at Crosshouses (within the *East Ayrshire Lowlands* 7c) is locally visible.	Cumulative effects would be unlikely to arise with existing large scale wind farms sited in adjacent upland areas. They could arise however if multiple turbines of this size were associated with a number of landholdings because of the relatively dense pattern of small farms within this landscape. ***Medium sensitivity***	This typology would be more able to be screened by landform and woodlands which would minimise the cumulative effects of multiple turbines. Clear association of turbines of this size with farms and buildings would also establish a rational pattern, reducing clutter and cumulative effects. ***Low sensitivity***

10.2 Summary of sensitivity

The *South Ayrshire Lowlands* have a variable landform which although gently undulating, forming low ridges and valleys, can be more complex and rolling in some areas with some locally prominent small hills. The landform becomes more folded at the edge of the *Lowland River Valley* (9) where small interlocking hills form prominent skylines, particularly seen from the Ayr and Doon valleys. This is a diverse landscape with small pastures, enclosed by intact hedgerows, small woodlands and field trees and a regular pattern of small farms enriching the overall composition. Occasional small estates surrounded by wooded policies lie at the foot of the Lowland Hills (16) and the Craigs of Kyle and are more widely dispersed across the remainder of this landscape. Higher, more open hills occur to the south-east in the Craigs of Kyle area at the transition with the larger scale *East Ayrshire Lowlands* (7c) and *Foothills with Forestry and Opencast Mining* (17a). This landscape becomes more fragmented by larger scale built infrastructure where it abuts the settlements of Ayr, Prestwick and Kilmarnock.

The generally small to medium scale of this landscape which is influenced by the dense pattern of evenly distributed small farms, trees and woodlands, increases sensitivity to larger development typologies. There would be a ***High*** sensitivity to the large typology (turbines 70m+) and the medium typology (turbines 50-70m). Sensitivity to the small-medium typology (turbines 30m-50m) would be ***Medium*** and ***Medium-low*** for the small typology (turbines 15-30m) reflecting increased opportunities for these smaller typologies to fit better with the scale of this well-settled landscape and to avoid significant cumulative effects associated with multiple turbines.

10.2.1 *Potential cumulative issues*

Potential cumulative issues may include the following:

- Close inter-visibility between any turbines sited on the southern fringes of this character type at the transition with the more extensive upland landscapes of the *Foothills with Forestry and Opencast Mining* (17a) and the *East Ayrshire Lowlands* (7c) which may in future accommodate larger wind farm developments.
- Larger typologies sited in this settled small scale landscape would be contrary to the established association of turbines >100m high with more simple and expansive upland landscapes.
- Multiple turbines >30m associated with the majority of land holdings would have significant cumulative landscape and visual effects due to the relatively dense spacing of small farms characteristic of this landscape, quickly becoming a dominant feature. A greater number of turbines <30m could be accommodated in this landscape due to their ability to fit more comfortably with the size of buildings, woodlands and trees and be partially contained by landform and vegetation.
- Variations in the type and size of single and small groups of small turbines proposed within the landscape type

10.2.2 *Constraints*

- The predominantly small to medium scale of this landscape where the rolling landform and woodlands provide containment and the density of closely spaced small farms and settlements provide ready scale references and increase potential for cumulative effects associated with multiple turbines.
- Occasional more complex areas of rolling landform and more defined prominent small hills, diverse areas of policy woodlands, field and road-side trees and small pastures with a strong enclosure pattern of hedgerows.
- The smaller scale *Lowland River Valleys* (9) of the Ayr and Doon which cut into the South Ayrshire Lowlands and feature diverse policy woodlands and historic settlements and buildings which would be sensitive to intrusion by larger turbines seen on the skyline of often complex containing ridges above the valley.
- The role this landscape plays in providing a simple rural landscape setting to Troon and the foreground to views to the Firth of Clyde and Arran from roads and settlements and also from the adjacent *Lowland Hills* (16) in this area.
- The fragmented pattern of large buildings, roads, transmission lines and other infrastructure on the fringes of Ayr, Prestwick and Kilmarnock which could be exacerbated by turbines (and particularly multiple larger typologies) increasing visual clutter and intrusion.

10.2.3 *Opportunities*

- The less densely settled and more open long gentle northern hill slopes of the Craigs of Kyle which lie in the south-eastern part of the South Ayrshire Lowlands at the transition with more expansive and simple upland landscapes and where the small-medium typology could be located providing intrusion on the setting of designed landscapes and small lochs was minimised.
- The more fragmented urban fringes around Kilmarnock, Ayr and Prestwick where the landform is often less rolling, the field enclosure and woodland pattern weaker and where the small-medium typology would fit better with the scale of industrial and other larger buildings provided they were limited in number and sited close-by to minimise the spread of clutter.
- The regular pattern of farms which are often located on low hills and ridges where the small typology (turbines <30m) could be sited so visually associated with buildings thus emphasising this existing pattern and relationship to landform and minimising clutter.
- The rolling landform and often dense pattern of hedgerows, woodlands and roadside trees which could provide intermittent screening of smaller turbines.

10.3 Guidance for development

This study has found there to be ***no scope*** for the large and medium typologies (turbines >50m) to be accommodated in this landscape.

There are ***limited*** opportunities for the small-medium typology (turbines 30-50m) to be accommodated in the south-eastern fringes of this character type in the more

open and less densely settled Craigs of Kyles area. Potential cumulative effects with any future larger scale wind farm developments that may be proposed in the adjacent *Foothills with Forestry and Opencast Mining* (17a) character type should be considered when evaluating proposals for this height of turbine in this area. Turbines sited in this area should avoid intruding on the setting of Martnaham Loch and associated wooded policies and the more rugged rocky summit of the Craigs of Kyle.

The small-medium typology could also be associated with larger buildings on the fringes of Kilmarnock, Ayr and Prestwick although the number and range of turbines would need to be limited to avoid significant cumulative effects and exacerbation of the fragmented nature of these urban fringes.

There are increased opportunities to locate multiple turbines of the small typology (15-30m) to minimise cumulative effects as turbines of this size could be sited to be partially back-dropped by low hills and would be additionally screened in places by woodland and trees. Turbines <15m should be visually associated with existing farms and other buildings to emphasise the existing settlement pattern and its relationship to landform and minimise clutter in this relatively densely settled landscape.

All turbines should be sited to avoid intrusion on sensitive skylines seen from the Ayr and Doon valleys. They should also be sited to avoid significant impacts on the setting of Troon and views to the Firth of Clyde and Arran.

Detailed siting and design should accord with the guidance set out in Annex F.

The operational Whitelee wind farm is particularly visible from the eastern and higher parts of this landscape.

Occasional broader basins and valleys are contained by low ridges

The strong field enclosure pattern, field trees and even distribution of farms combine with the gently rolling landform to create a small to medium scale landscape.

The low relief of the landform is evident by the size of farm buildings and trees – the small turbine is an example of good siting being visually associated with the farm yet avoiding the more prominent hill top.

Martnaham Loch and associated wooded policies in the southern part of this landscape character type.

Broader more open and less densely settled hill slopes in the Craigs of Kyle area

11 CHARACTER TYPE 9: LOWLAND RIVER VALLEYS

11.1 Introduction

This landscape character type occurs across Ayrshire where it covers the lower valleys of the Garnock, Annick Water, Irvine, Ayr and Doon, together with a number of smaller tributaries of these rivers.

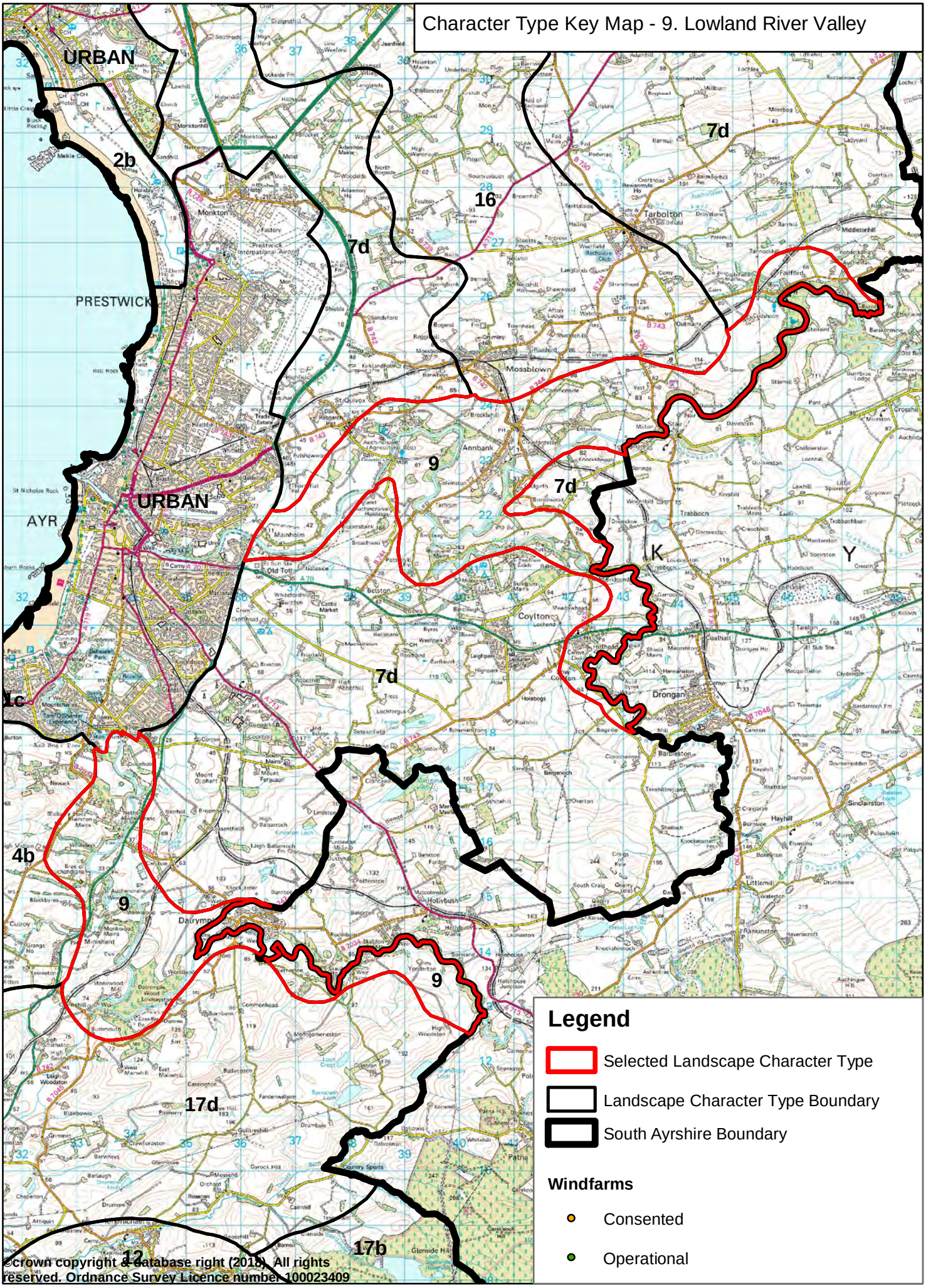
The detailed assessment considers both larger and smaller development typologies.

11.1.1 *Operational/consented wind farms*

No operational wind farms are sited within this character type. An operational single 80m high turbine is located within the Ayr valley near Sorn. An operational single 48m high turbine is located at the Moorfield Industrial Estate, south-west of Kilmarnock and within the *East Ayrshire Lowlands* (7c). A number of smaller turbines (generally <20m high) are located near Galston and close to the Irvine valley.

The operational Whitelee wind farm, its consented extensions and the consented Sneddon Law wind farm (a total of 230 turbines, 110m-130m high) lie about 4km to the north of the Irvine valley. The GSK turbines near Irvine in North Ayrshire (2 turbines, 110m high) also lie relatively close to the Irvine Valley.

Character Type Key Map - 9. Lowland River Valley



Character Type 9: Lowland River Valleys – Sensitivity assessment for large and medium typologies

Topic and summary description	Assessment of large typology (70m+)	Assessment of medium typology (50-70m)
Landscape context These lowland river valleys are generally narrow with upper slopes merging gradually with the adjacent rolling *North Ayrshire Lowlands* (7a) although landform is often more complex and interlocking at the transition between the Ayr and Doon valleys and the *East and South Ayrshire Lowlands* (7c, 7d). The narrower and more densely wooded valleys are often hidden from roads and settlement within surrounding landscapes. The Ayr valley extends well inland and abuts the *East Ayrshire Plateau Moorland* (18a), providing the foreground to views of the 'landmark' hill of Blackside. The lower Doon valley is back-dropped by the prominent *Brown Carrick Hills* (4b) and the richly patterned eastern slopes of these hills have a strong relationship to the extensive wooded policies within this valley. Other upland areas abutting these valleys form relatively low and simple skylines and are less sensitive.	Turbines of this height would extend well above the side slopes which contain these valleys and would intrude on the adjacent *Ayrshire Lowlands* (7a, 7c and 7d), detracting from more complex knolly landform where this is present. This typology would also impact on views to the landmark Blackside Hill within the *East Ayrshire Plateau Moorland* (18a) if located in the upper Ayr valley and on the *Brown Carrick Hills* (4b) if located in the lower Doon valley. ***High sensitivity***	Turbines of this height would extend well above the side slopes which contain these valleys and would intrude on the adjacent *Ayrshire Lowlands* (7a, 7c and 7d), detracting from more complex knolly landform where this is present. This typology would also impact on views to the landmark Blackside Hill within the *East Ayrshire Plateau Moorland* (18a) if located in the upper Ayr valley and on the *Brown Carrick Hills* (4b) if located in the lower Doon valley. ***High sensitivity***
Scale These valleys are predominantly very narrow and contained by steep slopes. The convoluted course of the river, rolling landform of side slopes, small fields, woodlands, narrow winding roads and compact buildings also contribute to the intimate scale of these river valleys. The upper Irvine valley is broader and more open.	Turbines of this size would dominate the intimate to small scale of these predominantly narrow and settled valleys. ***High sensitivity***	Turbines of this size would dominate the intimate to small scale of these predominantly narrow and settled valleys. ***High sensitivity***
Landform The valleys are narrow and entrenched and rivers often flow in tight meanders, cutting into side slopes	Turbines of this size would significantly detract from narrow incised and particularly contorted sections of these valleys (which can often be	Turbines of this size would significantly detract from narrow incised and particularly contorted sections of these valleys (which can often be appreciated from

and occasionally forming more dramatic rocky gorges. Small interlocking hills on valley sides often form complex skylines although the Irvine valley is simpler, being contained by smoother and longer side slopes.	appreciated from elevated roads and settlement) They would also detract from more dramatic rocky gorges and the often complex interlocking landform of small knolly hills which occur on the top of containing side slopes and form prominent skylines. Gentler side slopes within the broader Irvine valley would be less sensitive. ***High-medium sensitivity***	elevated roads and settlement). They would also detract from more dramatic rocky gorges and the often complex interlocking landform of small knolly hills which occur on the top of containing side slopes and form prominent skylines. Gentler side slopes within the broader Irvine valley would be less sensitive. ***High-medium sensitivity***
Landscape pattern These valleys are well-wooded with riparian woodlands tracing the often strongly meandering course of the river and extensive mixed policy woodlands associated with the many estates covering valley sides. Small pastures cover broader sections of floodplain and rolling side slopes, where they are strongly enclosed by hedges and occasional field trees. Designed landscapes, including those associated with Dumfries House, Loudon Castle and Sorn Castle and the extensive policies within the lower Doon valley, contribute to a rich land-cover pattern.	This typology would significantly detract from the richly diverse landscape pattern characteristic of all these river valleys. ***High sensitivity***	This typology would significantly detract from the richly diverse landscape pattern characteristic of all these river valleys. ***High sensitivity***
Built environment A rich built heritage of planned settlements, mills, bridges, castles and mansion houses and their designed landscapes and historic settlements, such as Sorn and Alloway which lie in the Ayr and Doon valleys. Narrow winding roads provide access into often deeply incised valleys.	Turbines of this size would be likely to significantly affect the setting of settlement and designed landscapes. Modification of narrow winding roads would be necessary for construction access of turbines of this size, further eroding character. ***High sensitivity***	Turbines of this size would be likely to significantly affect the setting of settlement and designed landscapes. Modification of narrow winding roads would be necessary for construction access of turbines of this size further eroding character. ***High sensitivity***
Perceptual qualities Although these valleys are settled they can feel secluded being hidden from the surrounding lowlands. Extensive woodlands give a sense of naturalness and there is also a rich built heritage in all these valleys and strong literary associations with the Doon.	The sense of seclusion and perception of historical integrity which can be experienced in many of these valleys could be compromised by turbines of this size. ***High-medium sensitivity***	The sense of seclusion and perception of historical integrity which can be experienced in many of these valleys could be compromised by turbines of this size. ***High-medium sensitivity***

Visual amenity Views are limited within the more tightly contained and densely wooded sections of these valleys. There are however many elevated views from settlement and major roads on the more open upper valley sides. Footpaths and a network of minor roads also provide views along and across these valleys.	Single, and particularly multiple, turbines of this size located within these valleys would be highly visible from main roads and settlements aligned on upper valley sides and from within the more open Irvine valley. This typology would also be likely to be seen close to roads and settlement. ***High sensitivity***	Single, and particularly multiple, turbines of this size located within these valleys would be highly visible from main roads and settlements aligned on upper valley sides and from within the more open Irvine valley. This typology would also be likely to be seen close to roads and settlement. ***High sensitivity***
Cumulative effects The operational Whitelee and consented Sneddon Law wind farm is/will be visible in close proximity from the Irvine valley in the Galston area. The operational 80m high turbine at Sorn is also highly visible from elevated roads and settlement in the upper Ayr valley and from surrounding landscapes.	Significant cumulative effects would arise if this typology was located in the Irvine valley. The limited visibility of operational wind farms and large turbines elsewhere reduces sensitivity in relation to cumulative effects. ***Medium sensitivity***	Significant cumulative effects would arise if this typology was located in the Irvine valley. The limited visibility of operational wind farms and large turbines elsewhere reduces sensitivity in relation to cumulative effects. ***Medium sensitivity***

Character Type 9: Lowland River Valleys – Sensitivity assessment for small-medium and small typologies

Topic and summary description	Assessment of small-medium typology (30-50m)	Assessment of small typology (15-30m)
Landscape context These lowland river valleys are generally narrow with upper slopes merging gradually with the adjacent rolling *North Ayrshire Lowlands* (7a) although landform is often more complex and interlocking at the transition between the Ayr and Doon valleys and the *East and South Ayrshire Lowlands* (7c, 7d). The narrower and more densely wooded valleys are often hidden from roads and settlement within surrounding landscapes. The Ayr valley extends well inland and abuts the *East Ayrshire Plateau Moorland* (18a), providing the foreground to views of the 'landmark' hill of Blackside. The lower Doon valley is back-dropped by the prominent *Brown Carrick Hills* (4b) and the richly patterned eastern slopes of these hills have a strong relationship to the extensive wooded policies within this valley. Other upland areas abutting these valleys form relatively low and simple skylines and are less sensitive.	Turbines of this size would still impact on the adjacent *Ayrshire Lowlands* (7a, 7c and 7d) if sited on upper valley sides. There may be some opportunities to site this typology to minimise effects on the appreciation of the landmark Blackside Hill within the *East Ayrshire Plateau Moorland* (18a) although the policy landscapes which characterise the eastern slopes of the *Brown Carrick Hills* (4b) remain sensitive. ***High-medium sensitivity***	There would be increased opportunities to site these smaller turbines to minimise effects on adjacent more sensitive landscapes. Small scale complex knolly hills at the transition with the *Ayrshire Lowlands* (7a, 7b and 7d) and the policy landscapes on the eastern slopes of the *Brown Carrick Hills* (4b) would be sensitive even to these small turbines however. ***Medium sensitivity***
Scale These valleys are predominantly very narrow and contained by steep slopes. The convoluted course of the river, rolling landform of side slopes, small fields, woodlands, narrow winding roads and compact buildings also contribute to the intimate scale of these river valleys. The Irvine valley is broader and more open.	This typology could easily dominate the narrow floor of these valleys and appear to fill up more enclosed spaces. They would also dominate more complex small-scale landform features, farms and domestic buildings, small woodlands and enclosed fields. Even the broader and more open Irvine valley features a pronounced pattern of small fields, trees and settlement which increases sensitivity in relation to scale. ***High sensitivity***	There is increased scope to site single and small clusters of these smaller turbines within broader and more upper hill slopes to avoid conflicts of scale with small scale landform features, field pattern, woodlands and buildings. ***Medium sensitivity***

Landform The valleys are narrow and entrenched and rivers often flow in tight meanders, cutting into side slopes and occasionally forming more dramatic rocky gorges. Small interlocking hills on valley sides often form complex skylines although the Irvine valley is simpler, being contained by smoother and longer side slopes.	Turbines of this size would significantly detract from narrow incised and particularly contorted sections of these valleys (which can often be appreciated from elevated roads and settlement. They would also detract from more dramatic rocky gorges and the often complex interlocking landform of small knolly hills which occur on the top of containing side slopes and form prominent skylines. Gentler side slopes within the broader Irvine valley would be less sensitive. ***High-medium sensitivity***	These smaller turbines (and especially turbines <20m) could fit more easily within areas with a more rolling landform although the tops of small knolls, the deeply incised valleys, steep side slopes and the often complex interlocking upper valley sides which form prominent containing skylines are sensitive. ***Medium sensitivity***
Landscape pattern These valleys are well-wooded with riparian woodlands tracing the often strongly meandering course of the river and extensive mixed policy woodlands associated with the many estates covering valley sides. Small pastures cover broader sections of floodplain and rolling side slopes, where they are strongly enclosed by hedges and occasional field trees. Designed landscapes, including those associated with Dumfries House, Loudon Castle and Sorn Castle and the extensive policies within the lower Doon valley contribute to the richly diverse land cover pattern of these river valleys.	Turbines of this size would detract from areas with a strong enclosure pattern, from open floodplain pastures and from policy woodlands, parkland and field trees. Areas with a simpler land cover pattern would be less sensitive although these are limited within most of these valleys. ***High-medium sensitivity***	This typology could be more easily accommodated without detracting from more pronounced land cover pattern although the extensive designed landscapes and often strongly enclosed small rolling pastures and floodplain pastures should be avoided. ***Medium sensitivity***
Built environment A rich built heritage of planned settlements, mills, bridges, castles and mansion houses and their designed landscapes and historic settlements, such as Sorn and Alloway which lie in the Ayr and Doon valleys. Narrow winding roads provide access into often deeply incised valleys.	Turbines of this size could impact on the setting of settlement and designed landscapes in these valleys although there may be some very limited opportunities to site turbines towards the lower height band of this typology in less settled areas. Designed landscapes remain sensitive to intrusion by all turbines. ***High-medium sensitivity***	These smaller turbines would be partially screened by landform and vegetation and would have a less dominant scale thus limiting impacts on the setting of settlement. Designed landscapes remain sensitive to intrusion by all turbines. ***Medium sensitivity***

Perceptual qualities Although these valleys are settled they can feel secluded being hidden from the surrounding lowlands. Extensive woodlands give a sense of naturalness and there is also a rich built heritage in all these valleys and strong literary associations with the Doon.	There may be some scope to site this size of turbine to limit intrusion on more secluded sections of these valleys and to site them away from areas with a particularly rich heritage and thereby minimise effects on perceptual qualities. ***Medium sensitivity***	This small typology, which is likely to comprise single or very small groups of turbines closely associated with farms and other buildings would be likely to have minimal effects on perceptual qualities. ***Medium-low sensitivity***
Visual amenity Views are limited within the more tightly contained and densely wooded sections of these valleys. There are however many elevated views from settlement and major roads on the more open upper valley sides. Footpaths and a network of minor roads also provide views along and across these valleys.	Single, and particularly multiple, turbines of this size located within these valleys would be highly visible from main roads and settlements aligned on upper valley sides and from within the more open Irvine valley. This typology would also be likely to be seen close to roads and settlement. ***High sensitivity***	There are some opportunities to site these smaller turbines to minimise effects on views and utilise containment by local topography and woodland. Turbines <20m could be more easily assimilated in these landscapes. ***High-medium sensitivity***
Cumulative effects The operational Whitelee and consented Sneddon Law wind farm is/will be visible in close proximity from the Irvine valley in the Galston area. The operational 80m high turbine at Sorn is highly visible from elevated roads and settlement in the upper Ayr valley and from surrounding landscapes.	Significant cumulative effects could arise if turbines were located in the Irvine valley and closely inter-visible with existing/consented wind farms. The limited visibility of operational wind farms and large turbines elsewhere reduces sensitivity in relation to cumulative effects. ***Medium sensitivity***	This typology would have minimal cumulative effects if sited within the Irvine valley and elsewhere due to their smaller size and increased ability to be partially screened by landform and woodland. ***Low sensitivity***

11.2 Summary of sensitivity

The *Lowland River Valleys* (9) predominantly form narrow valleys which merge gradually with the adjacent gently rolling *Ayrshire Lowlands* (7a, 7c and 7d). These valleys are incised and often feature steep side slopes and a complex contorted course of main river and tributaries which is seen in elevated views from settlement and roads. The Doon, Ayr, Lugar Water and Water of Coyle are particularly well-wooded with a mix of semi-natural riparian woodland and extensive wooded policies associated with the many large estates sited on lower slopes. These woodlands, together with small rolling hedged fields on side slopes, more open floodplain pastures, individual trees, parkland and small buildings, contribute to the intimate scale of these river valleys. The Lowland River valleys are well settled and contain a number of architecturally interesting settlements and historic built features.

The predominantly intimate scale and diverse landform of these well-settled Lowland River Valleys, together with their rich diversity of land cover and built heritage, comprise major constraints to larger typologies. There would be a ***High*** sensitivity to the large typology (turbines >70m), the medium typology (turbines 50-70m) and the small-medium typology (turbines 30-50m). Sensitivity would be ***Medium*** for the small typology (turbines 15-30m) but with preference for turbines <20m.

11.2.1 *Potential cumulative issues*

The following issues may arise in connection with any possible developments situated in this and adjacent landscapes:

- Inter-visibility between larger turbines which are more likely to be located in the surrounding upland areas and any smaller turbines sited in these valleys.
- Potential location of larger turbines within the *Plateau Moorland* (18a) which could result in significant cumulative effects on the Irvine valley (in combination with the operational/consented Whitelee I and II and Sneddon Law wind farms) which may limit scope for even the small typology (turbines 15-30m) to be accommodated in the Irvine valley.
- Any larger turbines which may be sited in the adjacent Ayrshire Lowlands (7a, 7c and 7d) and could be visible on sensitive containing skylines seen from these *Lowland River Valleys*.

11.2.2 *Constraints*

- The strongly enclosed and confined nature of these valleys and the small farms and houses, areas of woodlands and enclosed farmland which provide ready scale references.
- Small interlocking hills which form complex skylines particularly within the Ayr and Doon valleys, rolling side slopes and the strongly meandering rivers which create spurs, cliffs and small arcs of flat floodplain in places.

- The intricate pattern of mixed policy woodlands covering steep side slopes, semi-natural riparian woodlands, small rolling pastures enclosed by hedges and occasional field trees and occasional areas of parkland.
- The setting these valleys provide to historic buildings, settlements and designed landscapes, including the more extensive estates of Sorn Castle, Dumfries House, Auchencruive and Loudoun Castle and the rich policy landscapes of the lower Doon valley.
- The often open and elevated views over and across these valleys from settlement and roads sited on upper valley sides.
- The close proximity of the Irvine valley to operational and consented wind farm developments within the *East Ayrshire Plateau Moorlands with Forestry and Wind Farms* (18b).

11.2.3 *Opportunities*

- The broader and more open Irvine valley, and less richly patterned sections of other valleys (which are very limited in extent) where the small typology (turbines 15-30m) could be accommodated to minimise effects on designed landscapes and cumulative effects with operational/consented wind farm development.
- More gently sloping upper valley sides where turbines <20m could be associated with farms and other buildings to minimise clutter and intrusion on the more dramatically incised and wooded valleys.

11.3 Guidance for development

This study has found there to be ***no scope*** for the large, medium or small-medium typology (turbines >30m high) to be accommodated in this landscape.

There are ***limited*** opportunities for the small typology (turbines 15-30m) to be sited in the broader and more open sections of the Lowland River Valleys. Turbines below 15m high only could be accommodated within the narrower and more richly patterned of these valleys but should be closely associated with farms and other buildings which are often located on upper valley sides to minimise intrusion.

All turbines should be sited to avoid impact on designed landscapes and areas with a more diverse landform and land-cover pattern, particularly evident within the Lugar Water, Ayr and Doon valleys but also within some sections of the other valleys of this character type. Turbines should not be sited on containing skylines prominent in views from settlement, roads and footpaths within the lower valley and the tops of small knolls should also be avoided.

Detailed siting and design should accord with the guidance set out in Annex F.

A narrow floodplain accommodating small arcs of pasture contained by steep wooded banks

Broader floodplain pastures and policy woodlands of Dumfries House in the upper Lugar valley

The majority of these valleys feature richly patterned woodlands and parkland associated with mansion houses and castles

Many of these deeply incised and densely wooded valleys are hidden from view although more open upper slopes are prominent from roads and settlement

Small farms are often located on more gently sloping fields set above the deeply incised valley sides.

Small gently rolling fields are predominantly enclosed by hedges and field trees contributing to the richness of these valleys.

12 CHARACTER TYPE 11: LOWER DALE

12.1 Introduction

This character type only occurs in a single area in Ayrshire. It comprises the broad gently undulating valley of the Water of Girvan from just east of Old Dailly to the coast at Girvan.

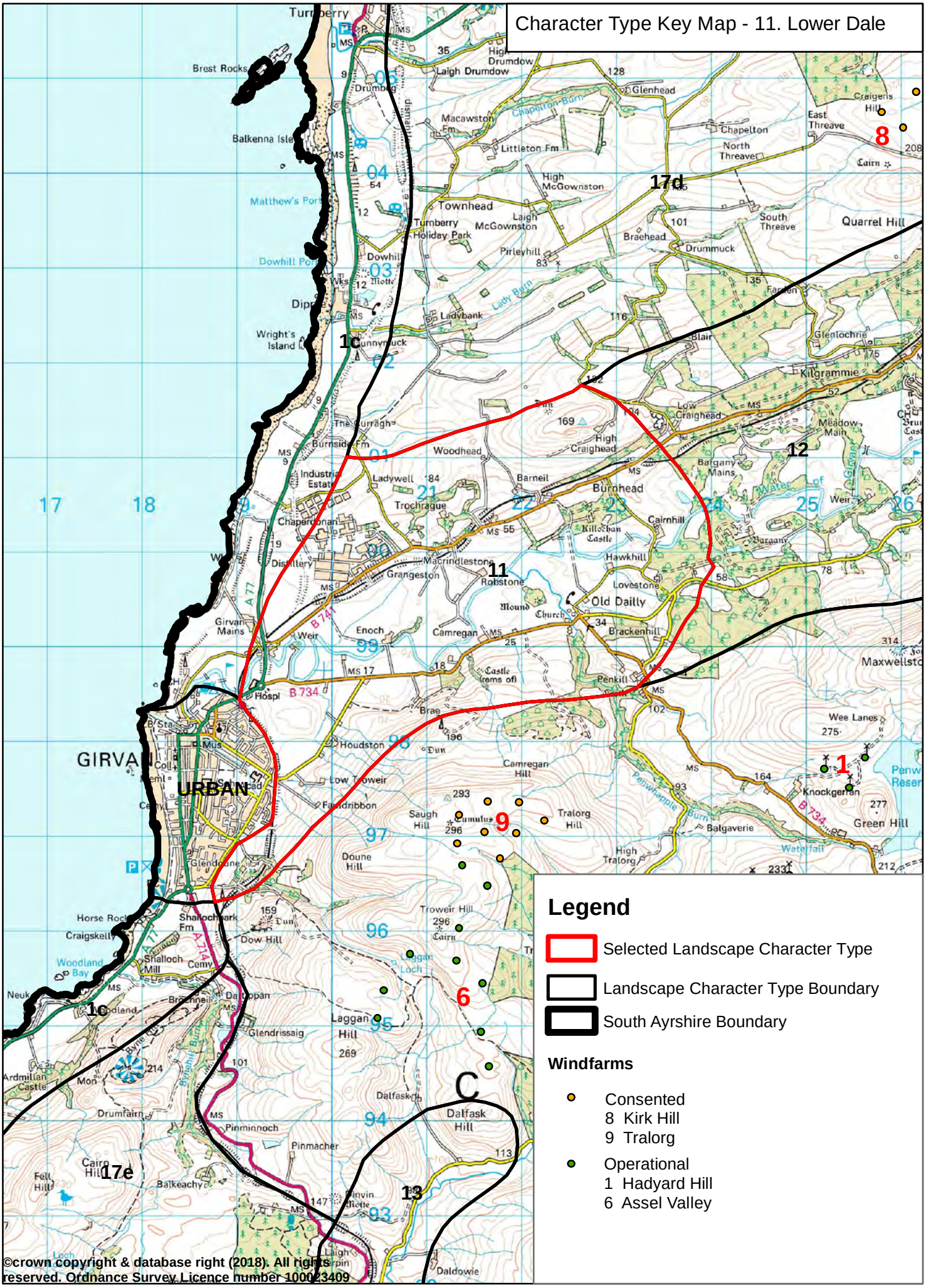
The detailed assessment considers both larger and smaller development typologies.

12.1.1 *Operational/consented wind farms*

There is an operational single turbine at Girvan hospital (47.4m high to blade tip) at the eastern end of this character type

The operational wind farm of Hadyard Hill is located in the nearby *Foothills with Forestry and Wind Farm* (17c). The operational Assel Valley and consented Tralorg wind farms are located in the *Coastal Foothills* (17e) which lie immediately to the south of this landscape character type. The consented Kirk Hill wind farm is situated within the Maybole Foothills (17d) to the north-east of this landscape.

Character Type Key Map - 11. Lower Dale



Character Type 11: Lower Dale – Sensitivity assessment for large and medium typologies

Topic and summary description	**Assessment of large typology (70m+)**	**Assessment of medium typology (50-70m)**
Landscape context This valley is relatively small in extent but strongly contained by adjacent *Foothills* character types (17c and 17e) restricting widespread inter-visibility with other landscapes. This type also merges with the *Raised Beach Coast with Flat Fields and Headlands* (1c) and the adjacent *Middle Dale* (12). The steeper slopes containing the dale contribute to the setting of Girvan, especially when viewed from the sea. The landscape increases in scale on upper slopes at the transition with the more sparsely settled *Coastal Foothills* (17e).	The relatively small extent of this landscape type means that this height of typology would affect the character and setting of adjacent character types, including the setting of the adjacent stretches of *Raised Beach Coast* (1c) and to a lesser extent the Firth of Clyde as experienced from the sea, especially if sited on prominent skylines or the coast. However, the containment of this character type by adjacent foothills could limit widespread visibility of turbines of this size. ***High-medium sensitivity***	The relatively small extent of this landscape type means that this height of typology would affect the character and setting of adjacent character types including the setting of the adjacent stretches of *Raised Beach Coast* and to a lesser extent the Firth of Clyde as experienced from the sea, especially if sited on prominent skylines or the coast. However, the containment of this character type by the foothills would limit widespread visibility with turbines of this size reducing potential effects. ***Medium sensitivity***
Scale This broad valley of gently undulating landform and flatter fields is nevertheless strongly contained, which reduces scale, and is framed by hills of relatively low relief, especially to the north. This, combined with an often strongly enclosed field pattern and regularly spaced dispersed farms, houses and small woods creates a small-scale landscape, particularly in the east. Scale increases on open and less settled upper valley sides, and there are also a number of larger industrial buildings to the west.	This typology would dominate the scale of this valley, which is enclosed by hills of relatively low relief and also features many elements which reduce scale such as more complex landform, woodlands, individual trees and field enclosures. Settlement would provide scale references against which this height of turbine could be assessed. ***High sensitivity***	This typology would dominate the scale of this valley, which is relatively enclosed by hills of low relief and also features many elements which reduce scale such as more complex landform, woodlands, individual trees and field enclosures. Settlement would provide scale references against which this height of turbine could be assessed. ***High sensitivity***
Landform The flat valley floor gives way to more complex rolling lower side slopes and occasional interlocking knolly landform. Landform to the north, at the transition with the *Maybole Foothills* (17d), is more rounded and smooth, while the southern slopes at the transition with the *Coastal Foothills* (17e) are more irregular	There are few areas of flatter or gently undulating landform sufficiently extensive to accommodate multiple turbines of this typology. More complex landform on lower valley sides, and the steeper southern slopes with their more irregular landform would be particularly sensitive to this typology. ***High-medium sensitivity***	There are few areas of flatter or gently undulating landform sufficiently extensive to accommodate turbines of the higher bands of this typology. There may be some scope to site turbines towards the lower height band of this typology on the more level ground to avoid impacting on more complex landform. More complex landform on lower valley sides,

and steep, rising to more rugged upper valley sides.		and the steeper southern slopes with their more irregular landform would be particularly sensitive to this typology. ***Medium sensitivity***
Landscape pattern The well defined field pattern extends across the valley floor and up the lower hill slopes, where there is a distinct boundary where the fields reach open, unimproved grassland, sometimes scattered with whin across the highest slopes.The field pattern is well defined with hedges and diverse crops, and is further subdivided by small woodlands and narrow belts of trees, which become more extensive to the east. There is a golf course to the north of Girvan.	Turbines of this height would detract from the often diverse patterns of strongly enclosed and well defined fields, woodland belts, occasional policies and field/road trees found across the floor and lower hill slopes. Areas with a more simple land cover are very limited in extent. ***High-medium sensitivity***	Turbines of this height would detract from the often diverse patterns of strongly enclosed and well defined fields, woodland belts, occasional policies and field/road trees found across the floor and lower hill slopes. There may be some very limited scope to site turbines towards the lower height band of this typology on more open upper slopes at the transition with the neighbouring foothills types. ***Medium sensitivity***
Built environment The dale is well settled, with farms and single houses and a number of historic sites linked by a network of narrow roads. In addition, the coastal settlement of Girvan, with its single wind turbine, lies within this character type, and also a number of large buildings, associated with a distillery and other industrial works, on the north-western edge of this type. There is a prominent mast on a hill to the south of the valley, and a number of smaller wind turbines.	This typology would dominate and detract from the small farms, individual houses and small settlements, archaeological and historic features, affecting their setting and the scale of built development. Turbines of this size would dominate even larger industrial buildings. Steep hill slopes and skylines seen above settlements would be highly sensitive to turbines of this size. The character of narrow roads could additionally be affected by transportation of turbines. ***High sensitivity***	This typology would dominate and detract from the small farms, individual houses and small settlements, archaeological and historic features, affecting their setting and the scale of built development. Turbines of this size would dominate even larger industrial buildings. Steep hill slopes and skylines seen above settlements would be highly sensitive to turbines of this size. The character of narrow roads could additionally be affected by transportation of turbines. ***High sensitivity***
Perceptual qualities This landscape has very little sense of seclusion, as it is well settled and easily accessible by roads, with the exception of the coastal edge, which is less accessible.	The introduction of large scale infrastructure could affect perceptual qualities along the coast, but not elsewhere. ***Medium-low sensitivity***	The introduction of large scale infrastructure could affect perceptual qualities along the coast, but not elsewhere. ***Medium-low sensitivity***
Visual amenity This character type is criss-crossed by a dense network of minor roads and the B741 and B734 and is also very well settled. There are also views into this	In this relatively open landscape, this size of turbine would be highly visible from roads, settlement, the Ayrshire Coastal Path and from the sea.	In this relatively open landscape, this size of turbine would be highly visible from roads, settlement, the Ayrshire Coastal Path and from the sea.

landscape from the A77, the railway and from the sea (there are frequent boat trips to Ailsa Craig from Girvan). The relative openness of this landscape and the elevation of main roads facilitates visibility.	***High sensitivity***	***High sensitivity***
Cumulative effects The Hadyard Hill and Assel Valley wind farms are visible in relatively close proximity from parts of this landscape as is the single turbine at Girvan Hospital. The consented Tralorg and Kirk Hill wind farms will increase visibility of large turbines seen on containing skylines either side of this valley.	Significant cumulative effects would be likely to arise given the extent of operational and consented wind farm development visible on the hills which contain this valley. ***High sensitivity***	Significant cumulative effects would be likely to arise given the extent of operational and consented wind farm development visible on the hills which contain this valley. ***High sensitivity***

Character Type 11: Lower Dale – Sensitivity assessment for small-medium and small typologies

Topic and summary description	Assessment of small-medium typology (30m-50m)	Assessment of small typology (15m-30m)
Landscape context This valley is relatively small in extent but strongly contained by adjacent *Foothills* character types (17c and 17e) restricting widespread inter-visibility with other landscapes. This type also merges with the *Raised Beach Coast with Flat Fields and Headlands* (1c) and the adjacent *Middle Dale* (12). The steeper slopes containing the dale contribute to the setting of Girvan, especially when viewed from the sea. The landscape increases in scale on upper slopes at the transition with the more sparsely settled *Coastal Foothills* (17e).	The relatively small extent of this landscape type means that this height of typology would be apparent from the edges of adjacent character types and could affect the setting of adjacent stretches of *Raised Beach Coast* and to a lesser extent the Firth of Clyde as experienced from the sea, especially if sited on the coast. However, the containment of this character type by the foothills would limit widespread visibility of turbines of this size, and the smaller height of this typology could further mitigate against potential affects. ***Medium-low sensitivity***	This typology would have minimal effects on all surrounding landscapes although turbines should still be set back from the coast. ***Low sensitivity***
Scale This broad valley of gently undulating landform and flatter fields is nevertheless strongly contained, which reduces scale, and is framed by hills of relatively low relief, especially to the north. This, combined with an often strongly enclosed field pattern and regularly spaced dispersed farms, houses and small woods creates a small-scale landscape, particularly in the east. Scale increases on open and less settled upper valley sides, and there are also a number of larger industrial buildings to the west.	Turbines of this size would still appear large in relation to more complex rolling landform, farms and domestic buildings, small scale field enclosure pattern and woods on the valley floor and lower slopes. However, the more open, less rolling landform and sparser settlement on upper valley sides would be less sensitive to this typology, and the presence of larger buildings to the west also creates a local context of larger structures. ***High-medium sensitivity***	There is increased scope to site these smaller turbines to avoid significant conflicts of scale as they would relate better to the size of landform features, woodlands and larger buildings. This is especially the case with the smaller height band of this typology. ***Medium sensitivity***
Landform The flat valley floor gives way to more complex rolling lower side slopes and occasional interlocking knolly landform. Landform to the north, at the transition with the *Maybole Foothills* (17d), is more rounded and	There is scope to site this typology on more level ground, gently undulating slopes and more gently rolling landform in this character type while avoiding impacts on more complex landform. The steeper southern slopes with their more	This smaller typology is less likely to involve significant numbers of turbines thereby reducing potential impacts associated with producing an integrated layout and access tracks in more complex rolling landform. The tops of knolls are

smooth, while the southern slopes are more irregular and steep, rising to more rugged upper valley sides.	irregular landform would still be sensitive to this typology. ***Medium-low sensitivity***	sensitive although there is scope for turbines to be related to small terraces and slacker hill slopes. ***Low sensitivity***
Landscape pattern The field pattern extends across the valley floor and up the lower hill slopes, where there is a distinct boundary where the fields reach open, unimproved grassland, sometimes scattered with whin across the highest slopes. The field pattern is well defined with hedges and diverse crops, and is further subdivided by small woodlands and narrow belts of trees, which become more extensive to the east. There is a golf course to the north of Girvan.	There is some scope to site this typology on more simple and open slopes at the transition with the neighbouring foothills types or where field boundaries are less pronounced across the valley floor. Turbines of this size, especially the upper height band of this typology, would still detract from areas with a strong enclosure pattern and where policy woodland dominates. ***Medium sensitivity***	This typology could be more easily accommodated without detracting from designed landscapes and the most pronounced and strongly defined field patterns. ***Low sensitivity***
Built environment The dale is well settled, with farms and single houses and a number of historic sites linked by a network of narrow roads. In addition, the coastal settlement of Girvan, with its single wind turbine, lies within this character type, and also a number of large buildings, associated with a distillery and other industrial works, on the north-western edge of this type. There is a prominent mast on a hill to the south of the valley, and a number of smaller wind turbines.	This size of turbine (and particularly the larger size of this typology and multiple turbines) could significantly intrude on the setting and scale of small settlements and historic buildings. However, there may be some limited opportunities to site turbines of this size in less settled upper valley sides, or close to and associated with larger buildings and areas of more industrial character. ***Medium sensitivity***	These smaller turbines are more likely to be able to be partially screened by landform and vegetation and would have a less dominant scale providing greater opportunities to site this typology to minimise effects on setting. There may be opportunities to site turbines of this size in less settled upper valley sides, or close to and associated with larger buildings and areas of more industrial character. ***Medium-low sensitivity***
Perceptual qualities This landscape has very little sense of seclusion, as it is well settled and easily accessible by roads, with the exception of the coastal edge, which is less accessible.	The introduction of turbines could affect perceptual qualities along the coast, but not elsewhere. ***Low sensitivity***	The introduction of turbines could affect perceptual qualities along the coast, but not elsewhere. ***Low sensitivity***
Visual amenity This character type is criss-crossed by a dense network of minor roads and the B741 and B734 and	In this relatively open landscape, this size of turbine would be highly visible from roads and settlement. If located close to the coast, this	There are greater opportunities to site these smaller turbines away from more open parts of the valley floor and to use the containment

is also very well settled. There are also views into this landscape from the A77, the railway and from the sea (there are frequent boat trips to Ailsa Craig from Girvan). The relative openness of this landscape and the elevation of main roads facilitates visibility.	typology would also be visible from the sea. ***High-medium sensitivity***	provided by rolling landform and woodland to reduce widespread and sustained visibility. ***Medium sensitivity***
Cumulative effects The Hadyard Hill and Assel Valley wind farms are visible in relatively close proximity from parts of this landscape as is the single turbine at Girvan Hospital. The consented Tralorg and Kirk Hill wind farms will increase visibility of large turbines seen on containing skylines either side of this valley.	Although this typology is likely to comprise single and small groups of turbines, the degree of intrusion of operational and consented wind farms sited nearby could result in significant cumulative effects especially if multiple turbines of this size were located in this LCT. ***High-medium sensitivity***	Small turbines are less likely to result in significant cumulative effects with nearby operational and consented wind farms in adjacent hills. Cumulative effects could however occur if multiple turbines of this size were located in this landscape and the clear association of turbines of this size with farms and buildings would establish a rational pattern, reducing clutter. ***Medium sensitivity***

12.2 Summary of sensitivity

The *Lower Dale* (11) of the Water of Girvan is a moderately broad but well contained valley, framed by the *Maybole* and *Coastal Foothills* (17d and 17e) and, where it extends to the coast, merges with the *Raised Beach Coast with Flat Fields and Headlands* (1c). The sometimes flat, but often gently undulating valley floor extends to more complex lower hill slopes which lie beneath rounded hill forms to the north and more irregular, rugged upper hill slopes and summits to the south. The diverse vegetation pattern reflects the fertility of this river valley, with a well-defined field pattern enclosed by numerous hedges and shelter woods, and some small areas of policy woodland related to larger houses. The relatively small extent and high degree of containment, as well as the small scale of some of the landforms, the low relief and the enclosure pattern contribute to creating a landscape of relatively small to moderate scale. Dispersed farms and houses make up the settlement pattern but larger buildings are also associated with an industrial estate and distillery and this landscape contributes to the setting for the coastal town of Girvan. While the coast can be experienced as relatively secluded, inland the landscape is cultivated and accessible, and there are existing wind turbines which influence its character.

The small to medium scale of this well-settled landscape with its well-defined enclosure pattern and sense of containment, the high visibility of this landscape and the presence of nearby operational large wind turbines increase sensitivity to larger development typologies. There would be a ***High*** sensitivity to the large and medium typologies (turbines >50m). Sensitivity would be ***High-medium*** for the small-medium typology (turbines 30-50m) and ***Medium*** to the small typology (turbines 15-30m).

12.2.1 *Potential cumulative issues*

The following issues may be associated with any possible development situated in this and adjacent landscapes:

- Close inter-visibility between larger turbines which are more likely to be located in the adjacent more extensively scaled and less settled Foothills character types and smaller turbines in this character type, including potential cumulative effects with the Hadyard Hill, Assel Valley, Kirk Hill and Tralorg wind farms and the Girvan Hospital turbine.
- Variations in the type and size of single and small groups of small turbines proposed within the Lower Dale
- Sequential landscape and visual effects experienced from the A77
- Possible visual effects related to cumulative effects of turbines on prominent headlands and coastal hills seen from the Firth of Clyde.

12.2.2 *Constraints*

- The predominantly small to medium scale of this landscape where rolling landform and belts of woodland provide containment and the presence of farms and other settlement provides ready scale references and also

increases potential for cumulative effects associated with multiple turbines >30m.

- More complex rolling landform and small knolls on lower valley sides and steeper slopes and more rugged landform on the southern side of the valley.
- The integrity and consistency of the well-defined field pattern, which is reinforced by the hedges and woodland, including occasional policy woodland and which reinforces the small scale and diverse character of this type.
- The setting of Girvan and other smaller settlements, as well as a number of historic features and castles
- The potential for significant cumulative effects to arise with the operational Hadyard Hill and Assel Valley wind farms and the consented Tralorg and Kirk Hill wind farms located in nearby hills. The single turbine at Girvan hospital and a number of small turbines set within the valley floor could, additionally contribute to cumulative effects.
- Views from settlements, roads, including the A77, the railway, coastal paths and the sea

12.2.3 *Opportunities*

- Less settled but still gently graded and open upper slopes where a simpler and broader character occurs at the transition with the more extensive Foothills
- The context of larger buildings and industrial areas which provides opportunities for appropriately sized turbines.

12.3 Guidance for development

This assessment found ***no scope*** for the large and medium typologies (turbines >50m) to be accommodated within the Lower Dale landscape character type.

This assessment found there to be ***very limited*** scope to site the small-medium typology (turbines 30m- 50m tall) and ***some limited*** scope for the small typology (turbines 15-30m tall) to be accommodated in this landscape. The key constraints are the enclosure of the valley which combined with the small-scale landforms and diverse land use pattern create a relatively small-scale landscape, and the high visibility of this landscape and the potential for cumulative effects to arise. Turbines >20m should be set well away from the more complex landforms and most diverse landuse patterns of the valley floor and instead focus on the more simply graded and more open landscapes where scale is more extensive. There is some scope for a single turbine or very small group of the small-medium typology(30-50m) to be associated with larger groupings of industrial buildings although cumulative effects with operational and consented wind energy developments would need to be carefully considered.

Small turbines (<20m) should be located where they can form clusters of development, associated with farms, farm buildings and other industrial buildings as appropriate to their size.

All turbines should avoid the coast and impacts on the adjacent *Raised Beach Coast* (1c) character type, and should not impinge upon the setting of small

buildings and historic or archaeological sites. Attaining a consistency of design between turbines will be important given the openness and high visibility of the western part of this landscape and the proximity of the operational turbine at Girvan hospital. Detailed siting and design should accord with the guidance set out in Annex F.

The valley is fertile and farmed, with arable crops reinforcing the field pattern through the seasons. Looking north from the B734, the dale is contained by smooth, low hills.

Looking north to High Craighead and the adjacent containing hillsides, the skyline of this low hill is visually prominent.

Looking south, the enclosing side slopes of the Foothills are steeper and more rugged, the fields extend up the side slopes

Hadyard Hill wind farm is located in a dip between the hills, which reduces its visual impact.

Larger sheds and buildings at the industrial site, including the distillery, are prominent on the skyline

Girvan hospital wind turbine, see on arrival from the north, back dropped by the Foothills

13 CHARACTER TYPE 12: MIDDLE DALE

13.1 Introduction

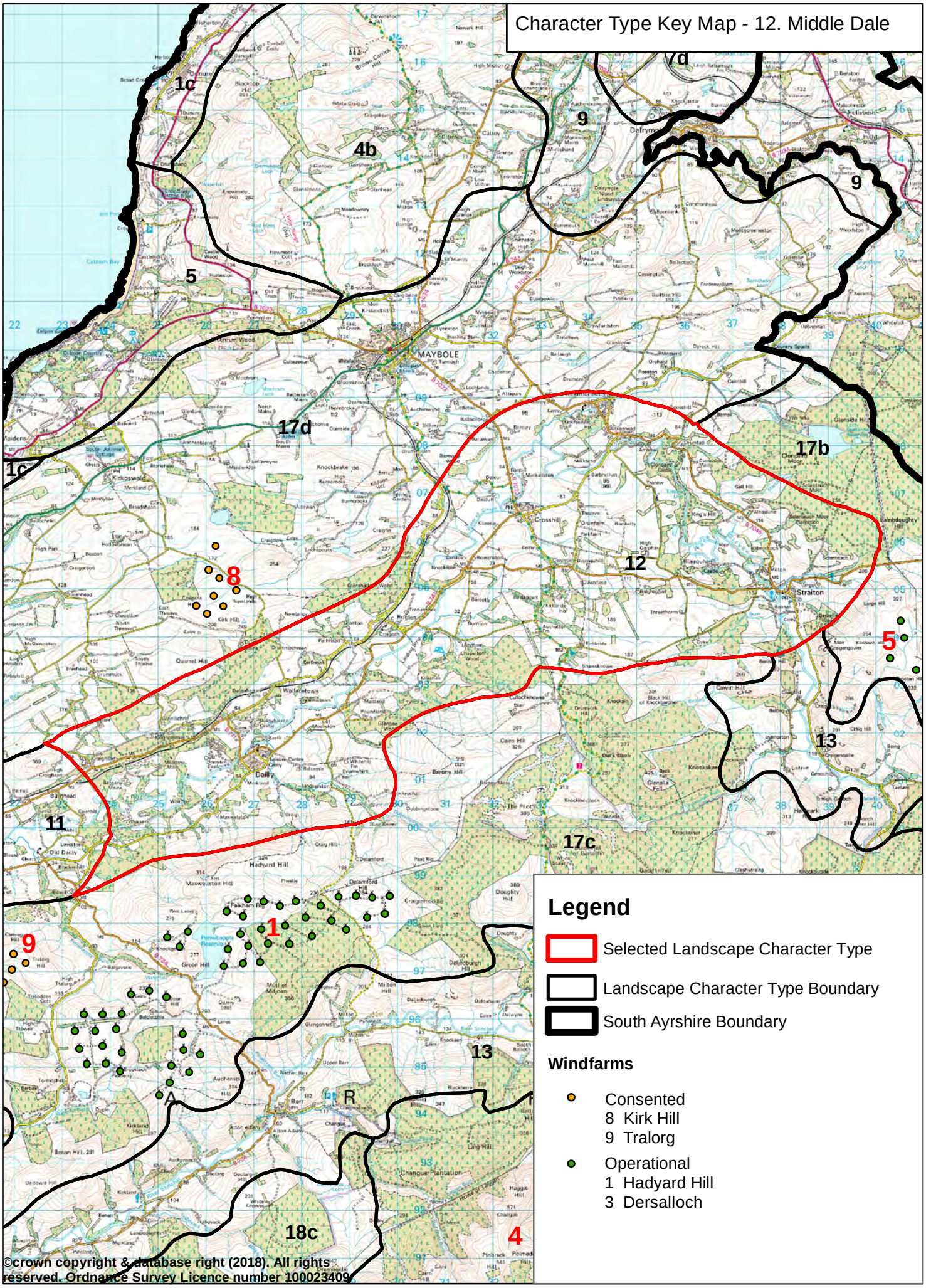
This character type only occurs in a single area in Ayrshire. It comprises the broad undulating valley of the Water of Girvan between Old Dailly and Straiton.

The detailed assessment considers both larger and smaller development typologies.

13.1.1 *Operational/consented wind farms*

No operational or consented wind farms are sited within this area.

The operational Hadyard Hill wind farm is located within the adjacent *Foothills with Forestry and Wind Farm* (17c) character type which lies to the south of this character type within South Ayrshire. The operational Assel Valley and consented Tralorg wind farms are located in the nearby *Coastal Foothills* (17e). The operational Dersalloch wind farm lies in the *Foothills West of the Doon Valley* (17b). The consented Kirk Hill wind farm will lie in the adjacent *Maybole Foothills* (17d) to the north of the Girvan Valley.



Character Type 12: Middle Dale – Sensitivity assessment for large and medium typologies

Topic and summary description	Assessment of large typology (70m+)	Assessment of medium typology (50-70m)
Landscape context This valley is strongly contained by adjacent *Foothills* character types (17b, 17c and 17d), restricting widespread inter-visibility with other landscapes. The landscape increases in scale on upper slopes particularly at the transition with the more sparsely settled *Foothills with Forestry and Wind Farm* (17d) and *Foothills with Forest west of Doon Valley* (17b). A number of prominent hills with open, often rugged slopes and defined summits and more settled and farmed hill slopes occur on the edge of the Foothills that contain the *Middle Dale*.	Although the strong containment of this character type would limit widespread visibility of turbines of this size, this typology would have significant effects on more prominent hills and settled hill slopes of the *Foothills*. Sensitivity would be reduced where these adjacent *Foothill* landscapes have a simpler and lower plateau-like landform and are sparsely settled. ***High-medium sensitivity***	Although the strong containment of this character type would limit widespread visibility of turbines of this size, this typology would have significant effects on more prominent hills and settled hill slopes of the *Foothills*. Sensitivity would be reduced where these adjacent *Foothill* landscapes have a simpler and lower plateau-like landform and are sparsely settled. ***High-medium sensitivity***
Scale A broad valley but with a predominantly rolling landform which combines with an often strongly enclosed field pattern and regularly spaced dispersed small farms, houses and extensive woodland cover to create a small to medium scale landscape. Scale increases on open and less settled upper valley sides, particularly at the transition with the *Foothills* (17b and 17c).	This typology would dominate the scale of this valley, which although generally broad also features many elements which contain and reduce scale such as more complex landform, woodlands, individual trees and field enclosures. The presence of a regular pattern of small farms and houses also provides ready scale references. ***High sensitivity***	This typology would dominate the scale of this valley, which although generally broad also features many elements which contain and reduce scale such as more complex landform, woodlands, individual trees and field enclosures. The presence of a regular pattern of small farms and houses also provides ready scale references. ***High sensitivity***
Landform The narrow flat valley floor gives way to more complex rolling lower side slopes and occasional interlocking knolly landform. Broader terraces and more gentle slopes occur on upper valley sides particularly at the transition with the more plateau-like southern part of the Foothills with Forestry west of Doon Valley (17b).	There are few areas of flatter or gently undulating landform sufficiently extensive to accommodate multiple turbines of this typology. More complex landform on lower valley sides would be particularly sensitive to this typology sited both within it and close-by. ***High-medium sensitivity***	There are few areas of flatter or gently undulating landform sufficiently extensive to accommodate multiple turbines of this typology. Broader and more gentle upper hill slopes would be less sensitive in terms of accommodating turbines towards the lower height band to avoid detracting from more irregular landform. More complex landform on lower valley sides would be particularly sensitive. ***Medium sensitivity***

Landscape pattern Much of the valley floor and lower hill slopes are covered with small hedged and walled pastures with many mature field and roadside trees. The large number of historic houses and castles, many with associated policies and designed landscapes gives this landscape a richly wooded, parkland character. More extensive mixed plantations and areas of rough grazing occur on upper slopes and semi-natural woodland is found on some of the steepest slopes.	Turbines of this height would detract from the often diverse patterns of woodland, parkland, strongly enclosed pastures and field/road trees found within the floor and lower hill slopes. Less diverse upper slopes would have a reduced sensitivity although still lie close to more strongly patterned areas. ***High sensitivity***	Turbines of this height would detract from the often diverse patterns of woodland, parkland, strongly enclosed pastures and field/road trees found within the floor and lower hill slopes. There may be some scope to site turbines towards the lower height band of this typology on more open upper slopes to minimise effects on more strongly patterned areas. ***High-medium sensitivity***
Built environment The valley is accessed by a network of narrow tree-lined winding roads. The small villages of Straiton, Dailly and Kirkmichael are sited within the valley floor and there is a rich heritage of archaeological sites, castles and mansion houses. More defined open and rugged hills that lie on the periphery of the Foothills character type comprise an important component of the setting to many designed landscapes and settlements.	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 built development. Steep hill slopes and skylines seen above settlements and designed landscapes would be highly sensitive to turbines of this size. The character of narrow roads could additionally be affected by transportation of turbines. ***High sensitivity***	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 built development. Steep rugged slopes hill slopes and skylines seen above settlements and designed landscapes would be highly sensitive. The character of narrow roads could additionally be affected by transportation of turbines. ***High sensitivity***
Perceptual qualities Although this landscape does not have any sense of wildness, lush rolling pastures with intact hedgerows, traditional small farms, the rich heritage of castles, mansion houses and their designed landscapes and small attractive villages give a distinctly rural character to this landscape and a strong sense of timelessness.	The introduction of new large scale infrastructure could affect perceptual qualities associated with the rich heritage of this landscape. ***Medium sensitivity***	The introduction of new large scale infrastructure could affect perceptual qualities associated with the rich heritage of this landscape. ***Medium sensitivity***
Visual amenity This character type is criss-crossed by a dense network of minor roads and the B741 and it is also very well settled. The rolling landform and presence of woodlands, hedgerows and trees restricts long views from roads and settlement in some areas	The accessibility and well-settled nature of this landscape increases sensitivity. Elevated sections of road and popularly accessed hill paths mean that even turbines sited on generally less visible shoulders on upper valley sides would be highly visible.	The accessibility and well-settled nature of this landscape increases sensitivity. Elevated sections of road and popularly accessed hill paths mean that even turbines sited on generally less visible shoulders on upper valley sides would be highly visible.

although open views are possible over this valley from the elevated roads which cross into the adjacent Foothills. There are many popularly accessed footpaths within this landscape and Kildoon Hill and Craigengower Hill near Straiton offer extensive and close views over this landscape.	***High sensitivity***	***High sensitivity***
Cumulative effects The Hadyard Hill wind farm is visible in close proximity from parts of the B741 and from minor roads and settlement north of the Water of Girvan in the lower part of the valley. The Assel Valley wind farm is theoretically visible although is more distant and would be seen together with Hadyard Hill minimising its intrusion. The operational Dersalloch wind farm is widely visible from more open parts of this valley. The consented Kirk Hill wind farm will be widely visible in relatively close proximity from much of the more open parts of this landscape.	Significant cumulative effects would be likely to arise given the extent and relative closeness of operational and consented wind farms seen on the hills which contain this valley. Multiple turbines of this size located in this landscape would especially result in a dominant landscape and visual effect. ***High sensitivity***	Turbines towards the upper height band of this typology would be likely to be prominent from the more open parts of this landscape and could have significant cumulative effects with operational and consented wind farms especially if sited nearby. Cumulative effects would also occur if multiple turbines of this size were located in this landscape. ***High sensitivity***

Character Type 12: Middle Dale – Sensitivity assessment for small-medium and small typologies

Topic and summary description	Assessment of small-medium typology (30m-50m)	Assessment of small typology (15m-30m)
Landscape context This valley is strongly contained by adjacent *Foothills* character types (17b, 17c and 17d), restricting widespread inter-visibility with other landscapes. The landscape increases in scale on upper slopes particularly at the transition with the more sparsely settled *Foothills with Forestry and Wind Farm* (17d) and *Foothills with Forest west of Doon Valley* (17b). A number of prominent hills with open, often rugged slopes and defined summits and more settled and farmed hill slopes occur on the edge of the Foothills that contain the *Middle Dale*.	This typology would have a minimal effect on the lower and simpler skylines formed by the southern part of the *Foothills with Forestry west of Doon Valley* (17b). Turbines towards the lower height band of this typology would have less of an effect on more settled and farmed hill slopes in the *Foothills with Forestry and Wind Farm* (17c) and the *Maybole Foothills* (17d) but would need to be set well away from more pronounced hills in these Foothills. ***Medium sensitivity***	This typology would have minimal effects on all surrounding landscapes although turbines should still be set back from the highly scenic rugged hills which form 'landmark' features on the periphery of the adjacent *Foothills* ***Medium-low sensitivity .***
Scale A broad valley but with a predominantly rolling landform which combines with an often strongly enclosed field pattern and regularly spaced dispersed small farms, houses and extensive woodland cover to create a small to medium scale landscape. Scale increases on open and less settled upper valley sides, particularly at the transition with the *Foothills* (17b and 17c).	Turbines of this size would still appear large in relation to more complex rolling landform, farms and domestic buildings, small scale field enclosure pattern and woodlands within the valley floor and on lower slopes. The more open, less rolling landform and sparser settlement on upper valley sides would be less sensitive to this typology. ***High-medium sensitivity***	There is increased scope to site these smaller turbines to avoid significant conflicts of scale as they would relate better to the size of landform features, woodlands and buildings and multiple turbines of this size could also be accommodated within this relatively broad valley. ***Medium sensitivity***
Landform The narrow flat valley floor gives way to more complex rolling lower side slopes and occasional interlocking knolly landform. Broader terraces and more gentle slopes occur on upper valley sides particularly at the transition with the more plateau-like southern part of the *Foothills with Forestry west of Doon Valley* (17b).	Broader and gentler upper hill slopes would be less sensitive in terms of accommodating this typology. More complex landform on lower valley sides would be particularly sensitive. ***Medium-low sensitivity***	This smaller typology is less likely to involve significant numbers of turbines thereby reducing potential impacts associated with producing an integrated layout and access tracks in more complex rolling landform. Knolls are sensitive although there is scope for turbines to be related to small terraces and slacker hill slopes. ***Low sensitivity***
Landscape pattern Much of the valley floor and lower hill slopes are	Turbines of this size would detract from areas with a strong enclosure pattern, policy	This typology could be more easily accommodated without detracting from more

covered with small hedged and walled pastures with many mature field and roadside trees. The large number of historic houses and castles, many with associated policies and designed landscapes gives this landscape a richly wooded, parkland character. More extensive mixed plantations and areas of rough grazing occur on upper slopes and semi-natural woodland is found on some of the steepest slopes.	woodlands, parkland and field trees. Areas with a simpler land cover pattern, for example, more open hill slopes at the transition with the adjacent *Foothills* would be less sensitive. ***High-medium sensitivity***	pronounced land cover pattern although the extensive designed landscapes and often strongly enclosed small pastures and field trees should be avoided. ***Medium sensitivity***
Built environment The valley is accessed by a network of narrow tree-lined winding roads. The small villages of Straiton, Dailly and Kirkmichael are sited within the valley floor and there is a rich heritage of archaeological sites, castles and mansion houses. More defined open and rugged hills that lie on the periphery of the *Foothills* character type comprise an important component of the setting to many designed landscapes and settlements.	This size of turbine (and particularly multiple turbines) could significantly intrude on the setting and scale of small settlements and historic buildings which are a key characteristic of this landscape. Although there may be some limited opportunities to site turbines of this size in less settled upper valley sides, the steep rugged slopes hill slopes and skylines which form an essential part of the setting to settlements and designed landscapes would be highly sensitive. ***High-medium sensitivity***	These smaller turbines are more likely to be able to be partially screened by landform and vegetation and would have a less dominant scale providing greater opportunities to site this typology to minimise effects on setting. ***Medium sensitivity***
Perceptual qualities Although this landscape does not have any sense of wildness, lush rolling pastures with intact hedgerows, traditional small farms, the rich heritage of castles, mansion houses and their designed landscapes and small attractive villages give a distinctly rural character to this landscape and a strong sense of timelessness.	The introduction of this size of turbine (which would appear very large and industrial in character) could affect perceptual qualities associated with the rich heritage of this landscape. ***Medium sensitivity***	This small typology would have minimal effects on perceptual qualities, particularly if closely associated with farms. ***Medium-low sensitivity***
Visual amenity This character type is criss-crossed by a dense network of minor roads and the B741 and it is also very well settled. The rolling landform and presence of woodlands, hedgerows and trees restricts long views from roads and settlement in some areas although open views are possible over this valley from the elevated roads which cross into the adjacent	Turbines of this size would extend above woodlands and could be highly visible from roads and settlement if sited on the valley floor and lower hill slopes. There may be some limited scope to site turbines towards the lower height band of this typology on less settled upper valley sides, which are often hidden from the more densely wooded valley floor, to minimise	There are greater opportunities to site these smaller turbines away from more open parts of the valley floor and to utilise the containment provided by rolling landform and woodlands on valley sides. ***Medium sensitivity***

Foothills. There are many popularly accessed footpaths within this landscape and Kildoon Hill and Craigengower Hill near Straiton offer extensive and close views over this landscape.	intrusion. ***High-medium sensitivity***	
Cumulative effects The Hadyard Hill wind farm is visible in close proximity from parts of the B741 and from minor roads and settlement north of the Water of Girvan in the lower part of the valley. The Assel Valley wind farm is theoretically visible although is more distant and would be seen together with Hadyard Hill minimising its intrusion. The operational Dersalloch wind farm is widely visible from open areas of this valley. The consented Kirk Hill wind farm will be widely visible in relatively close proximity from much of the more open parts of this landscape.	Cumulative effects could arise where this typology was seen in close proximity to operational and consented wind farms. Cumulative effects could also occur where multiple turbines of this size were associated with a number of land holdings. ***High-medium sensitivity***	This typology would be more able to be screened by landform and woodlands which would minimise the cumulative effects of multiple turbines. Clear association of turbines of this size with farms and buildings would also establish a rational pattern, reducing clutter and cumulative effects with wind farms sited in adjacent *Foothills*. ***Medium-low sensitivity***

13.2 Summary of sensitivity

The Water of Girvan is accommodated in a broad valley which is strongly contained by the *Foothills* (17b, 17c and 17d) character types. A narrow floodplain within the valley floor is covered with farmland, woodlands and parkland associated with the many designed landscapes that are a key feature of this landscape. Lower valley sides are more complex and rolling and are often well-wooded. Strongly enclosed small fields and mature field trees contribute to the diverse and often intricate land-cover pattern of this landscape. A rich built heritage is evident in the many castles, mansion houses and clustered or planned settlements including Kirkmichael and Straiton and small traditional farms also regularly pattern valley sides. The *Foothills* which contain this landscape vary in character, generally forming higher, more pronounced hills to the east and south which provide a rugged backdrop to small settlements and designed landscapes. Less settled upper valley sides generally have a simpler landform and land-cover at the transition with these upland landscapes.

The small to medium scale of this well-settled and often intricately patterned landscape and its built heritage increase sensitivity to larger development typologies. There would be a ***High*** sensitivity to the large and medium typologies (turbines >50m). Sensitivity would be ***High-medium*** for the small-medium typology (turbines 30-50m) and ***Medium*** to the small typology (turbines 15-30m).

13.2.1 *Potential cumulative issues*

The following issues may arise in connection with any possible development situated in this and adjacent landscapes:

- Close inter-visibility between larger turbines which are more likely to be located in the adjacent more extensively scaled and less settled *Foothills* (17b, 17c) character types and smaller turbines in this character type, including cumulative effects with the operational and consented Hadyard Hill, Dersalloch and Kirk Hill wind farms.
- Variations in the type and size of single and small groups of small turbines proposed within the *Middle Dale* which could affect the strong integrity of this landscape.

13.2.2 *Constraints*

- The predominantly small to medium scale of this landscape where rolling landform and woodlands provide containment and the density of small farms and other settlement provides ready scale references and also increases potential for cumulative effects associated with multiple turbines >30m.
- Pockets of more rolling landform and small knolls on lower valley sides where all typologies would detract.
- The often intricate land-cover pattern, especially evident within the valley floor and lower side slopes, where mixed policy woodlands, parkland, strongly enclosed small pastures and mature field and road trees contribute to the richly diverse character of this landscape.

- The rich architectural heritage of this landscape which features many mansion houses/castles and their designed landscapes and also attractive small settlements sensitive to intrusion on their setting.
- The potential for significant cumulative effects to arise with operational and consented wind farms sited in the adjacent *Foothills with Forestry west of Doon Valley* (17b), the *Foothills with Forestry and Wind Farm* (17c) and the *Maybole Foothills* (17d).
- Views from settlements and roads but also from key viewpoints within the adjacent *Foothills* including those from Craigengower Hill at Straiton and Kildoon Hill near Maybole.

13.2.3 *Opportunities*

- Lower hill slopes close to farm buildings where turbines <30m could be sited to minimise effects (including cumulative effects with operational and consented wind farms sited in the *Foothills*).

13.3 Guidance for development

The assessment found ***no scope*** for the large, medium and small-medium typologies (turbines >30m) to be accommodated within the *Middle Dale* landscape character type.

This assessment found there to be ***some*** scope for the small typology (turbines 15-30m high) to be accommodated in this landscape. Turbines should be set back from more open parts of the valley floor instead favouring either lower hill slopes where landform and woodland would reduce prominence or the more extensive and open upper slopes. They should however be sited away from designed landscapes and avoid intrusion on the setting of settlements and historic buildings. Turbines <15m high should be located where they can reinforce the pattern of existing development, being associated with farms and buildings which provide a framework of built development-related spot features. It is important that turbines have a consistency of design in order to minimise potential cumulative effects on this landscape which has strong integrity. Detailed siting and design should accord with the guidance set out in Annex F.

Broader upper valley sides are less settled with a simpler landscape pattern but lie close to upland areas where cumulative effects could arise with larger wind farms

Policy landscapes are a key characteristic and include parkland and extensive woodlands which form the setting to a number of castles and mansion houses.

Lower valley sides are often more rolling with small farms, field trees and a strong field enclosure pattern contributing to the small scale of this landscape

The intricacy of vegetation pattern and the well-settled nature of this valley increases sensitivity to larger typologies.

14 CHARACTER TYPE 13: INTIMATE PASTORAL VALLEYS

14.1 Introduction

This character type applies to the Stinchar Valley, its tributary the Duisk Water Valley and the upper reaches of the Water of Girvan Valley in South Ayrshire. This character type also occurs in North Ayrshire but is considered separately in the sensitivity assessment.

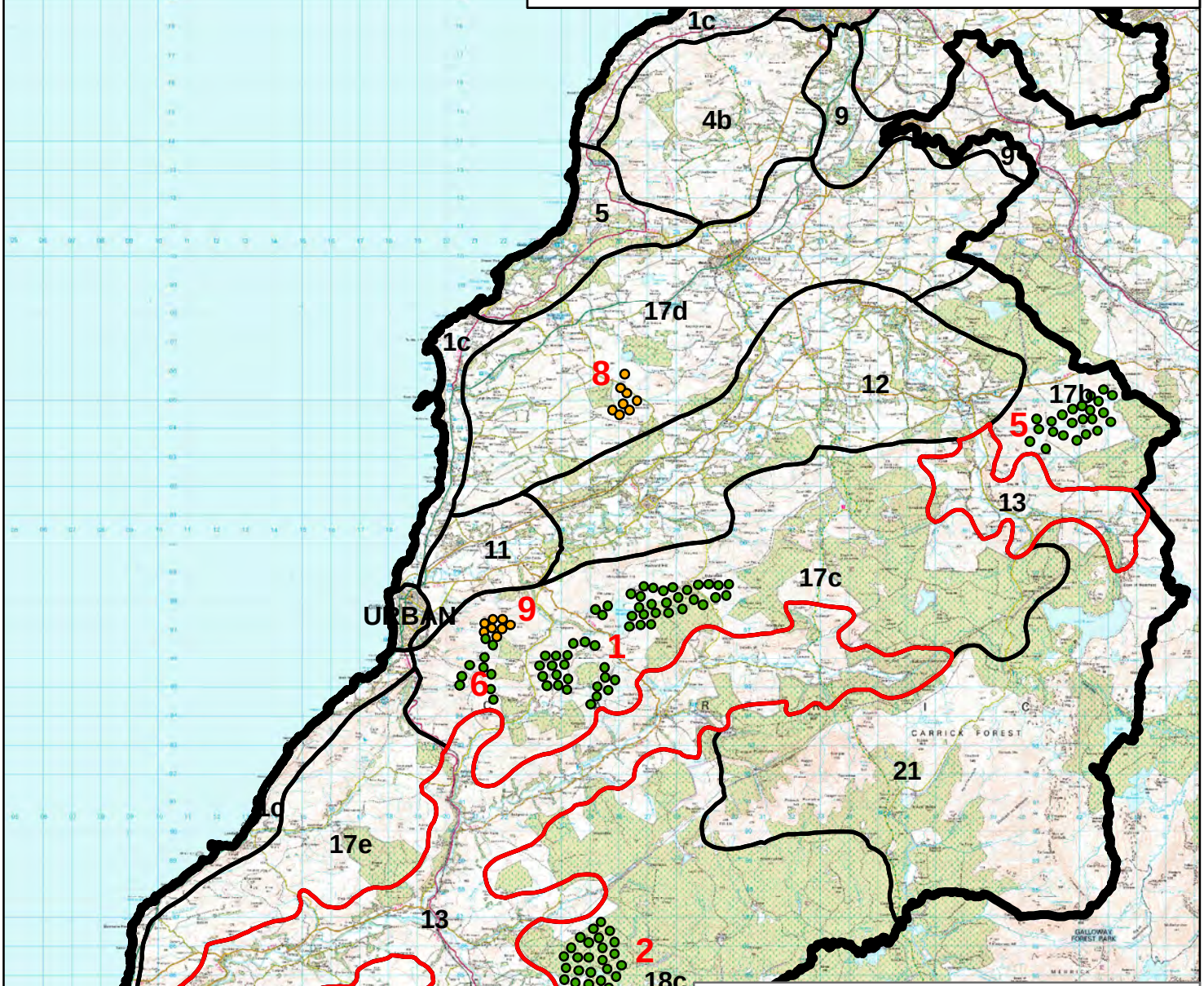
14.1.1 *Operational/consented wind farms*

No operational or consented wind farms are sited within these valleys.

The operational Hadyard Hill and Dersalloch wind farms are located within the *Foothill* landscapes either side of the upper Girvan Valley. The Hadyard Hill wind farm is also seen on the hills containing the north side of the upper Stinchar Valley.

The operational Arecleoch, Mark Hill and Kilgallioch wind farms and the consented Chirmorrie wind farm are located within the *South Ayrshire Plateau Moorland with Forest and Wind Farms* (18c) character type which lies either side of the Duisk Valley.

Character Type Key Map - 13. Intimate Pastoral Valley



Legend

- Selected Landscape Character Type
- Landscape Character Type Boundary
- South Ayrshire Boundary

Windfarms

- Consented
  - 8 Kirk Hill
  - 9 Tralorg
  - 10 Stranoch
  - 11 Chirmorie
- Operational
  - 1 Hadyard Hill
  - 2 Mark Hill
  - 3 Arecleoch
  - 4 Kilgallioch
  - 5 Dersalloch
  - 6 Assel Valley
  - 7 Glen App

Character Type 13: Intimate Pastoral Valley – Sensitivity assessment for large and medium typologies

Topic and summary description	**Assessment of large typology (70m+)**	**Assessment of medium typology (50-70m)**
Landscape context These valleys are relatively narrow and strongly contained by adjacent upland character types. The landscape increases in scale on upper slopes particularly at the transition with the very sparsely settled *Plateau Moorland with Forest and Wind Farms* (18c). A number of prominent hills with open rugged slopes and defined summits occur on the edge of the *Foothills* (17b/17c/17e) and *Rugged Uplands Lochs and Forest* (21) character types which contain the Stinchar and Girvan Valleys. The *Plateau Moorland with Forest and Wind Farms* (18c) generally forms more simple even skylines seen from these valleys.	The limited extent of this landscape would result in turbines (and particularly multiple turbines) of this size dominating views to, and detracting from, the more dramatic 'landmark' hills lying on the fringes of the *Foothills* (17b/17c/17e) and the *Rugged Uplands Lochs and Forest* (21). Sensitivity is reduced where the adjacent *Plateau Moorland* (18c) character type is simpler and less scenic (although cumulative effects would arise with operational wind farm development sited in these landscapes and this is addressed in detail below). ***High-medium sensitivity***	The limited extent of this landscape would result in turbines (and particularly multiple turbines) of this size dominating views to, and detracting from, the more dramatic 'landmark' hills lying on the fringes of the *Foothills* (17b/17c/17e) and the *Rugged Uplands Lochs and Forest* (21). Sensitivity is reduced where the adjacent *Plateau Moorland* (18c) character type is simpler and less scenic (although cumulative effects would arise with operational wind farm development sited in these landscapes and this is addressed in detail below). ***High-medium sensitivity***
Scale These gently sinuous valleys are strongly contained by adjacent uplands with occasional higher and more pronounced summits occurring along the edges of the valleys, particularly where they abut the *Foothills* (17b/17c/17e). The lower Stinchar has a relatively open and broad floodplain although in general these valleys are narrow with the upper Girvan and Stinchar constricted by dramatic steep-sided hills. The often pronounced field enclosure pattern, small woodlands and regularly spaced dispersed small farms, houses and tightly clustered settlements combine with the confined extent of these valleys to create a small to medium scale landscape. Scale increases on more open and less settled upper valley sides, particularly at the transition with the very gently sloping *Plateau Moorland with Forest and Wind Farms* (18c).	This typology would appear very large in relation to the limited width of these valleys and the vertical scale of containing hill slopes. Turbines of this size would also dominate the small buildings, woodlands and trees which pattern this landscape and provide ready scale references. ***High sensitivity***	This typology would appear very large in relation to the limited width of these valleys and the vertical scale of containing hill slopes. Turbines of this size would also dominate the small buildings, woodlands and trees which pattern this landscape and provide ready scale references. ***High sensitivity***

Landform A smooth, flat floodplain of varying width is contained by undulating, occasional hummocky and often steep valley sides. A series of steep-sided rugged hills, well-defined and cut by incised side valleys, occurs on the north-western edge of the Stinchar valley and fringing the Girvan valley. These 'landmark' hills include the craggy-topped Knockdolian, Craig and Bargain Hills and Craig of Dalwine along the Stinchar valley and the Big Hill of the Baing, Kildoach Hill and Genoch Hill on the edge of the upper Girvan valley. Broader terraces and gentler, smoother slopes occur on upper valley sides either side of the Duisk Valley and on the south-eastern edge of the Stinchar valley at the transition with the *Plateau Moorland with Forest and Wind Farms* (18c).	More complex undulating landform, steep valley sides and the 'landmark' hills would be highly sensitive to this typology. Broader terraces and gentler upper hill slopes at the transition with the *Plateau Moorlands with Forest and wind farms* (18c) have a reduced sensitivity. Turbines would also detract from the smooth open floodplain and the contrast it provides with more rugged wooded valley sides, affecting the scenic qualities of these valleys. ***High-medium sensitivity***	More complex undulating landform, steep valley sides and the 'landmark' hills would be highly sensitive to this typology. Broader terraces and gentler upper hill slopes at the transition with the *Plateau Moorlands with Forest and wind farms* (18c) have a reduced sensitivity. Turbines would also detract from the smooth open floodplain and the contrast it provides with more rugged wooded valley sides, affecting the scenic qualities of these valleys. ***High-medium sensitivity***
Landscape pattern These valleys have a diverse vegetation cover which includes areas of semi-natural woodland on steeper hill slopes, policy woodlands including avenue trees and ornamental plantings in the Girvan and lower Stinchar valley and some coniferous forestry, generally on upper slopes. Small to medium sized pastures on the valley floor and lower slopes are enclosed by walls or hedges while more extensive rough grassland occurs on upper valley sides.	Turbines of this height would detract from diverse areas of policy and semi-natural woodland and small enclosed fields which lie on lower hill slopes. Simple, more open areas of upland pasture would be less sensitive although these are very limited in extent. ***High-medium sensitivity***	Turbines of this height would detract from diverse areas of policy and semi-natural woodland and small enclosed fields which lie on lower hill slopes. Simple, more open areas of upland pasture would be less sensitive although these are very limited in extent. ***High-medium sensitivity***
Built environment These valleys are accessed by a network of narrow tree-lined winding roads. The small villages of Barrhill, Colmonell and Barr are sited within the valley floor and there is a rich heritage of archaeological sites, castles and mansion houses.	Turbines of this size would significantly affect the setting of small architecturally interesting settlements and individual buildings, including historic castles and houses, and designed landscapes which are a feature within parts of these valleys. The character of narrow roads would additionally be affected by transportation of turbines of this size. ***High sensitivity***	Turbines of this size would significantly affect the setting of small architecturally interesting settlements and individual buildings, including historic castles and houses, and designed landscapes which are a feature within parts of these valleys. The character of narrow roads would additionally be affected by transportation of turbines of this size. ***High sensitivity***

Perceptual qualities Lush rolling pastures with intact hedgerows, traditional small farms, the rich heritage of castles, mansion houses and their designed landscapes and small attractive villages give a distinctly rural character to this landscape and a strong sense of timelessness.	The absence of a strong sense of wildness reduces sensitivity although turbines of this size would be very large and could be perceived as introducing industrial elements into these distinctly rural valleys. ***Medium sensitivity***	The absence of a strong sense of wildness reduces sensitivity although turbines of this size would be very large and could be perceived as introducing industrial elements into these distinctly rural valleys. ***Medium sensitivity***
Visual amenity The A714, B734 and unclassified roads are aligned through these valleys. These valleys are relatively well-settled. The rolling landform and presence of woodlands, hedgerows and trees restricts long views from roads and settlement in some areas although open views are possible where roads are more elevated or the floodplain more open. Popularly accessed hills such as Knockdolian and Craigengower Hill also offer elevated views over these valleys.Immediate skylines formed by the adjacent uplands and the 'landmark' hills on the edges of the *Foothills* form key foci in views from roads and settlement.	Turbines of this size would be highly visible in close proximity from settlement and roads. Multiple turbines of this size spread throughout these valleys would be inter-visible due to the long views possible along the open valley bottom from roads and in elevated views from popular hills, roads and settlement. Turbines of this size would be likely to interrupt containing skylines and may also affect views to 'landmark' hills. (There would also be cumulative visual effects with existing wind farms and these are considered in detail below) ***High sensitivity***	Turbines of this size would be highly visible in close proximity from settlement and roads. Multiple turbines of this size spread throughout these valleys would be inter-visible due to the long views possible along the open valley bottom from roads and in elevated views from popular hills, roads and settlement. Turbines of this size would be likely to interrupt containing skylines and may also affect views to 'landmark' hills. (There would also be cumulative visual effects with existing wind farms and these are considered in detail below) ***High sensitivity***
Cumulative effects The operational Dersalloch wind farm is visible from parts of the upper Girvan valley.The Hadyard Hill wind farm is visible in close proximity from parts of the upper Stinchar valley in the Barr area. A rim of higher prominent hills on the north-eastern side of this valley provides a degree of containment, limiting visibility of this wind farm. The Mark Hill and Arecleoch wind farms are visible from parts of the lower Stinchar valley and from more elevated roads and settlement within the Duisk valley. The operational Kilgallioch and the consented Chirmorrie wind farms are/will be widely visible from the more open upper Duisk valley.	This size of turbine would be more likely to be sited on less settled open upper valley sides and cumulative effects would therefore arise where this typology was seen in close proximity with operational wind farm developments located in adjacent upland areas. This typology could appear to 'spill down' valley sides rather than adhere to the established association of larger turbines being set back within less settled and larger scale upland landscapes. ***High sensitivity***	This size of turbine would be more likely to be sited on less settled open upper valley sides and cumulative effects would therefore arise where this typology was seen in close proximity with operational wind farm developments located in adjacent upland areas. This typology could appear to 'spill down' valley sides rather than adhere to the established association of larger turbines being set back within less settled and larger scale upland landscapes. ***High sensitivity***

Character Type 13: Intimate Pastoral Valley – Sensitivity assessment for small-medium and small typologies

Topic and summary description	Assessment of small-medium typology (30m-50m)	Assessment of small typology (15m-30m)
Landscape context These valleys are relatively narrow and strongly contained by adjacent upland character types. The landscape increases in scale on upper slopes particularly at the transition with the very sparsely settled *Plateau Moorland with Forest and Wind Farms* (18c). A number of prominent hills with open rugged slopes and defined summits occur on the edge of the *Foothills* (17b/17c/17e) and *Rugged Uplands Lochs and Forest* (21) character types which contain the Stinchar and Girvan Valleys. The *Plateau Moorland with Forest and Wind Farms* (18c) generally forms more simple even skylines seen from these valleys.	Turbines of this size would still be prominent features and could also detract from more dramatic upland backdrops. Sensitivity is reduced where adjacent uplands are simple and less scenic (although cumulative effects would arise with operational wind farm development sited in these landscapes and this is addressed in detail below). ***Medium sensitivity***	There is increased scope to site this smaller typology to minimise effects on more dramatic upland backdrops – turbines of this size would generally be less prominent providing they were carefully sited, away from containing skylines and landmark hills. ***Medium-low sensitivity***
Scale These gently sinuous valleys are strongly contained by adjacent uplands with occasional higher and more pronounced summits occurring along the edges of the valleys, particularly where they abut the *Foothills* (17b/17c/17e). The lower Stinchar has a relatively open and broad floodplain although in general these valleys are narrow with the upper Girvan and Stinchar constricted by dramatic steep-sided hills. The often pronounced field enclosure pattern, small woodlands and regularly spaced dispersed small farms, houses and tightly clustered settlements combine with the confined extent of these valleys to create a small to medium scale landscape. Scale increases on more open and less settled upper valley sides, particularly at the transition with the very gently sloping *Plateau Moorland with Forest and Wind Farms* (18c).	This typology would easily dominate the particularly narrow extent of the Girvan valley and the upper Stinchar valley. Turbines of this size would also appear very large in relation to more complex rolling landform, farms and domestic buildings, small enclosed fields and woodlands within the valley floor and on lower slopes within all these valleys. The more open, broader upper hill slopes at the transition with the *Plateau Moorland with Forest and Wind Farms* (18c) within the Duisk and lower Stinchar valleys would be less sensitive to this typology. ***High-medium sensitivity***	There is increased scope to site these smaller turbines within broader sections of these valleys away from narrower, more intimately scaled valley floors and the constricted upper reaches of these valleys. This typology would relate better to the size of landform features, woodlands and buildings and multiple turbines of this size could also be accommodated. ***Medium sensitivity***

Landform A smooth, flat floodplain of varying width is contained by undulating, occasionally hummocky and often steep valley sides. A series of steep-sided rugged hills, well-defined and cut by incised side valleys, occurs on the north-western edge of the Stinchar valley and fringing the Girvan valley. These 'landmark' hills include the craggy-topped Knockdolian, Craig and Bargain Hills and Craig of Dalwine along the Stinchar valley and the Big Hill of the Baing, Kildoach Hill and Genoch Hill on the edge of the upper Girvan valley. Broader terraces and more gentle smoother slopes occur on upper valley sides either side of the Duisk Valley and on the south-eastern edge of the Stinchar valley at the transition with the *Plateau Moorland with Forest and Wind Farms* (18c).	More complex landform on lower valley sides and the landmark hills would be particularly sensitive to this typology. Broader upper hill slopes at the transition with the *Plateau Moorlands with Forest and wind farms* (18c) would be of reduced sensitivity. Turbines would detract from the smooth open floodplain and the contrast it provides with more rugged wooded valley sides, affecting the scenic qualities of these valleys. ***Medium sensitivity***	More complex knolly and hummocky landform, steep slopes and landmark hills remain sensitive although there is increased scope for single and small groups <3 of turbines of this size to be accommodated on slacker ground and small terraces that occur on lower hill slopes. The open floodplain remains sensitive to all turbine development. ***Medium-low sensitivity***
Landscape pattern These valleys have a diverse vegetation cover which includes areas of semi-natural woodland on steeper, lower hill slopes, policy woodlands including avenue trees and ornamental plantings in the Girvan and lower Stinchar valley and some coniferous forestry generally on upper slopes. Small to medium sized pastures on the valley floor and lower slopes are enclosed by walls or hedges while more extensive rough grassland occurs on upper valley sides.	Turbines of this height would detract from diverse areas of policy and semi-natural woodland and small enclosed fields which lie on lower hill slopes. Areas with a simpler land cover pattern, for example, more open hill slopes at the transition with the adjacent *Plateau Moorland with Forest and wind farms* (18c) would be less sensitive although these are very limited in extent. ***High-medium sensitivity***	This typology could be more easily accommodated within less intricately patterned areas. Designed landscapes and often strongly enclosed small pastures and field trees should be avoided. ***Medium sensitivity***
Built environment These valleys are accessed by a network of narrow tree-lined winding roads. The small villages of Barrhill, Colmonell and Barr are sited within the valley floor and there is a rich heritage of archaeological sites, castles and mansion houses.	This size of turbine (and particularly multiple turbines) could significantly intrude on the setting and scale of small settlements and historic buildings which are a key characteristic of this landscape. There may be some limited opportunities however to site turbines of this size on less settled upper valley sides. ***High-medium sensitivity***	These smaller turbines are more likely to be able to be partially screened by landform and vegetation and would have a less dominant scale providing greater opportunities to site this typology to minimise effects on setting. ***Medium sensitivity***

Perceptual qualities Although this landscape does not have any sense of wildness, lush rolling pastures with intact hedgerows, traditional small farms, the rich heritage of castles, mansion houses, designed landscapes and small attractive villages give a distinctly rural character to this landscape and a strong sense of timelessness.	The introduction of turbines towards the upper height band of this typology (which would still appear large) could affect perceptual qualities particularly if located close to more settled areas. ***Medium sensitivity***	This small typology would have minimal effects on perceptual qualities, particularly if closely associated with farms. ***Low sensitivity***
Visual amenity This character type is criss-crossed by minor roads and the A714 and B734 are aligned through these valleys. These valleys are relatively well-settled. The rolling landform and presence of woodlands, hedgerows and trees restricts long views from roads and settlement in some areas although open views are possible where roads are elevated or the floodplain more open. Popularly accessed hills such as Knockdolian and Craigengower Hill offer elevated views over these valleys. Skylines formed by the adjacent uplands and the 'landmark' hills on the edges of the *Foothills* form key foci in views from roads and settlement.	Turbines of this size would extend above woodlands and could be highly visible from roads and settlement if sited on the valley floor and lower hill slopes. There may be some limited scope to site turbines towards the lower height band of this typology on less settled upper valley sides, which are often hidden from the more densely wooded valley floor, to minimise intrusion. ***High-medium sensitivity***	There are increased opportunities to site these smaller turbines away from more open parts of the valley floor and to utilise the containment provided by rolling landform and woodlands on valley sides. ***Medium sensitivity***
Cumulative effects The operational Dersalloch wind farm is visible from parts of the upper Girvan valley. The Hadyard Hill wind farm is visible in close proximity from parts of the upper Stinchar valley in the Barr area. A rim of higher prominent hills on the north-eastern side of this valley provides a degree of containment, limiting visibility of this wind farm. The Mark Hill and Arecleoch wind farms are visible from parts of the lower Stinchar valley and from more elevated roads and settlement within the Duisk valley. The operational Kilgallioch and the consented Chirmorrie wind farms are/will be widely visible from the more open upper Duisk valley.	This size of turbine would be more likely to be sited on less settled open upper valley sides and cumulative effects would therefore arise where close inter-visibility occurred with operational wind farm developments located in adjacent upland areas. Multiple turbines of this size could also incur significant cumulative effects. ***High-medium sensitivity***	This typology would be more able to be screened by landform and woodlands which would minimise the cumulative effects of multiple turbines. Clear association of turbines of this size with farms and buildings would also establish a rational pattern, reducing clutter and cumulative effects with larger turbines sited in adjacent uplands. ***Medium sensitivity***

14.2 Summary of sensitivity

The Stinchar, Girvan and Duisk Valleys are strongly contained by adjacent upland landscapes. These include the *Foothills* (17b, 17c and 17e) and the *Rugged Uplands, Lochs and Forest* (21) which feature steep-sided, well-defined 'landmark' hills on the fringes of the upper Girvan and along much of the Stinchar valleys. The *Plateau Moorland with Forest and Wind Farms* (18c) forms more simple and even skylines to the lower Stinchar and the Duisk valleys. Valley sides are often complex with steep craggy slopes and knolls constricting the valley floor in places - the upper valley of the Stinchar and Girvan are particularly dramatic being hemmed in by the steep slopes of adjacent uplands. Gently sinuous rivers are accommodated within an open floodplain of varying width, patterned by enclosed lush green pastures and some riparian woodland. Small rolling fields extend onto lower valley sides and are interspersed with semi-natural woodlands on steeper slopes and small mixed woodlands, some of these comprising estate policies. Occasional avenue and field trees, and areas of scrub and rougher pasture on upper slopes, contribute to the diverse and often intricate land-cover pattern of these valleys. A rich built heritage is evident in the many castles, mansion houses and small historic settlements such as Barr, Barrhill and Colmonell and the small farms which regularly pattern lower hill slopes.

The small to medium scale of this well-settled and often intricately patterned landscape and its built heritage increase sensitivity to larger development typologies. Cumulative impacts with operational wind farm development sited in adjacent upland landscapes are a major constraint particularly in the Duisk Valley. There would be a ***High*** sensitivity to the large and medium (turbines >50m). Sensitivity would be ***High-medium*** to the small-medium typology (turbines 30-50m) and ***Medium*** sensitivity to the small typology (turbines 15-30m) reflecting increased opportunities for turbines under 30m to fit better with the often confined scale of these valleys and to minimise cumulative impacts with operational wind farms located in adjoining upland areas and visible in close proximity.

14.2.1 *Potential cumulative issues*

The following issues may arise in connection with any possible development situated in this and adjacent landscapes:

- Close inter-visibility between larger turbines which are more likely to be located in the adjacent more extensively scaled *Foothills* and *Plateau Moorland with Forest and Wind Farms* (18c) character types and smaller turbines in this character type.
- Potential extensions to the existing wind farms of Hadyard Hill, Mark Hill and Arecleoch and/or new wind farm developments located in adjacent uplands which could extend visibility and intrusion of turbines on sensitive skylines which contain the *Intimate Pastoral Valleys* (13).
- Variations in the type and size of single and small groups of small turbines proposed within these valleys which could be very inter-visible along more open linear stretches from roads and could affect the strong integrity of this landscape.

14.2.2 *Constraints*

- The small scale of these valleys which are relatively narrow and strongly contained by adjacent uplands and where rolling landform, woodlands, enclosed pastures and the density of small farms and other settlement provides ready scale references.
- More complex knolly landform, steep-valley sides and well-defined 'landmark' hills including the craggy-topped Knockdolian, Craig and Bargain Hills and Craig of Dalwine along the Stinchar valley and the Big Hill of the Baing, Kildoach Hill and Genoch Hill on the edge of the upper Girvan valley.
- The rim of high, steep-sided hills lying on the north-western edge of the upper Stinchar valley, including Auchensoul, Mill of Miljoan and Daldowie Hills, which form a prominent and scenic backdrop to this valley but are also important in providing a degree of visual containment of the operational Hadyard Hill wind farm.
- The often intricate land-cover pattern, especially evident on lower hill slopes and on the edge of the valley floor, where mixed policy woodlands, strongly enclosed small pastures and mature field and road trees contribute to the diverse character of this landscape.
- The rich architectural heritage of this landscape which features many mansion houses/castles and their designed landscapes and also attractive historic small settlements sensitive to intrusion upon their landscape setting.
- Views from roads and settlement along more open sections of these valleys and from popularly accessed hills and where the skyline of containing uplands and 'landmark' hills are key visual foci.
- The potential for significant cumulative effects to arise with the operational wind farms including Hadyard Hill, Mark Hill, Arecleoch and Dersalloch wind farms and the consented Chirmorrie wind farm (and any further large turbine development which may be located in these adjacent uplands).

14.2.3 *Opportunities*

- Less settled upper slopes within broader stretches of these valleys where a more open character occurs at the transition with the simpler and more extensive *Plateau Moorlands with Forestry and Wind Farms* (18c).

14.3 Guidance for development

The assessment found ***no scope*** for the large and medium typologies (turbines >50m) to be accommodated within the *Intimate Pastoral Valley* (13) landscape character type.

While the small-medium typology (turbines 30-50m) could in principle relate to the simpler landform and increased scale of sparsely settled upper hill slopes at the transition with the *Plateau Moorland with Forest and Wind Farms* (18c) either side of the Duisk Valley the potential for significant cumulative impacts to arise with operational and consented wind farm developments is a key limitation. There may be some ***very limited*** scope for single and small groups (<5) of this size of turbine to be sited on broader upper valley sides at the transition with less pronounced upland areas provided intrusion on smaller scale settlement and features within lower reaches of these valleys is minimised and significant cumulative effects with

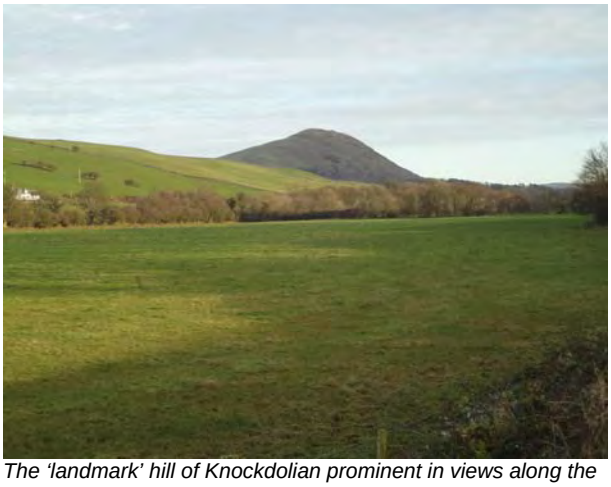
existing large scale wind farm developments are avoided. The use of turbines towards the lower height band of this typology is likely to minimise impacts.

The assessment found there to be ***some limited scope*** for the small typology (turbines 15-30m high) with increased opportunities for multiple turbines to be better accommodated in this character type. Turbines should avoid the open floor of these valleys, instead being sited on gentler slopes and broader terraces on valley sides. Smaller turbines (<15m) should be associated with farms and other buildings to minimise visual clutter within these scenic valleys. The more extensive and open upper valley sides offer scope for turbines between 20-30m.

All turbines should be sited away from designed landscapes and avoid intrusion on the setting of settlements and historic buildings. Turbines of this size should be located where they can reinforce the pattern of existing development, being associated with farms and buildings which provide a framework of built development-related spot features. It is important that turbines have a consistency of design in order to minimise potential cumulative effects on this landscape which has strong integrity. Detailed siting and design should accord with the guidance set out in Annex F.

Well-defined 'landmark' hills – as seen here in the upper Girvan valley - are a common feature on the edge of the foothills which contain these narrow small scale valleys

Roadside trees, mixed woodlands and small hedged fields contribute to the rich diversity of these valleys



The 'landmark' hill of Knockdolian prominent in views along the Stinchar valley

Broader open floodplain pastures contrast with more intricately patterned woodlands and rolling pastures on lower slopes within the Stinchar valley

Broader, more open upland pastures on upper valley sides lie close to operational wind farm developments increasing sensitivity in relation to cumulative effects

The Hadyard Hill wind farm is visible from the Stinchar valley where the containment provided by higher 'edge' hills is interrupted by a tributary valley.

15 CHARACTER TYPE 14: UPLAND GLEN

15.1 Introduction

There are three Upland Glens within Ayrshire, Glen Afton in East Ayrshire and Glen App and Glen Tig in South Ayrshire. All these Upland Glens are considered in this sensitivity assessment.

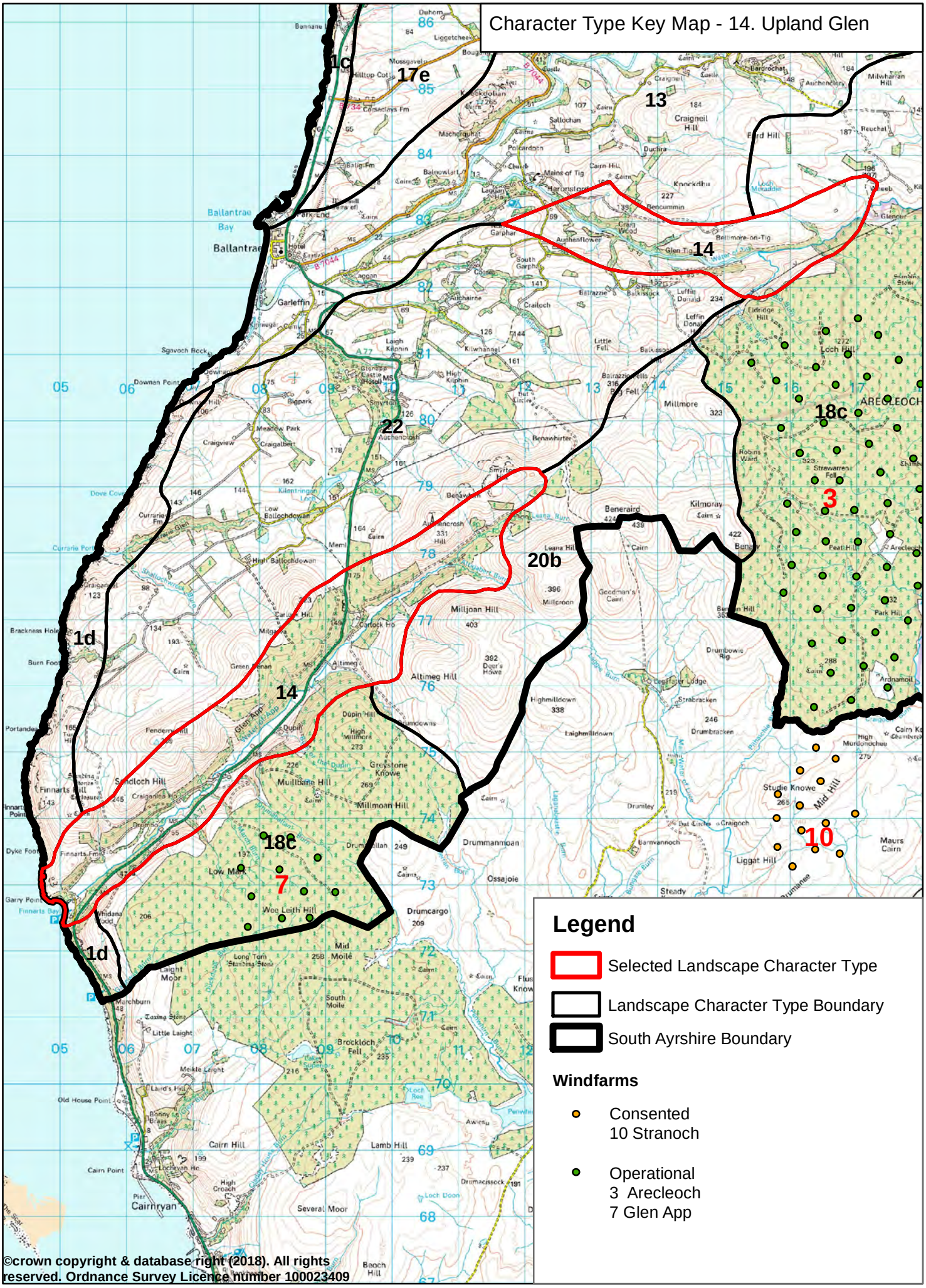
The detailed assessment considers both larger (turbines >50m) and smaller (turbines <50m) development typologies.

15.1.1 *Operational/consented wind farms*

There are no operational or consented wind farms or turbines located in these *Upland Glens.*

The Hare Hill operational wind farm (59 turbines, 63.5m to 91m high) is located within the adjacent *East Ayrshire Southern Uplands* (20a) character type, approximately 1.5km to the east of Glen Afton and is visible in close proximity on the skyline of the middle section of this glen. The Windy Standard I and II operational wind farm (66 turbines, 53.5m to 120m high) is also located within the same *Southern Uplands* character type but within neighbouring Dumfries and Galloway. Although this wind farm lies within 1.5km to the west of Glen Afton views to it are restricted from the floor of this glen. The recently constructed Afton wind farm (27 turbines, 100/120m) is sited on the ridge which forms the skyline at the head of this narrow glen on the western side of the Afton reservoir and significantly influences character and views within this glen.

The operational Arecleoch wind farm (60 turbines, 135m high) and the Mark Hill wind farm (28 turbines, 110m high) are located in the *South Ayrshire Plateau Moorland with Forest and Wind Farms* (18c). There are close views of the Arecleoch wind farm from Glen Tig. While there are no views of the Arecleoch wind farm from roads and settlement within Glen App, there are some partial views of turbines within the operational Glen App wind farm (11 turbines, 126.5m) from the A77 and higher ground in this glen.



Character Type 14: Upland Glen – Sensitivity assessment for large and medium typologies

Topic and summary description	Assessment of large typology (turbines 70m+)	Assessment of medium typology (turbines 50-70m)
Landscape context These narrow glens are visually cut off from other landscape types, with the exception of the immediate edges of the surrounding upland character types of the *East Ayrshire Southern Uplands* (20a) which form the upper rim of Glen Afton, the *South Ayrshire Southern Uplands* (20b) and *Coastal Rolling Farmland and Policies* (22) which contain Glen App and the *South Ayrshire Plateau Moorlands with Forest and Wind Farms* (18c) which abut Glen Tig.	Although the strong containment of these glens by steep hill slopes would limit inter-visibility from surrounding landscapes, turbines of this size are more likely to be located on upper hill slopes and containing ridges and could detract from the more dramatic 'landmark' hills lying on the fringes of the *Southern Uplands* (20a, 20b) and in the case of Glen App, the adjacent *Coastal Rolling Farmland and Policies* (22). Sensitivity is reduced where the *Plateau Moorland* (18c) character type abutting Glen Tig is simpler and less scenic (although cumulative effects would arise with operational wind farm development sited in these landscapes). ***High-medium sensitivity***	Although the strong containment of these glens by steep hill slopes would limit inter-visibility from surrounding upland areas, turbines of this size are more likely to be located on upper hill slopes and containing ridges and could detract from the more dramatic 'landmark' hills lying on the fringes of the *Southern Uplands* (20a, 20b) and in the case of Glen App, the adjacent *Coastal Rolling Farmland and Policies* (22). Sensitivity is reduced where the *Plateau Moorland* (18c) character type abutting Glen Tig is simpler and less scenic (although cumulative effects would arise with operational wind farm development sited in these landscapes). ***High-medium sensitivity***
Scale These are narrow, high sided valleys with flat floors. The steep valley sides create a high degree of enclosure. The height of the valley sides is most pronounced and dramatic when flanked by the high, rugged Southern Upland hills (20a, 20b). Glen Afton and Glen App are well settled with small farms and houses and enclosed fields located on the flat glen floor and lower hill slopes. Although Glen Tig is less settled, it lies close to the well-settled Stinchar Valley.	This typology would dominate the narrow floor of these valleys and the scale of small houses and farms, small enclosed fields and woodlands sited close to narrow valley floors and on lower hill slopes. The sense of containment and the perceived towering scale of the more dramatically contained glens would be significantly diminished by the presence of this typology. ***High sensitivity***	This typology would dominate the narrow floor of these valleys and the scale of small houses and farms, small enclosed fields and woodlands sited close to narrow valley floors and on lower hill slopes. The sense of containment and the perceived towering scale of some of the more dramatically contained glens would be significantly diminished by the presence of this typology. ***High sensitivity***
Landform The glens are relatively narrow, with flat floors and steep side slopes rising to irregular ridgelines. Valley sides are consistently steep within Glen App, within much of Glen Tig and in	Turbines of this size would detract from the steep rugged hill slopes which contain these glens. Containing ridges seen from the glen floor are often complex and irregular and these would be sensitive to turbines visible on skylines. An	Turbines of this size would detract from the steep rugged hill slopes which contain these glens. Containing ridges seen from the glen floor are often complex and irregular and these would be sensitive to turbines visible on skylines. An

upper Glen Afton. The well-defined rugged hills of Blackcraig and Craigbraneoch Rig in Glen Afton and pronounced conical Beneraird and Carlock Hills edging Glen App form landmark features. The western side slopes of lower Glen Afton are more gently graded with occasional rolling landform and small stepped terraces.	additional effect is likely to be extensive cut and fill creating scarring if access tracks are built across steep slopes. ***High sensitivity***	additional effect is likely to be extensive cut and fill creating scarring if access tracks are built across steep slopes. ***High sensitivity***
Landscape pattern Rough grassland on the tops of the ridges extends down to head dykes, separating the open grass and patchy heather moor on the upper slopes from fields of enclosed semi-improved pasture on lower slopes. Narrow glen floors are often more open with smooth pastures providing a scenic contrast with more rugged and coarsely vegetated hill slopes. Glen App is well-wooded with diverse mixed policy woodlands covering south-western hill sides while Glen Tig features extensive native woodlands. Lower Glen Afton is patterned with small clumps of broadleaves although the steep hill slopes surrounding Afton Reservoir are covered with coniferous forestry.	The small size and often intricate pattern of individual features – from clumps of trees to small woodlands and small walled fields – could be easily dominated by the larger turbines of this typology. Sensitivity to this characteristic is reduced where more extensive and less visually diverse vegetation pattern occurs on upper hill slopes and at the head of some glens. ***High-medium sensitivity***	The small size and often intricate pattern of individual features – from clumps of trees to small woodlands and small walled fields – could be easily dominated by the larger turbines of this typology. Sensitivity to this characteristic is reduced where more extensive and less visually diverse vegetation pattern occurs on upper hill slopes and at the head of some glens. ***High-medium sensitivity***
Built environment Dispersed farms and cottages, become sparser towards the heads of the glens. Settlement is generally located as point features along the edge of the valley floor and is frequently associated with side valleys. The A77 is aligned through Glen App although a no-through single-track road provides access up Afton Glen and there are no public roads in Glen Tig. Utilitarian buildings and infrastructure are associated with Afton Reservoir at the head of Glen Afton.	This typology would overwhelm the size and setting of small farms and individual houses In more dramatic upper sections of these glens there is often a contrast between the small size of the buildings and the sheer-sided mass of the hills, which would be compromised by this typology. ***High sensitivity***	This typology would overwhelm the size and setting of small farms and individual houses In more dramatic upper sections of these glens there is often a contrast between the small size of the buildings and the sheer-sided mass of the hills, which would be compromised by this typology. ***High sensitivity***

Perceptual qualities Glen Tig feels the most secluded and least modified of these Upland Glens due to its sparsely settled nature, absence of roads and extensive semi-natural woodlands although the Arecleoch wind farm is visible in close proximity in places, diminishing the sense of wildness. The presence of the A77 precludes any sense of wildness within Glen App and while upper Glen Afton has a rugged upland character, views of the Afton and Hare Hill wind farm and water authority buildings and infrastructure limits a pronounced sense of wildness.	While there can be a sense of seclusion and varying degrees of naturalness perceived in these glens, they are either settled and managed with some accommodating busy roads or influenced by highly visible wind farm development and other built infrastructure. Sensitivity is therefore reduced in relation to this characteristic. ***Medium-low sensitivity***	While there can be a sense of seclusion and varying degrees of naturalness perceived in these glens, they are either settled and managed with some accommodating busy roads or influenced by highly visible wind farm development and other built infrastructure. Sensitivity is therefore reduced in relation to this characteristic. ***Medium-low sensitivity***
Visual amenity Views from roads often focus along the length of Glen App and Glen Afton. The heads of the glens are often the focal point for key views, and the irregular shaped skyline around the rim of the glen is visually prominent. Glen Tig is less visible from roads and settlement although a number of footpaths provide access into this more secluded glen	Turbines of this size would form visually dominant features within the strongly confined space of these glens. The irregular ridges containing these glens are also highly sensitive to development perched along the prominent skyline either within this and the adjacent *Southern Uplands* (20a and 20b) and the *South Ayrshire Plateau Moorlands with Forestry and Wind Farms* (18c).Views to the heads of the glens and to the more prominent steep-sided hills on the upland edge are especially sensitive as these form the focal points of linear views when travelling along roads and seen from settlement sited on lower slopes. These 'head of valley' views are significantly affected In Glen Afton by the Afton wind farm located on immediately containing ridges in the adjacent *Southern Uplands* (20a) ***High sensitivity***	Turbines of this size would also form visually dominant features within the strongly confined space of these glens. The irregular ridges containing these glens are also highly sensitive to development perched along the prominent skyline either within this and the adjacent *Southern Uplands* (20a and 20b) and the *South Ayrshire Plateau Moorlands with Forestry and Wind Farms* (18c).Views to the heads of the glens and to the prominent steep-sided hills on the upland edge are especially sensitive as these form the focal points of linear views when travelling along roads and seen from settlement sited on lower slopes. These 'head of valley' views are significantly affected In Glen Afton by the Afton wind farm located on immediately containing ridges in the adjacent *Southern Uplands* (20a) ***High sensitivity***
Cumulative effects The operational wind farms of Arecleoch, Hare Hill and Afton are visible in close proximity from	Turbines of this size (and particularly multiple turbines) would have cumulative impacts with operational wind farm development which lies in	Turbines of this size (and particularly multiple turbines) would have cumulative impacts with operational wind farm development which lies in

Glen Tig and Glen Afton and the Glen App wind farm is partially visible from higher ground in Glen App.	close proximity to these glens, potentially increasing the intrusion of large turbines visible on containing skylines. ***High sensitivity***	close proximity to these glens, potentially increasing the intrusion of large turbines visible on containing skylines. ***High sensitivity***

Character Type 14: Upland Glen – Sensitivity assessment for small-medium and small typologies

Topic and summary description	Assessment of small-medium typology (30-50m)	Assessment of small typology (15-30m)
Landscape context These narrow glens are visually cut off from other landscape types, with the exception of the immediate edges of the surrounding upland character types of the *East Ayrshire Southern Uplands* (20a) which form the upper rim of Glen Afton, the *South Ayrshire Southern Uplands* (20b) and *Coastal Rolling Farmland and Policies* (22) which contain Glen App and the *South Ayrshire Plateau Moorlands with Forest and Wind Farms* (18c) which abut Glen Tig.	The strong containment of the glens would limit potential impacts on adjacent character types although turbines of this size sited on steep upper slopes and containing ridges could detract from more pronounced 'landmark' hills lying on the edge of the adjacent *Southern Uplands* (20a+20b) ***Medium sensitivity***	This typology is more likely to be associated with settlement and therefore sited within the floor and lower slopes of these glens with the strong containment by high, steep slopes limiting effects on adjacent character types ***Low sensitivity***
Scale These are narrow, high sided valleys with flat floors. The steep valley sides create a high degree of enclosure. The height of the valley sides is most pronounced and dramatic when flanked by the high, rugged Southern Upland hills (20a, 20b). Glen Afton and Glen App are well settled with small farms and houses and enclosed fields located on the flat glen floor and lower hill slopes. Although Glen Tig is less settled, it lies close to the well-settled Stinchar Valley.	This typology could easily dominate the narrow floor of these valleys and the scale of small houses and farms, fields and woodlands if sited on valley floors and lower slopes. The sense of containment and the perceived towering scale of some of the more dramatic upper glens would be diminished by the presence of this typology. ***High sensitivity***	Single or very small clusters of this typology (and particularly turbines towards the lower height band <20m) could more easily be accommodated within the broader stretches of these glens as they would have a less dominant effect on small woodlands, fields and buildings and smaller landform features. ***Medium sensitivity***
Landform The glens are relatively narrow, with flat floors and steep side slopes rising to irregular ridgelines. Valley sides are consistently steep within Glen App, within much of Glen Tig and in upper Glen Afton. The well-defined rugged hills of Blackcraig and Craigbraneoch Rig in Glen Afton and pronounced conical Beneraird and Carlock Hills edging Glen App form landmark	The more pronounced rugged 'landmark' hills and the often complex skyline ridges formed by the adjacent *Southern Uplands* (20a, 20b) would be sensitive to all scales of turbine development. An additional effect is likely to be extensive cut and fill creating scarring if access tracks are built across steep slopes. The less steep upper valley sides found very occasionally in Glen Tig and parts of the western edge of lower Glen Afton would be	Single or very small clusters of this typology could be accommodated along the lower glen sides where they could be sited on natural terraces or other distinct landform features or associated with side valleys. These smaller turbines are less likely to require substantial access tracks, hard standing areas and footings. The more pronounced rugged hills in the

features. The western side slopes of lower Glen Afton are more gently graded with occasional rolling landform and small stepped terraces.	less sensitive to this typology. ***High-medium sensitivity***	adjacent Southern Uplands and the undulating skyline formed by adjacent uplands would be sensitive to all scales of turbine development. ***Medium sensitivity***
Landscape pattern Rough grassland on the tops of the ridges extends down to head dykes, separating the open grass and patchy heather moor on the upper slopes from fields of enclosed semi-improved pasture on lower slopes. Narrow glen floors are often more open with smooth pastures providing a scenic contrast with more rugged and coarsely vegetated hill slopes. Glen App is well-wooded with diverse mixed policy woodlands covering south-western hill sides while Glen Tig features extensive native woodlands. Lower Glen Afton is patterned with small clumps of broadleaves although the steep hill slopes surrounding Afton Reservoir are covered with coniferous forestry.	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. Where more extensive and less visually diverse vegetation pattern occurs, there is likely to be more scope for this typology. ***High-medium sensitivity***	There is greater scope to accommodate this typology to avoid impacting on landscape pattern or individual features. Turbines could be sited to associate with the head dyke, near watercourses or the edges of the side valleys or other topographical features. ***Medium sensitivity***
Built environment Dispersed farms and cottages, become sparser towards the heads of the glens. Settlement is generally located as point features along the edge of the valley floor and is frequently associated with side valleys. The A77 is aligned through Glen App although a no-through single-track road provides access up Afton Glen and there are no public roads in Glen Tig. Utilitarian buildings and infrastructure are associated with Afton Reservoir at the head of Glen Afton.	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 associated features. In more dramatic upper sections of these glens there is often a contrast between the small size of the buildings and the sheer-sided mass of the hills, which would be compromised and diminished by this typology. ***High sensitivity***	There is greater scope to accommodate this typology, and particularly turbines <20m, because of its potential to be associated with the scale of larger buildings, settlement groups and farms and to fit with the pattern of development on lower glen sides. ***Medium sensitivity***
Perceptual qualities Glen Tig feels the most secluded and least modified of these Upland Glens due to its	While there can be a sense of seclusion in these strongly contained glens, there is only a limited sense of remoteness and naturalness as these	While there can be a sense of seclusion in these strongly contained glens, there is only a limited sense of remoteness and naturalness

sparsely settled nature, absence of roads and extensive semi-natural woodlands although the Arecleoch wind farm is visible in close proximity in places, diminishing the sense of wildness. The presence of the A77 precludes any sense of wildness within Glen App and while upper Glen Afton has a rugged upland character, views of the Afton and Hare Hill wind farm and water authority buildings and infrastructure limits a pronounced sense of wildness.	glens are either settled and managed with some accommodating busy roads or influenced by highly visible wind farm development and other built infrastructure. ***Low sensitivity***	as these glens are either settled and managed with some accommodating busy roads or influenced by highly visible wind farm development and other built infrastructure. ***Low sensitivity***
Visual amenity Views from roads often focus along the length of Glen App and Glen Afton. The heads of the glens are often the focal point for key views, and the irregular shaped skyline around the rim of the glen is visually prominent. Glen Tig is less visible from roads and settlement although a number of footpaths provide access into this more secluded glen	Multiple turbines of this size could quickly become visually dominant within the strongly confined space of these glens and particularly if turbines were located where they would intrude into the linear views from roads which focus along the length of the glens. Irregular containing ridges are also sensitive to development perched along prominent skylines. Views to the heads of the glens and to the pronounced 'landmark' hills are especially sensitive as these form focal points of views. ***High sensitivity***	The irregular ridges are sensitive to all sizes of turbine perched along the prominent skyline and views to the heads of the glens are especially sensitive as these are the focal points of views. There would however be increased scope to site turbines towards the lower height band of this typology without impinging on key views as turbines of this size have greater potential to fit with the scale of other features in the landscape and be partially screened by woodlands and topography. ***High-medium sensitivity***
Cumulative effects The operational wind farms of Arecleoch, Hare Hill and Afton are visible in close proximity from Glen Tig and Glen Afton and the Glen App wind farm is partially visible from higher ground in Glen App.	Turbines of this size (and particularly multiple turbines) could have cumulative impacts with operational wind farm development which lies in close proximity to these glens. ***High sensitivity***	This smaller typology would appear clearly different in size to the larger turbines of operational wind farms thus reducing potential for cumulative impacts. Turbines of this size are more likely to be associated with farms and other building groups sited on lower glen sides. They should not be sited close to operational wind farms visible on containing ridgelines in order to avoid a cluttered effect. ***Medium sensitivity***

15.2 Summary of sensitivity

The Upland Glens of Glen App, Glen Tig and Glen Afton are narrow and strongly enclosed, predominantly contained by steep sides which rise to form often irregular and highly prominent ridgelines. A number of well-defined hills on the edge of these glens form landmark features and are especially dramatic where these glens are contained by the high ground of the Southern Uplands (20a, 20b) character type. Land-cover is diverse with riparian woodlands and small walled pastures covering the valley floor and lower slopes and more extensive mixed policy woodlands and coniferous plantings, interspersed with semi-improved pastures and heather-flecked grass moorland, on steep upper slopes. The narrowness and enclosure of these glens create a small scale landscape, accentuated by the presence of small buildings, woodlands and fields. Encircling ridgelines are particularly sensitive to any form of built development seen on the skyline and a number of wind farm developments are already visible in close proximity from Glen Afton and Glen Tig.

There would be a ***High*** sensitivity to the Large, Medium and Small-medium typologies (turbines >30m) and a ***Medium*** sensitivity to the small typology (turbines 15-30m).

15.2.1 *Potential cumulative issues*

The following issues may arise in connection with any possible developments situated in this and adjacent landscapes:

- Inter-visibility of turbines sited in these glens and the larger turbines of operational and any future extensions/repowering/new developments within the adjacent *Southern Uplands* (20a and 20b) and *South Ayrshire Plateau Moorland with Forest and Wind Farm* (18c) character types which may be visible on sensitive skylines formed by the encircling hills containing these glens.
- Variations in the size and design of smaller turbines which would be appreciated in close view from settlement and roads due to the confined extent of these glens.

15.2.2 *Constraints*

- The small scale and narrow extent of these glens which would be quickly dominated by turbines (and especially multiple turbines) over 30m high and also by smaller but poorly sited turbines.
- The dramatic forms of steep-sided hill flanks and ridges and the high rugged peaks of well-defined hills including Beneraird, Milljoan Hill and Carlock Hill in Glen App and Blackcraig and Craigbraneoch Hills in Glen Afton where turbines and access tracks would significantly detract.
- The upper edge of the glens where the irregularly shaped enclosing ridgeline is visually prominent against the sky when viewed from within the glen.

- The heads of the glens which are often the focal point in views from roads – the head of Glen Afton is already dominated by wind farm development sited in the adjacent *East Ayrshire Southern Uplands* 20a).
- The predominantly open glen floor which contrasts with more wooded and coarse textured hill sides, where turbines (and particularly multiple turbines) sited in these areas would be detractive and interrupt linear views from roads which are channelled along the glen.

15.2.3 *Opportunities*

- Lower side slopes where small terraces and other landform features, the pattern of settlement and small side valleys/tributary watercourses offer opportunities for turbines < 20m to be sited where they can be associated with these features in the landscape, building up a consistent pattern of development able to optimise successful accommodation of multiple turbines.
- More gently graded lower hill slopes on the west side of Glen Afton and at the junction between Glen Tig and the *Intimate Pastoral Valley* (13) of the Stinchar Valley where turbines >20m would be less likely to detract from dramatic steep slopes present in the more deeply incised sections of the *Upland Glens.*

15.3 Guidance for development

There is ***no scope*** for turbines >30m to be sited within the *Upland Glens*.

Small turbines (15-30m) should be located where they can reinforce the pattern of existing development, being associated with farms located at the edge of the glen floor, lower side slopes above existing built development, within side valleys or along the head dyke. Turbines above 20m should be located on more gently graded side slopes where the scale of the glen is perceived as being broader.

Turbines should avoid intrusion on key views to the often dramatic heads of the glens and should not interrupt the irregular ridges which contain these glens and form prominent skylines. The flat and predominantly open glen floor should be avoided. They should also not be sited close-by operational wind farm developments sited in adjacent upland landscapes in order to minimise cumulative effects. Detailed siting and design should accord with the guidance set out in Annex F of this report.

The *Upland Glens* are highly sensitive to intrusion from large wind turbines sited in the adjacent *Southern Uplands* (20a and 20b) and *South Ayrshire Plateau Moorland with Forest and Wind Farm* (18c) character types. Operational wind farms are visible from these *Upland Glens* and care should be taken to avoid any exacerbation of existing intrusion when considering extensions or repowering proposals associated with operational/consented developments, or any new proposals, in adjacent upland areas.

Steep wooded slopes strongly contain the flat pastures on the floor of Glen App – the skyline formed by containing hills is sensitive to turbines sited in this and adjacent upland landscapes

The lower hill slopes of these glens are often more gentle but can feature smaller scale knolls and folds sensitive to larger turbines

Small farms and occasional estate houses are associated with the more gently undulating lower hill slopes set above the narrow floodplain of these glens

The operational Hare Hill wind farm prominent in views from Glen Afton.

16 CHARACTER TYPE 16: LOWLAND HILLS

16.1 Introduction

The Lowland Hills character type is identified in a single area within the Ayrshire Landscape Assessment (1998). These low hills lie within South Ayrshire, rising from the lower-lying farmlands of the Ayrshire Lowlands and providing a backdrop to the coastal towns of Troon and Prestwick.

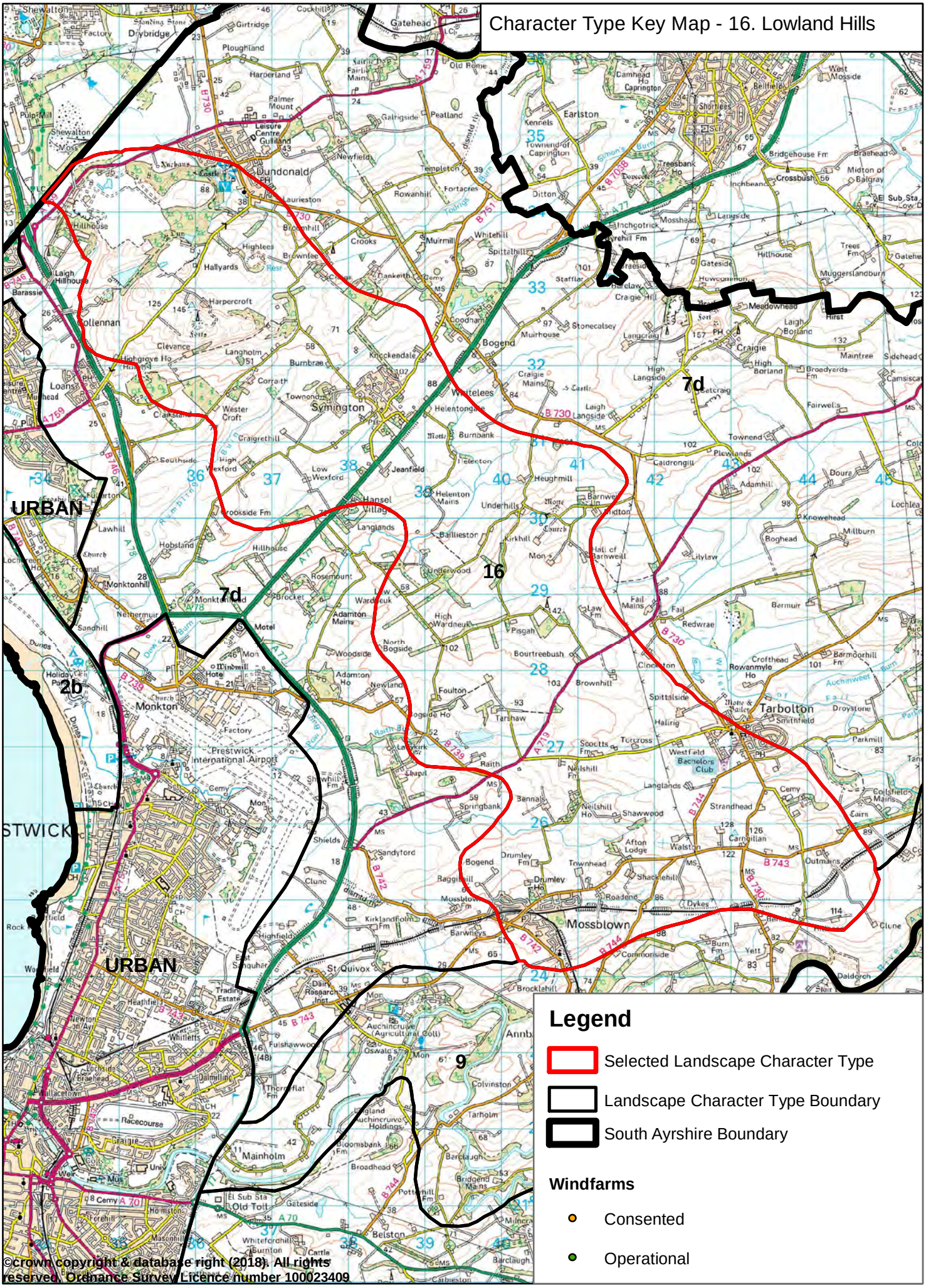
16.1.1 *Operational/consented wind farms*

No operational wind farms are located within this character type although there are a number of small single wind turbines generally generally below 20m high to blade tip.

Elevated roads within these small hills allow open views to existing wind farm developments in the Clyde Muirshiel uplands of North Ayrshire and to the Whitelee wind farm towards the north-eastern border of East Ayrshire. The distance (>18km) of these developments from this character type lessens their landscape and visual influence.

The operational Glaxo Smith Kline (GSK) turbines at Irvine (2 turbines, 106m high) lie approximately 1.5km from the northern edge of this character type.

Character Type Key Map - 16. Lowland Hills



Character Type 16: Lowland Hills – Sensitivity assessment for large and medium typologies

Topic and summary description	**Assessment of large typology (70m+)**	**Assessment of medium typology (50-70m)**
Landscape context These small hills are limited in extent and prominent from the coastal settlements of Troon and Prestwick where they rise steeply above the low-lying coastal margin. Although the transition with the *South Ayrshire Lowlands* (7d) character type is more gradual to the east, they are widely visible from roads and settlement where they form a low backdrop of folded hills and valleys.	The limited extent of this landscape character type increases sensitivity in relation to adjacent character types. Turbines of this height would be very prominent in views from surrounding lower-lying and well settled landscapes and particularly from the A77 and in views from Troon and Prestwick. ***High sensitivity***	The limited extent of this landscape character type increases sensitivity in relation to adjacent character types. Turbines of this height would be very prominent in views from surrounding lower-lying and well settled landscapes and particularly from the A77 and in views from Troon and Prestwick. ***High sensitivity***
Scale These small hills form an undulating ridge which rises to no more than 145m yet appears prominent, particularly in the context of the lower-lying coastal margin. The relatively low relief can be appreciated in comparison with the size of the mature trees which break the skyline and appear large in relation to the height of these hills. This is a well-settled landscape with a regular distribution of small farm buildings and houses, more contained valleys and pockets of smaller scale rolling landform and some more wooded areas.	This typology would dominate the relatively low relief of these hills and the smaller scale of narrow valleys and more complex rolling landform. It would also overwhelm the size of small buildings and woodlands which provide ready scale references across this landscape. ***High sensitivity***	This typology would dominate the relatively low relief of these hills and the smaller scale of narrow valleys and more complex rolling landform. It would also overwhelm the size of small buildings and woodlands which provide ready scale references across this landscape. ***High sensitivity***
Landform An undulating ridge forming a series of distinct summits, with the highest hill in the north having a rugged appearance. Numerous valleys cut these hills with the broadest of these having smooth and gentle side slopes. Pockets of more complex small-scale landform occur and include the interlocking knolls and hollows found in the Barnweil area.	There are few areas of more extensive flatter landform able to accommodate multiple turbines of this size. This typology would detract from the more defined hill summits, narrower valleys and more complex small-scale landform. ***High-medium sensitivity***	There are few areas of more extensive flatter landform able to accommodate multiple turbines of this size. This typology would detract from the more defined hill summits, narrower valleys and more complex small- scale landform. ***High-medium sensitivity***

Landscape pattern An often diverse landscape with a strong field enclosure pattern, occasional mixed policy woodlands and mature field trees. Higher hill tops and steep slopes are often covered with gorse and rougher pasture.	This typology could relate to more open hill slopes where the field pattern is broader. Occasional more intricate wooded areas and areas with smaller hedged pastures would be more sensitive. ***Medium sensitivity***	This typology could relate to more open hill slopes where the field pattern is broader. Occasional more intricate wooded areas and areas with smaller hedged pastures would be more sensitive. ***Medium sensitivity***
Built environment Well-settled with a regular pattern of small farms and houses. The small villages of Tarbolton, Mossblown, Symington and Dundonald lie within or close to the boundary of this landscape character type. Hill forts, Dundonald Castle and the motte, church and Wallace's Monument at Barnweil and other notable historical buildings are located in these hills. Communications masts top two of the highest summits and some small reservoirs and quarrying operations are also present. A network of narrow minor roads criss-cross this landscape.	This typology would be likely to be seen in close proximity to settlements, individual buildings and archaeological features and would significantly affect their setting due to the limited extent of the character type. Turbines of this size could increase the clutter of vertical structures seen on sensitive skylines. Narrow roads could result in landscape and visual effects associated with access improvements for vehicles required to transport turbines of this size. ***High sensitivity***	This typology would be likely to be seen in close proximity to buildings and archaeological features and could affect their setting due to the limited extent of the character type. Turbines of this size could increase the clutter of vertical structures seen on sensitive skylines. Narrow roads could result in landscape and visual effects associated with access improvements for vehicles required to transport turbines of this size. ***High sensitivity***
Perceptual qualities This landscape is largely farmed and well-settled and consequently has little sense of naturalness. It also lies close to busy roads, areas of dense settlement and industry and Prestwick Airport generally reducing the sense of seclusion likely to be experienced.	Sensitivity is reduced due to the absence of key perceptual qualities. ***Low sensitivity***	Sensitivity is reduced due to the absence of key perceptual qualities. ***Low sensitivity***
Visual amenity Views from narrow roads within this landscape are generally restricted by hedgerows and woodlands and the often rolling landform of hills and valleys. More open and extensive views are possible from hill tops including dramatic views over the Firth of Clyde and Arran from Wardlaw Hill and the minor road between Troon and Dundonald which crosses the upper slopes of this hill.	The prominence of these hills increases sensitivity to this typology. Turbines would be highly visible and would intrude on key views from settlement and roads. Dramatic views over the Firth of Clyde and Arran from this character type would be sensitive to intrusion. ***High sensitivity***	The prominence of these hills increases sensitivity to this typology. Turbines would be highly visible and would intrude on key views from settlement and roads. Dramatic views over the Firth of Clyde and Arran from this character type would be sensitive to intrusion. ***High sensitivity***

This landscape is highly visible from the A77 and surrounding lower-lying and very well-settled landscapes.		
Cumulative effects Existing wind farm development located in the uplands of mainland North Ayrshire and the Whitelee development are visible at distance of over 18km. The GSK turbines are visible in close proximity from Wardlaw Hill and its north facing slopes although visibility is restricted across much of this character type due to the screening provided by this hill.	The GSK turbines are clearly associated with a landscape characterised by large scale industrial buildings. Similarly sized turbines sited in the Lowland Hills would contrast with this association with a particular landscape character type. Cumulative effects could also occur on views particularly in the northern part of the *Lowland Hills* but also across parts of North Ayrshire where there would be inter-visibility. ***High sensitivity***	The GSK turbines are clearly associated with a landscape characterised by large scale industrial buildings. Although this typology would be different in size to the GSK turbines, cumulative effects could occur on views particularly in the northern part of the *Lowland Hills* but also across parts of North Ayrshire where there would be inter-visibility between developments. ***High-medium sensitivity***

Character Type 16: Lowland Hills – Sensitivity assessment for small-medium and small typologies

Topic and summary description	Assessment of small-medium typology (30m-50m)	Assessment of small typology (15-30m)
Landscape context These small hills are limited in extent and prominent from the coastal settlements of Troon and Prestwick where they rise steeply above the low-lying coastal margin. Although the transition with the South Ayrshire Lowlands (7d) character type is more gradual to the east, they are widely visible from roads and settlement where they form a low backdrop of folded hills and valleys.	This typology could impact on surrounding landscape character types particularly if sited on higher ground where they would be prominent. Turbines towards the lower height band of this typology located on lower hill slopes so they do not break the skyline would have a reduced effect on landscape context. ***High-medium sensitivity***	This typology would have less of an effect on surrounding landscapes as it could be sited on lower hill slopes, avoiding intrusion on more prominent ridgelines and hill summits. ***High-medium sensitivity***
Scale These small hills form an undulating ridge which rises to no more than 145m yet appears prominent, particularly in the context of the lower-lying coastal margin. The relatively low relief can be appreciated in comparison with the size of the mature trees which break the skyline and appear large in relation to the height of these hills. This is a well-settled landscape with a regular distribution of small farm buildings and houses, more contained valleys and pockets of smaller scale rolling landform and some more wooded areas.	Turbines towards the upper height band of this typology would still appear very large in relation to the low relief of these hills and the mature trees and buildings which provide ready scale references across this landscape. Conflicts of scale would reduce with turbines towards the lower height band if sited in less densely settled and wooded areas. ***High-medium sensitivity***	This typology would have a better scale relationship to these small hills and also to land-cover features such as woodlands and buildings. More complex smaller scale landform remains sensitive. ***Medium sensitivity***
Landform An undulating ridge forming a series of distinct summits, with the highest hill in the north having a rugged appearance. Numerous valleys cut these hills with the broadest of these having smooth and gentle side slopes. Pockets of more complex small scale landform occur and include the interlocking knolls and hollows found in the Barnweil area.	This typology could relate to the simple gentle hill slopes found within broader valleys while minimising impacts on more defined hill tops, narrow valleys and areas with a more complex landform. ***Medium sensitivity***	There are greater opportunities to locate this size of turbine on gentler hill slopes and within broader valleys and avoiding impacts on more complex rolling landform and defined hill summits. ***Medium-low sensitivity***
Landscape pattern	This typology could relate to the scale and	This typology could relate to the scale and

An often diverse landscape with a strong field enclosure pattern, occasional mixed policy woodlands and mature field trees. Higher hill tops and steep slopes are often covered with gorse and rougher pasture.	pattern of broader valley sides and elevated areas which tend to have larger fields and are less wooded. Smaller hedged pastures, which tend to coincide with more complex landform, and areas with a denser woodland pattern would be more sensitive. ***Medium-low sensitivity***	pattern of broader valley sides and elevated areas which tend to have larger fields and are less wooded. Smaller hedged pastures, which tend to coincide with more complex landform, and areas with a denser woodland pattern would be more sensitive. ***Medium-low sensitivity***
Built environment Well-settled with a regular pattern of small farms and houses. The small villages of Tarbolton, Mossblown, Symington and Dundonald lie within or close to the boundary of this landscape character type. Hill forts, Dundonald Castle and the motte, church and Wallace's Monument at Barnweil and other notable historical buildings are located in these hills. Communications masts top two of the highest summits and some small reservoirs and quarrying operations are also present. A network of narrow minor roads criss-cross this landscape.	More sparsely settled elevated ground would be less sensitive in terms of avoiding impact on the immediate setting of settlement although turbines of this size would be likely to be seen in relative proximity to built features given settlement density and the limited extent of the character type. They may also affect the setting of archaeological and historic features. Turbines of this size could increase the clutter of vertical structures seen on sensitive skylines. ***High-medium sensitivity***	There is increased scope to site the smaller turbines of this typology to minimise effects on the setting of settlement and archaeological features. ***Medium sensitivity***
Perceptual qualities This landscape is largely farmed and well-settled and consequently has little sense of naturalness. It also lies close to busy roads, areas of dense settlement and industry and Prestwick Airport generally reducing the sense of seclusion likely to be experienced.	Sensitivity is reduced due to the absence of key perceptual qualities. ***Low sensitivity***	Sensitivity is reduced due to the absence of key perceptual qualities. ***Low sensitivity***
Visual amenity Views from narrow roads within this landscape are generally restricted by hedgerows and woodlands and the often rolling landform of hills and valleys. More open and extensive views are possible from hill tops including dramatic views over the Firth of Clyde and Arran from Wardlaw Hill and the minor road between Troon and Dundonald which crosses the upper slopes of this hill. This landscape is highly visible from the A77 and	Turbines of this size would be highly visible if sited on prominent hill tops and ridges or if sited on upper slopes so that they interrupted sensitive skylines. There may be some very limited scope to accommodate turbines towards the lower height band of this typology to minimise intrusion by locating them on lower slopes so they are back-dropped by rising ground. Dramatic views over the Firth of Clyde and Arran from this character type would be sensitive to intrusion.	Turbines sited on prominent hill tops would still impact on views from densely settled areas. There is however increased scope to accommodate this typology to avoid intrusion on sensitive skylines. These smaller turbines are more likely to be able to be partially screened by landform and vegetation reducing visual intrusion. ***Medium sensitivity***

surrounding lower-lying and very well-settled landscapes.	***High-medium sensitivity***	
Cumulative effects Existing wind farm development located in the uplands of mainland North Ayrshire and the Whitelee development are visible at distance of over 18km. The GSK turbines are visible in close proximity from Wardlaw Hill and its north facing slopes although visibility is restricted across much of this character type due to the screening provided by this hill.	There are increased opportunities to site turbines of this size in less prominent lower slopes away from the northern parts of this landscape to minimise cumulative landscape and visual effects with the GSK turbines. ***Medium sensitivity***	There would be a clear differential in size between the GSK turbines and this typology reducing cumulative landscape and visual effects. ***Low sensitivity***

16.2 Summary of sensitivity

This landscape character type is small in extent, forming an area of low hills lying relatively close to the coast and surrounded by the lower-lying *South Ayrshire Lowlands* (7d). Landform can be complex, with small scale knolly hills and narrow valleys occurring in places, although smoother gently graded hill slopes are also present particularly to the east where these hills gradually merge with the undulating farmland of the *South Ayrshire Lowlands* (7d). Despite their relatively low relief, these small hills form a prominent feature especially when seen from the M77 and the coastal town of Troon where the steep slopes of Wardlaw Hill form a distinctive backdrop. This is a well-settled landscape with a regular dispersal of farms, houses and small settlements and patterned by small woodlands and enclosed pastures. It is also rich in archaeological and historic features.

The small-medium scale of this landscape, the prominence of these hills together with potential for cumulative impacts to arise with consented wind turbine development within the *Coastal Lowlands with Industry* (2a) character type in North Ayrshire increase sensitivity, particularly to larger wind turbines. There would be a ***High*** sensitivity to the large and medium typologies (turbines above 50m) and a ***High-medium*** sensitivity to the small-medium typology (turbines 30m-50m). Sensitivity to the small typology (turbines 20-30m) would be ***Medium*** reflecting increased opportunities to site this typology to avoid intrusion on prominent ridges and skylines and minimise adverse effects on the scale of this landscape.

16.2.1 *Potential cumulative issues*

Potential cumulative impacts could occur if turbines were associated with the majority of farms within this well-settled landscape. Cumulative effects would be exacerbated if there were variations in the type and size of turbines.

16.2.2 *Constraints*

- The very limited extent of this landscape and its visual prominence particularly from the densely settled coastal edge which increases sensitivity in relation to effects on adjoining landscape character types.
- The low relief of ridges and hills, the small scale of narrow valleys and occasional more complex knolly landform and the regular dispersal of small buildings, trees and woodlands which provide ready scale references.
- The setting of the many archaeological features and historical buildings located in this character type including Dundonald Castle and the Wallace Monument and other features of interest at Barnweil.
- The sensitive skyline and steep slopes of Wardlaw Hill at the north-western end of this character type which forms the backdrop and setting to Dundonald and Troon.
- Potential cumulative effects with the GSK wind turbines sited in the adjacent Coastal Lowland with Industry (2a) character type within North Ayrshire.

16.2.3 *Opportunities*

- Gentler hill slopes set down from the higher ridgeline and hill tops where the small typology (turbines <30m) could be sited to avoid intrusion on sensitive skylines.

16.3 Guidance for development

No scope has been identified in this assessment for turbines above 30m height within this character type in this assessment.

The small typology (turbines 15m-30m) could be accommodated but should avoid breaking the skyline formed by the undulating ridgeline of these small hills. Turbines under 15m height should be visually associated with farms and other buildings in order to reduce clutter. Turbines over this height should be sited on gentler lower hills avoiding areas of more complex small-scale landform and the setting of archaeological features and historic buildings which would be sensitive to intrusion by all turbine developments. Detailed siting and design should accord with the guidance set out in Annex F.

Although low, these hills form a prominent backdrop to Troon

Views to the coast and Firth of Clyde are a feature from roads and settlement on the western slopes of these hills

The gently rolling topography in combination with the pronounced field enclosure pattern, field trees, woodlands and settlement to create a small to medium scale landscape

These hills are relatively well-settled increasing potential for cumulative effects to occur should multiple turbine developments be associated with a number of land holdings

17 CHARACTER TYPE 17B: FOOTHILLS WEST OF THE DOON VALLEY

17.1 Introduction

This assessment is for the *Foothills with Forest West of the Doon Valley* (17b) which occurs in both East and South Ayrshire. This is a sparsely settled upland landscape and the detailed assessment therefore considers larger development typologies (turbines >70m) with key constraints and opportunities for smaller turbines briefly outlined in the summary and guidance section.

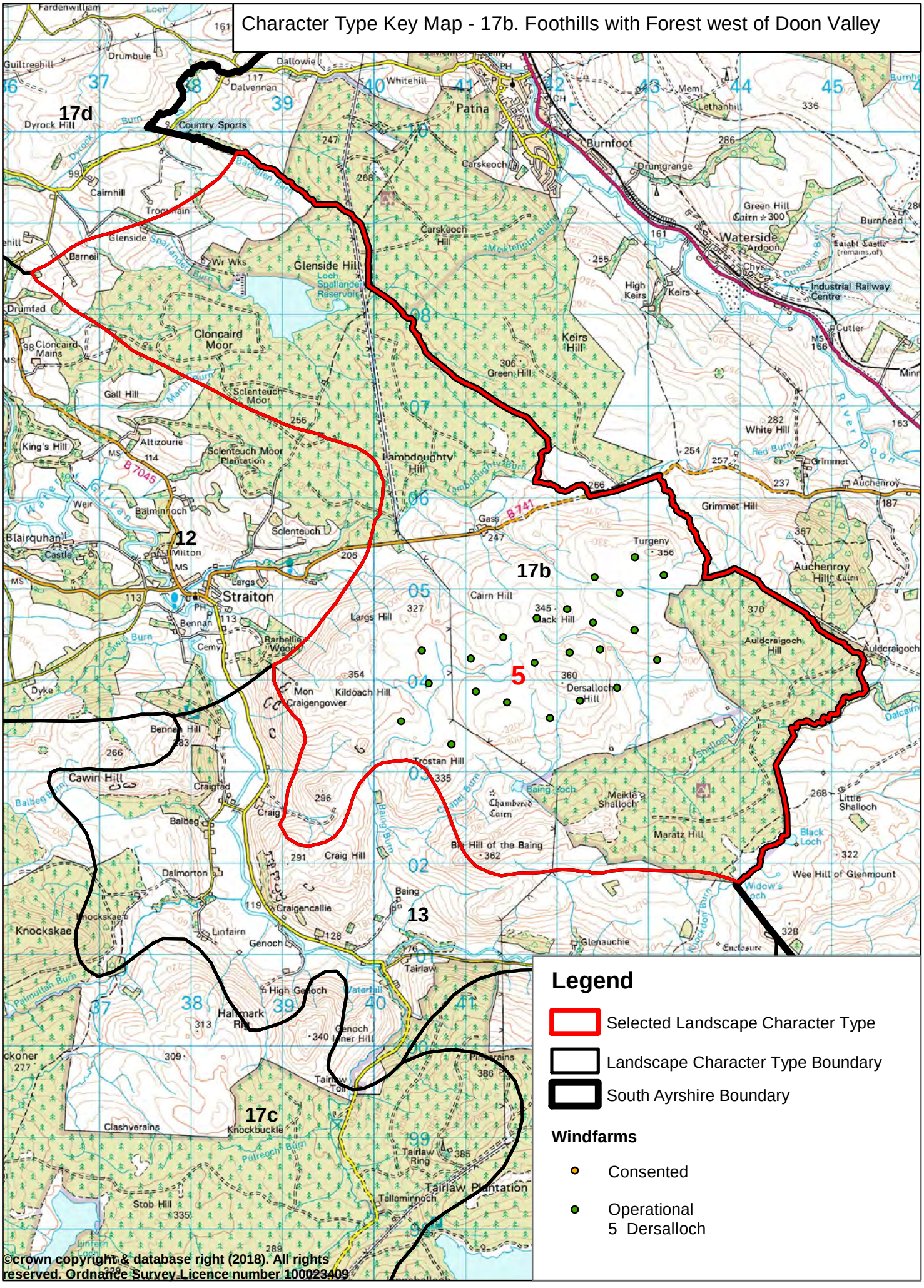
17.1.1 *Operational/consented wind farms*

The operational Dersalloch wind farm (23 turbines, 115/125m high) is located in the southern part of this landscape within South Ayrshire.

The operational Hadyard Hill wind farm is located within the *Foothills with Forest and Wind Farm* (17c) character type in South Ayrshire. This development comprises 52 turbines, a maximum of 111m high, and lies approximately 11 km from this character type.

The consented South Kyle and Benbreck wind farms (68 turbines, 130m to 149.5m) are located within the *Southern Uplands with Forestry* (20c) within East Ayrshire and Dumfries and Galloway respectively to the south-east of this landscape. The consented Kirk Hill wind farm (8 turbines, 110m) lies in the *Maybole Foothills* (17d) in South Ayrshire, approximately 13km from this landscape.

Character Type Key Map - 17b. Foothills with Forest west of Doon Valley



Character Type 17b: Foothills with Forest West of Doon Valley – Sensitivity assessment for very large and large typologies

Topic and summary description	Assessment of very large typology (turbines 130m+)	Assessment of large typology (turbines 70m-130m)
Landscape context This upland landscape forms a fairly narrow band of low hills lying at the head of the Girvan Valley and on the west side of the Doon Valley. The more pronounced hills, including Auchenroy and Big Hill of the Baing, and the steep complex slopes of Kildoach Hill, lying on the outer fringes of this landscape form highly visible 'landmark' features seen from the *Middle Dale* (12), the *Intimate Pastoral Valley* (13) and the *Upland River Valley* (10). The designed landscapes of Craigengillan, Cloncaird and Blairquhan lie at the foot of these uplands. This landscape merges with the more diverse *Rugged Uplands with Lochs and Forest* (21) to the south-east in the Loch Doon area.	Turbines of this size would impact on the diverse backdrop landmark hills and the more complex outer fringes of this landscape provide to the smaller scale well-settled Girvan and Doon Valleys. They would be likely to be visible on the skyline of remaining undeveloped parts of this landscape and could adversely affect character and the setting to designed landscapes in these adjacent valleys. Additional development in the south would be likely to exacerbate the already significant effects of the operational Dersalloch wind farm on the Craigengillan designed landscape and would also be likely to significantly affect the sensitive *Intimate Pastoral Valley* (13) of the upper Girvan and on the sense of wildness associated with the *Rugged Uplands, Lochs and Forest* (21). Turbines >150m would require lighting which would extend and exacerbate effects on LCT 21 and could also affect the Dark Skies Park. While the lower simpler forested plateau to the north of the B741 provides a less scenic backdrop to adjacent valleys, turbines of this size sited in this area could significantly intrude on the setting of designed landscapes within the *Middle Dale* (12) and on the setting of Patna and Straiton. ***High sensitivity***	Turbines sited on the outer edges of this character type, and particularly on or close-by 'landmark' hills, would impact on the diverse backdrop they provide to the smaller scale well-settled Girvan and Doon Valleys. The setting to designed landscapes in the Doon and Girvan valleys may also be affected if turbines extend on the skyline of hills which provide an immediate backdrop seen in key views. Additional turbines of this size sited in the southern part of this landscape would be likely to exacerbate the already significant effects of the operational Dersalloch wind farm on the Craigengillan designed landscape as well as intensify effects on the *Intimate Pastoral Valley* (13) of the upper Girvan. While the lower simpler forested plateau to the north provides a less scenic backdrop to adjacent valleys, large turbines could still intrude on the setting of designed landscapes within the *Middle Dale* (12) and on the setting of Patna and Straiton. ***High sensitivity***
Scale This upland plateau is lower to the north but rises to the south to form more defined hills around 360m high. The elevation of adjacent valleys reduces differences in relief. Smaller	Turbines of this size, and particularly those >150m high, would overwhelm the relatively low relief of these uplands. ***High sensitivity***	This typology would fit with the scale of this landscape although it is not an extensive upland area limiting the numbers of turbines that could be accommodated. ***High-medium sensitivity***

scale features are rare within this sparsely settled landscape.		
Landform The very gently undulating plateau in the north, rises to form subtly rounded hills to the south including occasional more pronounced hills with steep slopes and defined tops including Auchenroy Hill, Big Hill of the Baing and Kildoach Hill lying on the outer fringes of this landscape. The core of these uplands includes some lower-lying basins which are contained by these higher 'edge' hills.	The simple, gently undulating landform generally found in the north of this character type and lower-lying basins have a reduced sensitivity although wind turbines would detract from more pronounced hills which tend to lie on the outer fringes of these Foothills. ***High-medium sensitivity***	The simple, gently undulating landform generally found in the north of this character type and lower-lying basins have a reduced sensitivity although wind turbines would detract from more pronounced hills which tend to lie on the outer fringes of these Foothills. ***High-medium sensitivity***
Landscape pattern This landscape has a simple land cover pattern dominated by heather-flecked grass moorland and extensive coniferous plantations. Small broadleaved woodlands and pastures enclosed by stone walls pattern lower hill slopes.	The relatively simple land cover pattern of this landscape reduces sensitivity. ***Medium-low sensitivity***	The relatively simple land cover pattern of this landscape reduces sensitivity. ***Medium-low sensitivity***
Built environment These foothills are very sparsely settled. The B741 crosses the interior of this landscape. Access tracks are present within forestry and a high voltage electricity transmission line is aligned through this landscape.	This typology could be accommodated with minimal effects on this sparsely settled character type. ***Low sensitivity***	This typology could be accommodated with minimal effects on this sparsely settled character type. ***Low sensitivity***
Perceptual qualities The presence of extensive commercial forestry and the inter-connector transmission line limits the experience of wildness although the more open and rugged hills to the south of the B741 have a more natural character.	Although the experience of wildness is likely to be limited in this landscape, the more open hills are of increased value in a context where extensive commercial forestry, wind farm development and opencast mining are key characteristics of nearby upland areas. ***Medium-low sensitivity***	Although the experience of wildness is likely to be limited in this landscape, the more open hills are of increased value in a context where extensive commercial forestry, wind farm development and opencast mining are key characteristics of nearby upland areas. ***Medium-low sensitivity***
Visual amenity These foothills are very sparsely settled. The B741 is aligned through this landscape but is contained within a shallow valley thus limiting	The largely unsettled nature of this landscape reduces sensitivity although turbines of this size would be likely to be visible in relative proximity to the well-settled Doon and upper Girvan valleys.	The largely unsettled nature of this landscape reduces sensitivity although turbines of this size would be likely to be visible in relative proximity to the well-settled Doon and upper Girvan valleys.

views into the upland interior. This landscape is seen in close proximity from popular hill walks to Craigengower Hill above Straiton and from the summit of Auchenroy Hill. The peripheral hills of these uplands are also highly visible from settlements and roads in surrounding valleys.	Turbines of this size would be very prominent from popularly accessed hill summits and would be likely to be seen on the skyline of hills which contain the B741. Turbines >150m (which would require lighting) could exacerbate and extend visibility of wind farms in the Dark Skies Park and seen from popular hill tops in the *Rugged Uplands, Lochs and Forest* (21) in East and South Ayrshire. ***High sensitivity***	Turbines of this size would be prominent from popularly accessed hill summits and would be likely to be seen on the skyline of hills which contain the B741. ***High sensitivity***
Cumulative effects The Dersalloch wind farm is located in the southern part of this LCT. Other wind farms which have greatest potential to incur significant cumulative effects in combination with any further development located in this LCT comprise the Hadyard Hill and Kirk Hill wind farms which lie to the west of this landscape close to the Girvan Valley and the consented South Kyle and Benbrack wind farms which lie to the south-east close to the Doon Valley.	Turbines >150m high could be noticeably larger than those in nearby operational wind farms. This could result in cumulative visual effects given the ready visibility of these narrow foothills which are seen in almost 360-degree views from adjacent well-settled valleys and hills popular with walkers. Significant cumulative effects would be likely to arise on the Girvan and Doon Valleys if additional wind farms were sited in this landscape, affecting sequential views from roads and footpaths and potentially creating a dominant effect if turbines extended on presently undeveloped ridges, given the extent of operational and consented development in surrounding upland areas. ***High sensitivity***	Turbines towards of the upper height band of this typology would fit with the size of those in nearby operational wind farms. Significant cumulative effects would be likely to arise on the Girvan and Doon Valleys if additional wind farm developments were sited in this landscape, affecting sequential views from roads and footpaths and potentially creating a dominant effect if turbines extended on presently undeveloped ridges, given the extent of operational and consented development in surrounding upland areas. Very small extensions to existing development may be possible to accommodate although sensitivities associated with landscape context and visual amenity are key constraints. ***High-medium sensitivity***

17.2 Summary of sensitivity

The *Foothills with Forest west of the Doon Valley* (17b) character type forms a gently undulating, relatively narrow upland band lying between the *Upland River Valley* (10) of the Doon Valley and the *Middle Dale* (12) of the Girvan Water valley. This character type also provides the backdrop to the highly scenic *Intimate Pastoral Valley* (13) of the upper Girvan Water. The landform of these uplands is generally simpler to the north, comprising a lower, gently undulating plateau with indistinct rounded hills and shallow basins which are largely masked by forestry. More pronounced hills lie on the outer fringes of the southern part of these foothills however and these form 'landmark' features seen from the adjacent well-settled valleys of the Girvan Water and Doon Valley. Land cover is simple, with coniferous forestry dominating the northern plateau and heather and grass moorland and enclosed pastures on outward-facing hill slopes on the more open hills to the south. The operational Dersalloch wind farm occupies more gently undulating ground in the southern part of these hills. This landscape is very sparsely settled although the B741 is aligned through the hills and there are popular hill walks to Auchenroy Hill and the Craigengowan Monument on the periphery of these uplands.

Although the scale and generally simple landform and land cover of these uplands could relate in principle to some larger turbine typologies, the limited extent of these uplands increases sensitivity as they lie relatively close to settled valleys and hills popular with walkers. Potential cumulative effects are also a key constraint given the extent of operational and recently consented wind farms in nearby upland areas. There would be a ***High*** sensitivity to the very large typology (turbines >130m) and a ***High-medium*** sensitivity to the large typology (turbines 70-130m).

17.2.1 *Potential cumulative issues*

The following issues may arise in association with any possible development situated in this and adjacent landscapes:

- Inter-visibility between larger turbines which are more likely to be located in this upland landscape character type and smaller turbines (<50m) sited in the adjacent more settled *Upland River Valley* (10) and *Middle Dale* (12).
- Simultaneous and sequential views of the operational Dersalloch and/or Hadyard Hill wind farms with any additional wind turbine developments located in the *Foothills with Forest and Wind Farm* (17c) and this landscape affecting character and views from the *Middle Dale* (12) and *Intimate Pastoral Valley* (13) of the upper Girvan.
- Dominant effects on the Doon Valley, including on the setting of settlements such as Dalmellington and Bellsbank, that would arise if wind farm development was located in this character type but also in the *Foothills with Forest and Opencast Mining* (17a) and the *Southern Uplands with Forestry* (20c) character types and prominent on containing skylines.

17.2.2 *Constraints*

- The more prominent steep-sided hills with well-defined summits which occur on the outer edges of these foothills and include Auchenroy Hill, Big Hill of the Baing and Kildoach Hill. These 'landmark' hills form a scenic backdrop to the settled and smaller scale *Middle Dale* (12), *Intimate Pastoral Valley* (13) and *Upland River Valley* (10).
- Potential effects on the setting of designed landscapes sited within the adjacent *Middle Dale* (12) and the *Upland River Valley* (10) including the Inventory listed Craigengillan and Blairquhan.
- Potential effects on the setting of settlements such as Dalmellington, Bellsbank, Patna and Straiton sited within the adjacent Doon and Girvan Valleys.
- The narrowness and consequent high visibility of these foothills which increases sensitivity in terms of potential effects on adjacent well-settled valleys.
- Views from Craigengower Hill above Straiton and from Auchenroy Hills which are popular with walkers.
- Potential effects of lighting of turbines >150m high on the *Rugged Uplands, Lochs and Forest* (21) which has a strong sense of wildness and on the Dark Skies Park.

17.2.3 *Opportunities*

- The simpler, less visually prominent densely forested lower hills and shallow basins to the north which may provide opportunities to accommodate smaller turbines to reduce effects on adjacent landscapes and on the setting of designed landscapes and settlements (although cumulative effects on the Girvan and Doon Valleys will be a major constraint to any additional development in this landscape given a rapidly changing scene of recent wind farm consents and proposals in nearby upland areas).

17.3 Guidance for development

17.3.1 *Additional new development of larger turbines*

No scope has been identified for the very large and large typologies (turbines >70m) as additional new wind farm development.

17.3.2 *Repowering operational wind farms*

There is ***no scope*** for repowering the operational Dersalloch wind farm (sited in this landscape character type but within South Ayrshire) using much larger turbines due to the likely increases in visibility that would occur on the Girvan and Doon Valleys and on the *Rugged Uplands, Lochs and Forests* and the exacerbation of already significant impacts on the Craigengillan designed landscape (see Annex D).

17.3.3 *Guidance for accommodating turbines under 70m high*

Turbines 50-70m high could be accommodated although cumulative effects with wind farms located in this and other nearby upland areas will be a major constraint. This size of turbine may be more able to be contained by landform thus

minimising intrusion on adjacent small-scale settled valleys. The simpler, more even forested plateau lying to the north of the B741 provides scope to accommodate smaller turbines while minimising effects on views from popularly accessed hills and on more diverse and sensitive skylines which backdrop the Doon and upper Girvan Valleys. Turbines should be sited to avoid significant impacts on key views to and from designed landscapes.

Turbines <50m could have significant cumulative effects with any larger typologies which may be located in this landscape due to the limited extent of these foothills. There would however be some scope to site single and small groups of turbines of this size at the transition with the *Middle Dale* (12), *Upland River Valley* (10) and *Maybole Foothills* (17d) in association with farms sited on lower, more gentle hill slopes but set well away from the more pronounced 'landmark' hills. Detailed siting and design of smaller typologies should accord with the guidance set out in Annex F of this report.

More pronounced and often rugged hills occur on the periphery of these foothills and form landmark features from adjacent valleys

To the north, this landscape forms a lower-lying forested plateau which although simple, is not extensive and lies close to the Doon and Girvan valleys

Auchenroy Hill forms a landmark feature seen from the Doon Valley.

These foothills form a rugged backdrop to Craigengillan designed landscape within the upper Doon Valley

The less diverse backdrop provided to Patna by the lower and simpler forested northern plateau

This landscape is sparsely settled with dispersed farms sited on lower hill slopes and within the valley accommodating the B741.

18 CHARACTER TYPE 17C: FOOTHILLS WITH FOREST AND WIND FARMS

18.1 Introduction

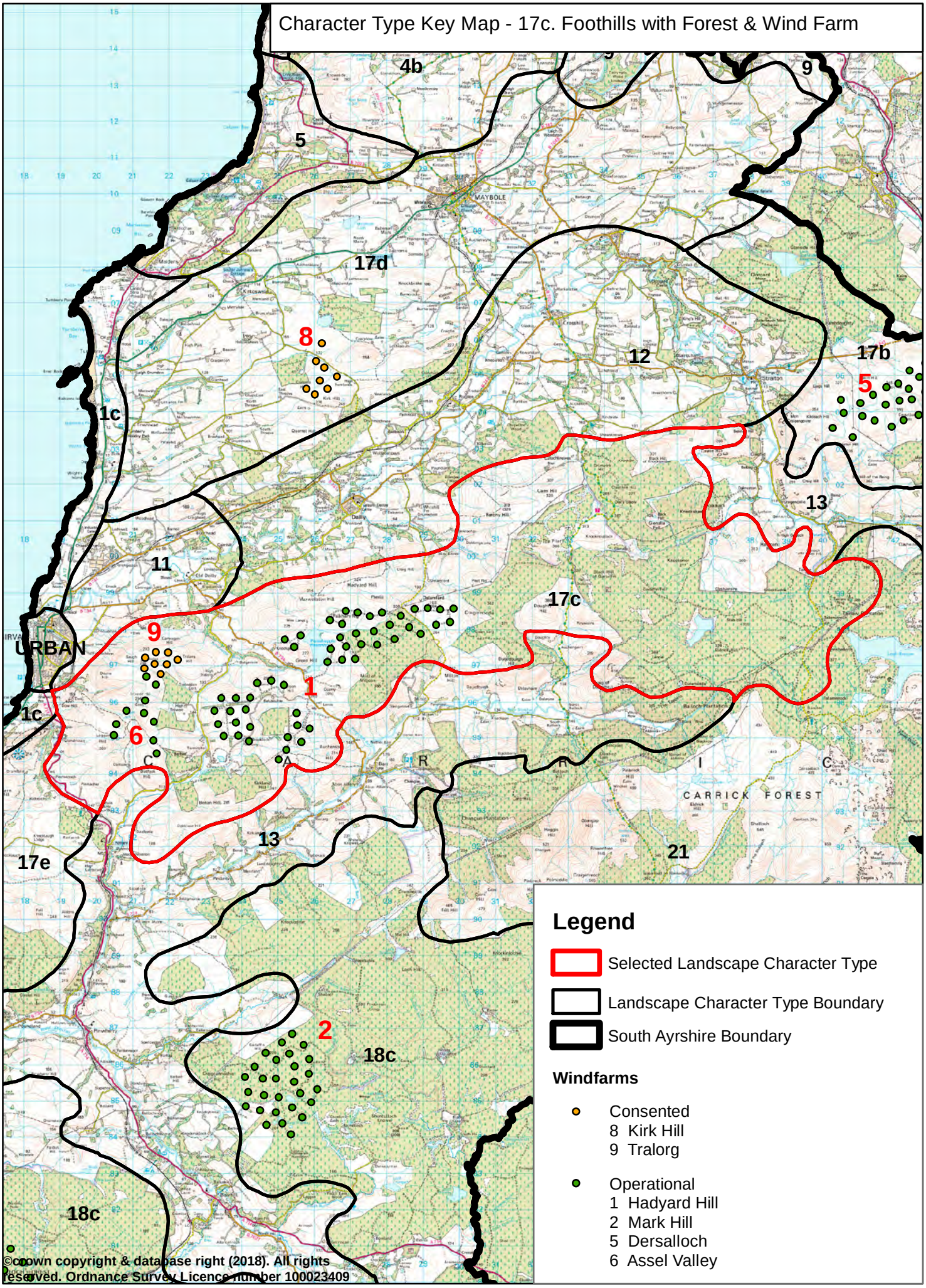
This sensitivity assessment considers the *Foothills with Forest and Wind Farms* (17c). The detailed tabular assessment is for larger development typologies (turbines >50m) only with key constraints and opportunities for smaller turbines briefly outlined in the summary and guidance section.

18.1.1 *Operational/consented wind farms*

The Hadyard Hill, Tralorg and Assel Valley wind farms are located within this character type.

The operational Mark Hill, Kilgallioch and Arecleoch wind farms lie between approximately 8 and 16 km respectively to the south and south-west of this character type within the *South Ayrshire Plateau Moorland with Forest and Wind Farms* (character type 18c). The operational Dersalloch wind farm located in the *Foothills with Forest West of Doon Valley* (17b) lies close to the eastern part of this landscape. The operational and consented Windy Standard, South Kyle and Benbrack wind farms in East Ayrshire are located beyond 15km to the east/north-east of this landscape. These developments are only likely to be visible from higher summits within this landscape character type.

The consented Kirk Hill wind farm is located in the *Maybole Foothills* (17d) to the north of the Girvan Valley. This wind farm would be particularly visible over extensive parts of the *Lower Dale* (11) of the Girvan Valley.



Character Type 17c: Foothills with Forestry and Wind Farms – Sensitivity assessment for larger typologies

Topic and summary description	Assessment of very large typologies (130m+)	Assessment of large typology (70m – 130m)
Landscape context This upland landscape is broader in extent to the east where it forms a more expansive undulating plateau. To the west it forms a narrower band of hills between the Girvan Water and Stinchar valleys. More pronounced hills on the outer fringes of this landscape form highly visible 'landmark' features seen from the *Middle Dale* (12) of the Girvan valley and *Intimate Pastoral Valleys* (13) of the Stinchar valley and the Upper Girvan Water. This landscape merges with the more dramatic hills of the *Rugged Uplands, Lochs and Forest* (21) at the heads of the upper Girvan and Stinchar valleys.	Turbines of this size sited within the narrower western part of these foothills would be likely to be highly visible from Girvan and the coast and from the smaller scale, well-settled Girvan and Stinchar valleys. The interior of the more extensive eastern area of these foothills may be less sensitive to turbines towards the lower height band of this typology although there would be relatively close views from the Carrick Hills within the *Rugged Uplands, Lochs and Forest* (21). Fixed lighting on turbines >150m could additionally affect dark skies and wilder landscapes in LCT 21 and 18c. ***High sensitivity***	Turbines of this size sited on the outer edges of this character type, and particularly on or close-by 'landmark' hills, would be highly visible from the smaller scale, well-settled and sensitive Girvan and Stinchar valleys. The interior of the more extensive eastern area of these foothills would be less sensitive in terms of effects on adjacent landscape character types although there would be relatively close views from the popularly accessed Carrick Hills within the *Rugged Uplands, Lochs and Forest* (21). ***High-medium sensitivity***
Scale A gently undulating upland plateau with relief lower to the west but rising to the east to between 300-380m and with Glenalla Fell, the highest summit, attaining 425m. This landscape is very sparsely settled and there are few small-scale features. The horizontal extent of these foothills is reduced in the west.	Turbines >150m would be likely to dominate the lower relief and the reduced extent of these foothills in the west. Broader areas of plateau in the east would be less sensitive in terms of scale although this is not an extensive upland landscape and effects on adjacent smaller scale valleys will be a key constraint (see Landscape Context above). ***Medium sensitivity***	This typology would fit better with the scale of this landscape although smaller hills on the outer edges of these foothills could be dominated by turbines closer to 130m sited on or close-by them. ***Medium-low sensitivity***
Landform This gently undulating plateau rises to form subtly rounded indistinct hills and occasional more pronounced hills with steep slopes and defined tops such as Glenalla Fell and the 'landmark' hills lying on the outer fringes of this landscape which include Barony, Hadyard, Maxwellton hills lying on the southern edge of the Girvan Water, Genoch Inner Hill	The predominantly simple, gently undulating landform lying at the core of this landscape reduces sensitivity although wind turbines of this size sited on or nearby more pronounced hills which tend to lie on the outer fringes of these Foothills would significantly detract from these 'landmark' features ***High-medium sensitivity***	The predominantly simple, gently undulating landform lying at the core of this landscape reduces sensitivity although wind turbines sited on or nearby more pronounced hills which tend to lie on the outer fringes of these Foothills would detract from these 'landmark' features. ***Medium sensitivity***

in the upper Girvan valley and Craig of Dalwine, Auchensoul and Kirkland Hills lying on the northern edge of the Stinchar Valley. The core of these uplands includes some lower-lying basins which are contained by these higher 'edge' hills.		
Landscape pattern This landscape has a simple land cover pattern dominated by extensive coniferous plantations and grass moorland. Some walled pastures and small riparian broadleaved woodlands occur on outer hill slopes.	The relatively simple land cover pattern of this landscape reduces sensitivity. ***Medium-low sensitivity***	The relatively simple land cover pattern of this landscape reduces sensitivity. ***Medium-low sensitivity***
Built environment These foothills are very sparsely settled. The B734 and two minor public roads cross the interior of this landscape and access tracks are also present within forestry. The small reservoir of Penwhapple is located in the western part of these foothills.	This typology could be accommodated with minimal effects on this sparsely settled character type. ***Low sensitivity***	This typology could be accommodated with minimal effects on this sparsely settled character type. ***Low sensitivity***
Perceptual qualities The presence of extensive commercial forestry and wind farm development limits the sense of naturalness, although this landscape can feel secluded due to the absence of settlement and major roads.	Although this landscape is modified to some degree, wind farm development could affect the sense of seclusion that can be experienced within the less accessible eastern part of these foothills. ***Medium-low sensitivity***	Although this landscape is modified to some degree, wind farm development could affect the sense of seclusion that can be experienced within the less accessible eastern part of these foothills. ***Medium-low sensitivity***
Visual amenity These foothills are very sparsely settled although a number of public roads offer views into the interior of this landscape and to the dramatic steep-sided hills of the Rugged Hills, Lochs and Forest (21) character type. The eastern-most minor road crossing these foothills forms National Cycle Route 7. This landscape is seen in close proximity from popular hill walks within the Carrick Hills. These foothills form a highly visible backdrop seen from the well-settled Girvan and Stinchar valleys, Girvan and the coast.	The largely unsettled nature of this landscape reduces sensitivity to some degree although turbines of this size would be likely to have a significant effect on views from minor roads/NCR 7. Turbines of this size could increase visibility of wind farm development across the Stinchar and Girvan Valleys and also potentially along the coast and form dominant features seen from surrounding roads and settlement. Fixed lighting on turbines >150m could additionally contribute to adverse effects on visual amenity. ***High sensitivity***	The largely unsettled nature of this landscape reduces sensitivity although this landscape is visible from roads and adjacent well-settled valleys. Turbines of this size sited on the edges of these foothills and on higher hills would be prominent. Turbines set back into the often lower-lying core of these foothills, where some screening may be provided by higher 'edge' hills and avoiding more prominent hill tops could minimise effects on visual amenity. ***High-medium sensitivity***

Cumulative effects The operational Hadyard Hill wind farm is located in the western part of this character type. This wind farm is located in a shallow basin edged by a rim of higher hills to the north and south and this reduces its visibility from parts of the Stinchar and Girvan valleys. The operational/consented wind farms of Tralorg and Assel Valley are more prominently sited on and close to well-defined hills. Inter-visibility of the Hadyard Hill and Mark Hill, Kilgallioch and Arecleoch wind farms is largely limited to the higher Carrick Hills and occasional more isolated hills such as Knockdolian on the edge of the Stinchar valley. Sequential views of these wind farms are however possible when travelling through the Stinchar valley. The operational Dersalloch wind farm lies close to the eastern part of this LCT and the consented Kirk Hill windfarm across the Girvan Valley to the north within the *Maybole Foothills* (17d).	Turbines of this size could result in cumulative effects with operational and consented wind farms located in this landscape particularly if sited close-by. Development sited in the eastern part of these foothills (to minimise obvious contrasts of scale with operational and consented turbines) would be likely to result in cumulative effects on the sensitive *Intimate Pastoral Valley* (13) of the Upper Girvan (seen in combination with the Dersalloch wind farm) and on the *Rugged Uplands, Lochs and Forest* (21) contributing to the diminishment of the sense of wildness (already incurred by the Dersalloch wind farm in particular) and views from popularly accessed hills. Cumulative effects could also occur on the Girvan and Stinchar Valleys (see comparative ZTV for Hadyard Hill in Annex D) in combination with existing and consented wind farms. ***High sensitivity***	Turbines around 100m high would fit with the size of operational/consented wind farm developments located in this landscape. Cumulative effects could occur with the Hadyard Hill wind farm in simultaneous and sequential views from the adjacent well-settled Girvan and Stinchar valleys, particularly if turbines were sited on more prominent 'edge' hills and on higher ground, affecting the design rationale of the original wind farm. These effects could be minimised by setting new developments into the core of the more expansive eastern plateau area although development in this area could contribute to cumulative effects on the sensitive *Rugged Uplands, Lochs and Forest* (21) and the *Intimate Pastoral Valley* (13). ***High-medium sensitivity***

18.2 Summary of sensitivity

The *South Ayrshire Foothills with Forestry and Wind Farms* (17c) character type forms a gently undulating upland plateau separating the *Lower Dale* (11), *Middle Dale* (12) and *Intimate Pastoral Valleys* (13) of the Stinchar and Girvan Water valleys. These foothills are larger in extent to the east but form a relatively narrow band of hills between the valleys and close to the coast to the west. Although landform is generally gently undulating with indistinct rounded hills and lower-lying basins characterising the core of this landscape, some more pronounced, higher hills lie on the outer fringes of these foothills and form 'landmark' features seen from the adjacent well-settled Stinchar and Girvan valleys. Land cover is simple, dominated by extensive coniferous forestry and grass moorland. This landscape is very sparsely settled although a number of minor public roads, one of these designated as National Cycle Route 7, cross the core of these hills. The operational wind farm of Hadyard Hill is located in a shallow basin within a relatively narrow band of foothills in the west of this character type and the Tralorg and Assel Valley wind farms are sited on a more prominent group of hills close to Girvan and the coast.

Although the large scale and simple landform and land cover of these uplands could relate in principle to the large turbine typologies, the narrowness of parts of this landscape and its proximity to the well settled Stinchar and Girvan valleys and the sensitive *Rugged Hills, Lochs and Forest* (21) are key constraints, especially to very large turbines. The extent of wind farm development already accommodated in the western part of these foothills also increases potential for significant cumulative effects to arise in combination with any additional development.

There would be a ***High*** sensitivity to the very large typology (turbines >130m) due principally to the likely effects on surrounding sensitive valleys, the remote Carrick Hills and the coast. Sensitivity would be ***High-medium*** to the large typology (turbines 70-130m).

18.2.1 *Potential cumulative issues*

The following issues may arise in connection with any possible development situated in this and adjacent landscapes:

- Inter-visibility between larger turbines which are more likely to be located in this upland landscape character type and smaller turbines sited in the adjacent more settled and smaller scale *Intimate Pastoral Valley* (13), *Lower Dale* (11) and *Middle Dale* (12).
- Simultaneous and sequential views of the operational Hadyard Hill, Tralorg and Assel Valley wind farms together with any additional larger wind turbine developments located in other parts of this character type and in presently undeveloped north-eastern part of the *South Ayrshire Plateau Moorland with Forest and Wind Farm* (18c) character type seen on containing skylines either side of the small scale, settled and highly sensitive Stinchar Valley.
- Simultaneous and sequential views of the Hadyard Hill, Tralorg and Assel Valley wind farms together with any additional wind turbine developments

located in other parts of this character type and in the *Foothills with Forest West of Doon Valley* (17b) and the *Maybole Foothills* (17d) seen from the well-settled and richly diverse *Middle Dale* (12) of the Girvan Valley (the operational Dersalloch and consented Kirk Hill wind farm already influence views from parts of this landscape). Additional development in these surrounding foothills could be perceived as having an encircling and dominant effect on the Girvan Valley.

- Potential cumulative effects associated with any further wind farm development sited in this character type and in the north-eastern part of the *South Ayrshire Plateau Moorland with Forest and Wind Farms* (18c) on the sense of wildness and on views from popularly accessed hills within the *Rugged Hills, Lochs and Forest* (21) character type.
- Potential effects on the design rationale of the operational Hadyard Hill wind farm which is set within a shallow basin contained by a rim of higher hills which limits the visual intrusion of this development from parts of the Stinchar and Girvan valleys, Girvan and the coast. Turbines sited on these higher hills would diminish the integrity of this wind farm and result in cumulative effects.

18.2.2 *Constraints*

- The more prominent steep-sided peripheral hills with well-defined summits which occur on the outer edges of these foothills and include Barony, Hadyard, and Maxwellton hills lying on the southern edge of the Girvan Water, Genoch Inner Hill in the upper Girvan valley and Craig of Dalwine, Auchensoul and Kirkland Hills on the north side of the Stinchar valley. These 'landmark' hills form a backdrop to the settled and smaller scale *Intimate Pastoral Valley* (13) and *Middle Dale* (12) of the Stinchar and Girvan Water valleys and, in some locations, also visually contain the operational wind farm of Hadyard Hill from these valleys.
- The landmark hill of Glenalla Fell which forms a prominent high top seen from the Carrick Forest Drive and from parts of the *Middle Dale* (12) and Genoch Inner Hill whose steep, rugged slopes form the backdrop to the *Intimate Pastoral Valley* (13) at the head of the Water of Girvan.
- The narrowness of the western part of these foothills which increases sensitivity in terms of potential effects on adjacent smaller scale settled valleys.
- The proximity of the dramatic *Rugged Uplands, Lochs and Forest* (21) which lie to the south and east of this character type and have a distinct sense of seclusion and relatively unmodified character and are also popular for recreation.
- Cumulative effects with the existing wind farms of Hadyard Hill, Assel Valley and Tralorg sited in this landscape (and also the Dersalloch and consented Kirk Hill wind farms which are located in nearby foothills) which would be likely to affect views and character of the *Intimate Pastoral Valley* (13) lying to the east and south of this landscape, the *Middle Dale* (12) to the north and the *Rugged Uplands, Lochs and Forest* (21) to the south-east.

18.2.3 *Opportunities*

- Less visually prominent densely forested lower hills and shallow basins within the eastern core of these uplands which could provide a degree of visual containment for wind turbines while minimising effects on adjacent sensitive landscapes.

18.3 Guidance for development

18.3.1 *Additional new development of larger turbines*

There is ***no scope*** for very large turbines (>130m high) to be accommodated in this landscape.

There is ***very limited*** scope for the large typology (turbines >70m) to be accommodated within this landscape. Turbines should be well set back from the more sensitive outer edge of these foothills to avoid significant impact on the 'landmark' hills which form highly visible containing edges to the smaller-scale settled Stinchar and Girvan Water valleys and to reduce cumulative effects on these valleys. The adjacent *Rugged Uplands, Lochs and Forest* character type (21) is also highly sensitive and some impact on the character and views from this landscape is likely to be unavoidable if development were located in the broader eastern basin of these foothills. There is likely to be little scope for an extensive number of turbines/multiple wind farm developments to be accommodated due to the limited extent/narrowness of these foothills and the need to avoid the higher, more defined prominent hills on the edges of this landscape.

Additional turbines sited adjacent to existing wind farms could also undermine the design integrity of existing well-sited developments. This could occur where, for example, the original wind farm is sited in a shallow basin within the interior foothills and where the containment provided by landform is 'breached' by additional development thus presenting a clearly different association with landform than the original wind farm. Differences in turbine size and spacing could contribute to this effect.

All turbines should be sited to avoid intrusion on views from the minor public road/National Cycle Route 7 to the south to the Carrick Hills and the dramatic pass of the Nick of the Balloch.

18.3.2 *Repowering of operational and consented wind farms*

The Hadyard Hill wind farm largely occupies a shallow basin which is screened in part by higher hills located on the edges of these foothills. Existing turbines in this development are 110m high and there may be some limited scope to replace these with larger turbines providing that impacts on the Girvan and Stinchar Valleys are not significantly exacerbated.

The Tralorg and Assel Valley wind farms comprise turbines 100m and 110m respectively. These developments are prominently sited being associated with a group of well-defined hills which provide the backdrop to Girvan and the coast. There is no scope for replacing turbines within these developments with larger

turbines as this would be likely to significantly exacerbate the existing intrusion and effects on the setting of the coast incurred by these wind farms.

18.3.3 *Guidance for accommodating turbines under 70m high*

Turbines 50-70m could potentially be accommodated as single or small groups of turbines but would need to be sited well away from operational and consented wind farms to minimise cumulative effects. Turbines of this size may be more able to be contained by landform in the eastern part of these foothills, thus minimising visibility from adjacent valleys. This typology would still be likely to impact on landmark hills and intrude on views from adjacent valleys if sited close to the outer fringes of these foothills however.

There would be some limited scope to site the small-medium typology (turbines 30-50m) on broader shoulders and more gently graded upper hill slopes at the transition with the *Middle Dale* (12) and the *Intimate Pastoral Valley* (13) but set well away from the 'landmark' hills. The potential for cumulative effects to arise with any further wind farm development sited in these foothills is a key limitation and should be considered carefully when reviewing applications.

The small typology (15-30m) should only be sited in association with built development which lies on the outer fringes of this character type. Detailed siting and design should accord with the guidance set out in Annex F of this report.

Small rolling pastures occur at the transition with the Stinchar valley on the northern edge of these uplands.

These uplands are very sparsely settled at their core with only occasional hill farms located on lower slopes and within valleys.

The broader gently undulating forested plateau at the eastern end of these uplands has a simple character and more extensive scale

A number of landmark hills occur on the edges of these uplands and provide a prominent backdrop to the Stinchar and Girvan valleys

Glenalla Fell rising above the densely forested basin in the eastern part of this upland plateau

The Hadyard Hill wind farm is largely contained by higher hills on the edges of this upland plateau but is visible in close proximity from parts of the Stinchar Valley

19 CHARACTER TYPE 17D: MAYBOLE FOOTHILLS

19.1 Introduction

This sensitivity assessment is for the *Maybole Foothills* (17d). The detailed assessment considers both larger and smaller development typologies. Very Large turbines (>130m high) have been considered in the sensitivity assessment as a consented wind farm lies within this landscape.

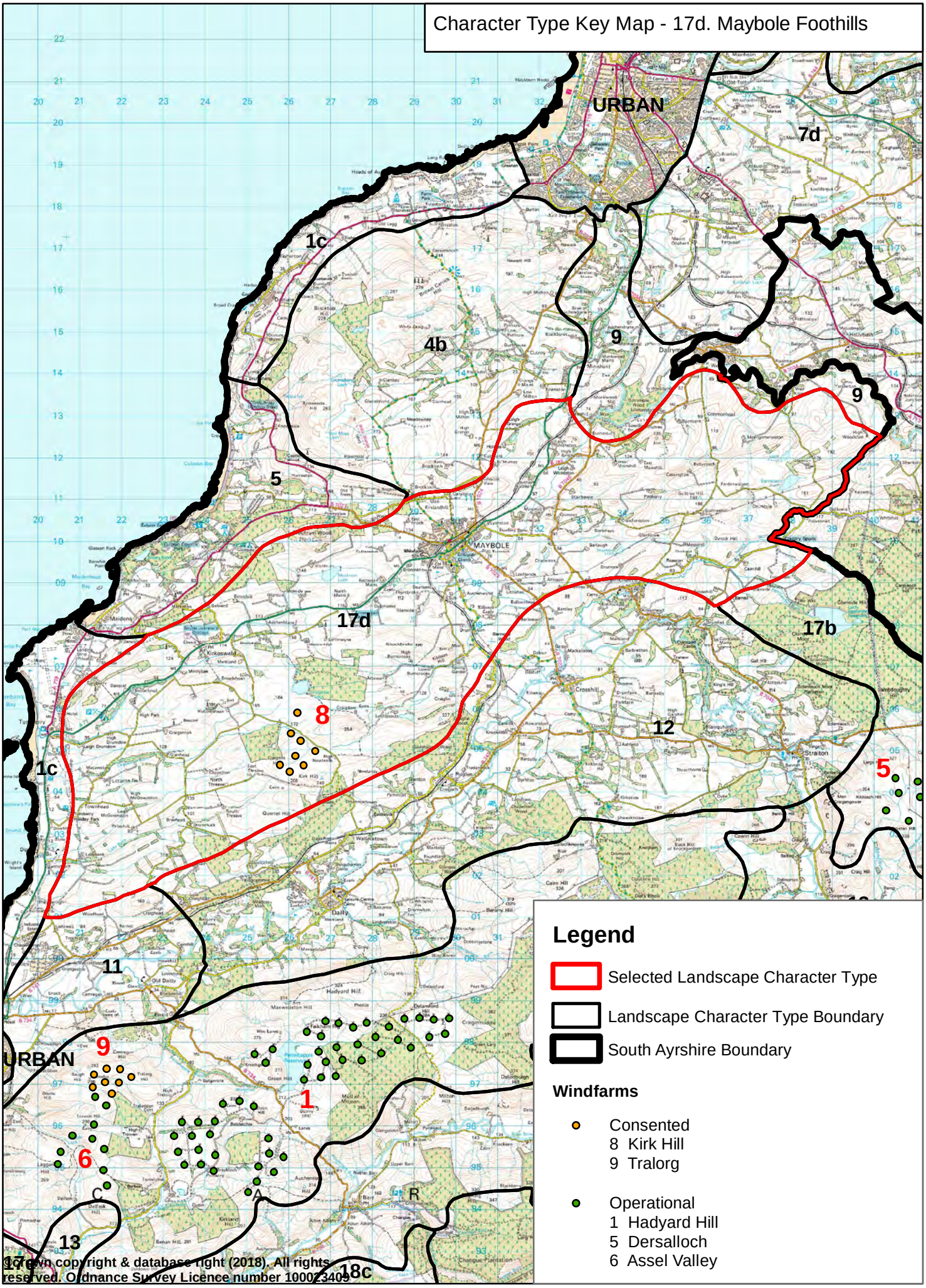
19.1.1 *Operational/consented wind farms*

There are no operational turbines sited within this character type although the Kirkhill wind farm (10 x 110m high turbines) has been consented but is not yet constructed. A single 77m high turbine is operational at Dowhill Farm near Turnberry close to the *Maybole Foothills*.

The operational Hadyard Hill wind farm (52 turbines, a maximum of 111m high) is located within the *Foothills with Forest and Wind Farm* (17c) character type. This development is intermittently seen from more elevated south-western parts of the *Maybole Foothills* at distances of around 6 km.

The operational Arecleoch (60 turbines, 120m high) and Mark Hill wind farms (28 turbines, 110m high) are located within the *Plateau Moorland with Forest and Wind Farms* (18c) character type and lie over 15km from the *Maybole Foothills*. This distance, combined with intervening screening by higher ground, is likely to restrict visibility of these developments from this landscape.

Character Type Key Map - 17d. Maybole Foothills



Legend

- Selected Landscape Character Type
- Landscape Character Type Boundary
- South Ayrshire Boundary

Windfarms

- Consented
  - 8 Kirk Hill
  - 9 Tralorg
- Operational
  - 1 Hadyard Hill
  - 5 Dersalloch
  - 6 Assel Valley

Character Type 17d: Maybole Foothills – Sensitivity assessment for very large and large typologies

Topic and summary description	Assessment of very large typology (130m+)	Assessment of large typology (70m – 130m)
Landscape context These foothills form a 'stand-alone' group of low hills lying between the Girvan valley and the coast. The steep wooded slopes of the landmark hill of Mochrum and the lower ridge to the south-west are important in providing the backdrop to the *Coastal Valley with Policies* (5) of Culzean Castle and its extensive designed landscape and to the *Raised Beach Coast with Flat Fields and Headlands* (1c). These hills backdrop the *Middle Dale* (12) of the Girvan valley which also features extensive wooded policies and settlements. These foothills gradually merge with the more prominent *Coastal Headland-Brown Carrick Hills* (4b) to the north-west and form a backdrop of small rolling hills to the deeply incised and smaller scale Doon Valley to the north.	These foothills are not large in extent and they form a prominent backdrop to Culzean Castle and its extensive policies, to the coastal area around Turnberry and to the richly diverse Girvan and Doon valleys. Mochrum Hill lying on the northern edge of this character type forms a widely visible landmark feature and an integral part of the setting of Culzean seen in views from the A714 south of Dunure to the castle. Occasional hills lying on the southern edge of this character type against the Girvan valley are also prominent and include Kildoon Hill but also Craigfin, Kirkhill and Craigdow hills. Turbines of this size would be likely to significantly intrude on the skyline and affect the backdrop these foothills provide to adjacent smaller scale, settled and highly sensitive landscape character types. ***High sensitivity***	These foothills are not large in extent and they form a prominent backdrop to Culzean Castle and its extensive policies, to the coastal area around Turnberry and to the richly diverse Girvan and Doon valleys. Mochrum Hill lying on the northern edge of this character type forms a widely visible landmark feature and an integral part of the setting of Culzean seen in views from the A714 south of Dunure to the castle. Occasional hills lying on the southern edge of this character type against the Girvan valley are also prominent and include Kildoon Hill but also Craigfin, Kirkhill and Craigdow hills. Turbines of this size would be likely to significantly intrude on the skyline and affect the backdrop these foothills provide to adjacent smaller scale, settled and highly sensitive landscape character types. ***High sensitivity***
Scale Mochrum Hill rises to 270m and forms the highest point of these fairly low hills and undulating ridges which are generally below 200m. The relative relief of these hills is low when seen from roads such as the A77 and from surrounding settlement. The irregular landform of ridges and dips creates a degree of enclosure and narrow valleys within the core of these hills are often settled, strongly contained and small scale. Broader, more gently undulating and sparsely settled basins between hills are more open and have an increased scale. Outer hill slopes, and particularly the more	This typology would dominate the scale of the more defined landmark hills, particularly in views where the degree of relative relief is limited. Turbines of this size would also significantly impact on the scale of the smaller settled valleys which cut into these hills and the small farms, woodlands and enclosed fields on outer hill slopes and within the more rolling landscape found to the north-east. The limited extent of broader basins within the interior of these hills constrains the number of turbines of this size that could be accommodated. ***High sensitivity***	This typology would dominate the scale of the more defined landmark hills, particularly in views where the degree of relative relief is limited. Turbines of this size would also significantly impact on the scale of the smaller settled valleys which cut into these hills and the small farms, woodlands and enclosed fields on outer hill slopes and within the more rolling landscape found to the north-east. The limited extent of broader basins within the interior of these hills constrains the number of turbines of this size that could be accommodated. ***High sensitivity***

interlocking rolling landform found to the north-east of this character type, are well-settled and small woodlands, trees and enclosed fields further reduces scale in these areas.		
Landform Long low undulating ridges are cut by narrow valleys and have a strong north-east/south-west grain. The flat-topped, steep-sided Mochrum Hill is a key landmark feature and occasional hills lying on the southern edge of this character type against the *Middle Dale* (12) are also prominent and include the small craggy basalt outcrop of Kildoon Hill but also Craigfin, Kirkhill and Craigdow hills. Landform is more complex north-east of Maybole where small rounded drumlins are separated by pockets of flatter ground. Some broader, gently undulating basins are present in places at the core of these foothills although these are not extensive.	Steep slopes, more complex irregular landform, including small drumlins and the well-defined 'landmark' hills are all sensitive to this typology. Areas of flatter or gently undulating landform are limited in extent and turbines of this size located within simpler basins lying at the core of these foothills would be likely to detract from the landmark hills and adversely affect their setting. ***High-medium sensitivity***	Steep slopes, more complex irregular landform, including small drumlins and the well-defined 'landmark' hills are all sensitive to this typology. Areas of flatter or gently undulating landform are limited in extent and turbines of this size located within simpler basins lying at the core of these foothills would be likely to detract from the landmark hills and adversely affect their setting. ***High-medium sensitivity***
Landscape pattern The upper hill slopes have a simple pattern of unimproved grassland, some moorland and some large areas of coniferous forestry, some of this recently restocked/planted. Hedged fields, roadside trees, small shelterbelts and riparian woodlands occur on lower outer slopes and within more sheltered valleys.	The relatively simple land cover pattern on upper hill slopes and basins lying at the core of these foothills would be less sensitive although this typology would detract from more strongly patterned enclosed fields, woodlands and trees within narrow valleys and on lower more intensively farmed hill slopes. ***Medium sensitivity***	The relatively simple land cover pattern on upper hill slopes and basins lying at the core of these foothills would be less sensitive although this typology would detract from more strongly patterned enclosed fields, woodlands and trees within narrow valleys and on lower more intensively farmed hill slopes. ***Medium sensitivity***

Built environment The majority of this landscape is well-settled with small farms and houses sited in sheltered narrow valleys and on lower hill slopes. Archaeological features are associated with Kildoon and Mochrum Hills and with the valley which accommodates the A77 west of Maybole. The settlement of Maybole sits on a south-facing slope within the core of this landscape and is contained by the rolling hills of this character type and LCT 4b with long views over the Girvan valley. A network of narrow minor roads criss-cross this landscape. Telecomm masts are sited on a few of these hills.	Turbines of this size located on hill tops and upper slopes could impact on the setting of settlement and archaeological features generally located on lower slopes and within valleys. The character of narrow roads would additionally be affected by transportation of very large turbines. ***High-medium sensitivity***	Turbines of this size located on hill tops and upper slopes could impact on the setting of settlement and archaeological features generally located on lower slopes and within valleys. The character of narrow roads would additionally be affected by transportation of very large turbines. ***High-medium sensitivity***
Perceptual qualities Areas of semi-natural vegetation on the more rugged hills and narrow minor roads in the core of these hills can give a sense of naturalness and seclusion although the presence of farmland, settlement and commercial forestry in places limits a strong sense of wildness.	Although a pronounced sense of wildness is not experienced in these foothills, the introduction of turbines of this size to these hills could affect the perception of naturalness which is particularly experienced within the more rugged and sparsely settled hills. ***Medium sensitivity***	Although a pronounced sense of wildness is not experienced in these foothills, the introduction of turbines of this size to these hills could affect the perception of naturalness which is particularly experienced within the more rugged and sparsely settled hills. ***Medium sensitivity***
Visual amenity The fairly well-settled nature of this landscape increases visual sensitivity. There are also views from the more elevated network of minor roads which cross this landscape and from popularly accessed hills such as Kildoon. This landscape is crossed by the A77 although views tend to be confined by the undulating landform west of Maybole. These hills form the backdrop to views from the Girvan valley and the coast forming highly visible skylines. There are dramatic elevated views from open roads and settlement on the south-west parts of these hills to the outer Firth of Clyde, Ailsa Craig and Arran.	Turbines of this size would be highly visible in views from settlement and roads in both this character type and surrounding landscapes including from the coast, Doon and Girvan valleys (see viewpoint 4 in Annex D). Key sensitivities include views from the A719 where the steep slopes and skyline of Mochrum Hill forms a prominent backdrop to Culzean Castle, the skyline of hills seen from the A77 and views from the B741 within the Girvan valley. This typology could also impact on views from Maybole and coastal settlements and from Mochrum and Kildoon Hills which are particularly popular with walkers. ***High sensitivity***	Turbines of this size would be likely to be highly visible in views from settlement and roads in both this character type and surrounding landscapes including from the coast, Doon and Girvan valleys. Key sensitivities include views from the A719 where the steep slopes and skyline of Mochrum Hill forms a prominent backdrop to Culzean Castle, the skyline of hills seen from the A77 and views from the B741 within the Girvan valley. This typology could also impact on views from Maybole and coastal settlements and from Mochrum and Kildoon Hills which are particularly popular with walkers. ***High sensitivity***

Cumulative effects The consented Kirk Hill wind farm is located in this landscape. The operational Hadyard Hill, Assel Valley and Tralorg wind farms are located in the *Foothills with Forestry and Wind Farms* (17c) to the south of the Girvan Valley. The operational Dowhill single turbine is located close to the western edge of these foothills.	The consented Kirk Hill turbines are 110m high and substantially larger turbines within this typology could have significant cumulative effects with this development. Cumulative effects would also be likely to arise on the Girvan Valley potentially contributing to a perceived encirclement of wind farm developments seen on containing skylines. Any further development may extend turbines on the skyline of these foothills seen from the coast above Culzean and Maidens. ***High-medium sensitivity***	The consented Kirk Hill turbines would fit within this typology although cumulative effects would arise if turbines closer to the upper height band were sited close-by this development. Cumulative effects would also be likely to arise on the Girvan Valley potentially contributing to a perceived encirclement of wind farm developments seen on containing skylines. Any further development may extend turbines on the skyline of these foothills seen from the coast above Culzean and Maidens. ***Medium sensitivity***

Character Type 17d: Maybole Foothills – Sensitivity assessment for medium, small-medium and small typologies

Topic and summary description	Assessment of small typology 50-70m)	Assessment of small-medium typology (30-50m)	Assessment of small typology (15-30m)
Landscape context These foothills form a 'stand-alone' group of low hills lying between the Girvan valley and the coast. The steep wooded slopes of the landmark hill of Mochrum and the lower ridge to the south-west are important in providing the backdrop to the *Coastal Valley with Policies* (5) of Culzean Castle and its extensive designed landscape and to the *Raised Beach Coast with Flat Fields and Headlands* (1c). These hills backdrop the *Middle Dale* (12) of the Girvan valley which also features extensive wooded policies and settlements. This landscape gradually merges with the more prominent Coastal Headland-Brown Carrick Hills (4b) to the north-west and forms a backdrop of small rolling hills to the deeply incised and smaller scale Doon Valley to the north.	Turbines of this size could significantly intrude on the skyline and backdrop these foothills provide to adjacent smaller scale, settled and highly sensitive landscape character types although there may be some very limited scope to site turbines towards the lower height band of this typology within the core of these foothills to minimise intrusion on adjacent landscapes. ***High-medium sensitivity***	This size of turbine would affect adjacent smaller scale landscapes, including the coast and the Girvan and Doon valleys if sited close to the edge of these foothills and on, or nearby, the landmark hills. Turbines of this size would however be likely to have limited effects on adjoining sensitive landscapes if sited in broader valleys/basins and on lower hill slopes in the core of these foothills. ***Medium sensitivity***	This size of turbine would also affect adjacent more sensitive valleys and the coast if sited so visible on sensitive skylines and landmark hills. There are increased opportunities however to site these smaller turbines on lower farmland and within broader valleys so not visible on containing skylines. ***Medium-low sensitivity***
Scale Mochrum Hill rises to 270m and forms the highest point of these fairly lowly hills and undulating ridges which generally rise to below 200m. The irregular landform of ridges and dips creates a degree of enclosure and narrow valleys within the core of these	Although this typology would dominate the scale of the more defined landmark hills if sited close-by there may be some limited scope to relate single/small groups of turbines towards the lower height band to broader and less settled basins lying at the core of these	Although this typology would appear very large if located within well-settled, farmed lower hill slopes, areas with a more rolling small-scale landform and within narrow valleys, there is scope to site this size of turbine within broader, less well-settled basins and gently undulating	There is increased scope to site these smaller turbines within smaller scale more settled valleys and on lower hill slopes. ***Medium-low sensitivity***

hills are often settled, strongly contained and small scale. Broader, more gently undulating and sparsely settled basins between hills are more open and have an increased scale. Outer hill slopes, and particularly the more interlocking rolling landform found to the north-east of this character type, are well-settled and small woodlands, trees and enclosed fields further reduces scale in these areas.	foothills to minimise scale effects. Smaller scale settled valleys and the well-settled outer hill slopes and rolling landscape found to the north-east would be dominated by this typology. ***High-medium sensitivity***	hill slopes at the core of these hills. ***Medium sensitivity***	
Landform Long low undulating ridges are cut by narrow valleys and have a strong north-east/south-west grain. The flat-topped, steep-sided Mochrum Hill is a key landmark feature and occasional hills lying on the southern edge of this character type against the *Middle Dale* (12) are also prominent and include the small craggy basalt outcrop of Kildoon Hill but also Craigfin, Kirkhill and Craigdow hills. Landform is more complex north-east of Maybole where small rounded drumlins are separated by flatter ground. Some broader, gently undulating basins are present in places at the core of these foothills although these are not extensive.	Steep slopes, more complex irregular landform, including small drumlins and the well-defined 'landmark' hills are all sensitive to this typology. Areas of flatter or gently undulating landform are limited in extent although turbines towards the lower height band of this typology may be able to be sited to minimise intrusion on the setting of landmark hills. ***High-medium sensitivity***	Steep slopes, more complex irregular landform, including small drumlins, and the well-defined landmark hills are all sensitive to this typology. Turbines of this size could be accommodated within broader basins and valleys while minimising effects on the setting of landmark hills. ***Medium sensitivity***	This typology could be accommodated on even small areas of more simple sloping and gently graded landform, although the landmark hills, the tops of smaller hills and skyline ridges would still be highly sensitive. ***Medium-low sensitivity***
Landscape pattern The upper hill slopes have a simple pattern of unimproved grassland, some moorland and some large areas of coniferous forestry, some of this	The relatively simple land cover pattern on upper hill slopes and basins lying at the core of these foothills would be less sensitive although this typology would detract	Lower hill slopes and small-scale drumlin landscapes with a more pronounced and small scale field enclosure and woodland pattern would remain sensitive. Turbines of	Turbines of this size could be accommodated without detracting from more enclosed farmland although they should be sited away from more diverse field and roadside

recently restocked/planted. Hedged fields, roadside trees, small shelterbelts and riparian woodlands occur on lower outer slopes and within more sheltered valleys.	from more strongly patterned enclosed fields, woodlands and trees within narrow valleys and on lower more intensively farmed hill slopes. ***Medium sensitivity***	this size could be accommodated on more elevated and open farmland and areas of grass moorland. ***Medium-low sensitivity***	trees and small broadleaved woodlands. ***Low sensitivity***
Built environment The majority of this landscape is well-settled with small farms and houses sited in sheltered narrow valleys and on lower hill slopes. Archaeological features are associated with Kildoon and Mochrum Hills and with the valley which accommodates the A77 west of Maybole. The settlement of Maybole sits on a south-facing slope within the core of this landscape and is contained by the rolling hills of this character type and LCT 4b with long views over the Girvan valley. A network of narrow minor roads cross this landscape. Telecomm masts are sited on a few of these hills.	The lower height band turbines of this typology would be likely to have a reduced effect on the setting of settlement and archaeological features provided it was sited within the more sparsely settled moorland core of these hills to limit visual intrusion. The character of narrow roads could be affected by transportation of taller turbines within this typology. ***Medium sensitivity***	This typology could be accommodated with minimal effects within more sparsely settled hill slopes and upland basins. The setting of archaeological features may be an additional constraint in some areas. ***Medium-low sensitivity***	There is increased scope to site these smaller turbines to avoid impact on the setting of individual houses and smaller farms. The smaller heights of turbines could also be accommodated near to larger farm buildings and form 'development clusters'. ***Low sensitivity***
Perceptual qualities Areas of semi-natural vegetation on the more rugged hills and narrow minor roads in the core of these hills can give a sense of naturalness and seclusion although the presence of farmland and settlement limits a strong sense of wildness.	Although a pronounced sense of wildness is not experienced in these foothills, the introduction of turbines of this size to these hills could affect the perception of naturalness which is particularly experienced within the more rugged and sparsely settled hills. ***Medium sensitivity***	This size of turbine could be sited to minimise visibility from the more rugged and sparsely settled hills where a sense of naturalness and seclusion is most likely to be experienced. ***Medium sensitivity***	This small typology would have minimal effects on perceptual qualities as it would be less intrusive and would also more likely to be closely associated with existing farms and other settlement. ***Low sensitivity***
Visual amenity The fairly well-settled nature of this landscape increases visual sensitivity.	There may be some scope to site turbines towards the lower height band of this typology to minimise	This typology could be sited to minimise significant intrusion on views from surrounding settlement	Taller turbines within this typology could be moderately visible within the character type, as well as from

There are also views from the more elevated network of minor roads which cross this landscape and from popularly accessed hills such as Kildoon. This landscape is crossed by the A77 although views tend to be confined by the undulating landform west of Maybole. These hills form the backdrop to views from the Girvan valley and the coast forming highly visible skylines. The gently undulating basins at the core of these hills is largely hidden from view by higher peripheral hills. There are dramatic elevated views from open roads and settlement on the south-west parts of these hills to the outer Firth of Clyde, Ailsa Craig and Arran.	significant intrusion on views from surrounding settlement and roads in both this character type and surrounding landscapes. Key sensitivities include views from the A719 where the steep slopes and skyline of Mochrum Hill forms a prominent backdrop to Culzean Castle, the skyline of hills seen from the A77 and views from the B741 within the Girvan valley. This typology could also impact on views from Maybole and coastal settlements and from Mochrum and Kildoon Hills which are popular with walkers. ***High-medium sensitivity***	and roads in both this character type and surrounding landscapes. Key sensitivities include views from the A719 where the steep slopes and skyline of Mochrum Hill forms a prominent backdrop to Culzean Castle, the skyline of hills seen from the A77 and views from the B741 within the Girvan valley. This typology could also impact on views from Maybole and coastal settlements and from Mochrum and Kildoon Hills which are popular with walkers. ***High-medium sensitivity***	key viewpoints and more widely, especially if located on prominent ridges, skylines or widely visible upper slopes. There are increased opportunities however to locate these smaller turbines on lower hill slopes to avoid intrusion on sensitive skylines. ***Medium sensitivity***
Cumulative effects The consented Kirk Hill wind farm is located in this landscape. The operational Hadyard Hill, Assel Valley and Tralorg wind farms are located in the *Foothills with Forestry and Wind Farms* (17c) to the south of the Girvan Valley. The operational Dowhill single turbine is located close to the western edge of these foothills.	Turbines of this size would have cumulative effects with the larger consented Kirk Hill turbines if sited nearby. There may be some scope to site this typology (and particularly turbines towards the lower height band) to minimise intrusion on the Girvan valley and cumulative impacts with wind farms sited in the *Foothills with Forestry and Wind Farms* (17c). Cumulative effects could arise with the Dowhill turbine if turbines of this size were sited on south-west hill slopes, potentially affecting views along the coast in the Turnberry area. ***Medium sensitivity***	Turbines of this size would have cumulative effects with the larger consented Kirk Hill turbines if sited nearby. There would be some scope to site this typology (which is likely to comprise single or very small groups of turbines) to minimise intrusion on the Girvan valley and thereby cumulative impacts with wind farms sited in the *Foothills with Forestry and Wind Farms* (17c). Cumulative effects could arise with the consented Dowhill turbine on south-west hill slopes potentially affecting views along the coast in the Turnberry area. ***Medium sensitivity***	This size of turbine would be significantly smaller than existing turbines and would be more likely to be located closer to farms. Cumulative effects would therefore be minimal provided turbines were well sited, avoiding prominent hill tops and skylines overlooking adjacent valleys and coasts. ***Low sensitivity***

19.2 Summary of sensitivity

The *Maybole Foothills* comprise a 'stand-alone' band of relatively low hills. These hills form highly visible backdrops and skylines to the coast (including Culzean Castle and its extensive policies) and the richly diverse Doon and Girvan valleys. Although this landscape is generally gently undulating with long ridges cut by valleys, a number of 'landmark' hills occur on the periphery of these foothills – the most distinctive of these being the steep-sided basalt outcrops of Mochrum and Kildoon hills. Landform becomes notably more complex in the north-east, forming drumlin-like small interlocking hills separated by pockets of flatter ground. Lower hill slopes and valleys are farmed with pastures enclosed by hedges and with roadside trees, small woodlands and shelterbelts contributing to an often, rich land cover pattern. Some large coniferous plantations occur within broader elevated basins and a number of hill tops feature more semi-natural heathery moorland, gorse and bracken with rough walled pastures on upper slopes. This landscape is relatively well-settled with dispersed farms sited across much of the area apart from the wetter more elevated basins lying at the core of these hills. Maybole lies on elevated south-facing slopes at the heart of this landscape and is surrounded by the rolling hills of these foothills and the nearby *Brown Carrick Hills* (4b).

The presence of well-settled and often richly diverse lower slopes and valleys and the backdrop these hills provide to the coast, including Culzean Castle and its policies, and to the Doon and Girvan valleys increase sensitivity.

There would be a ***High*** sensitivity to the very large and large typology (turbines >70m) and a ***High-medium*** sensitivity to the medium typology (50-70m). Sensitivity would be reduced for the small-medium typology (30-50m) to ***Medium*** and was concluded to be ***Medium-low*** for the small typology (15-30m).

19.2.1 *Potential cumulative issues*

The following issues may arise in connection with any possible development situated in this and adjacent landscapes:

- Variations in the type and size of single and small groups of smaller turbines proposed along the lower slopes of the *Maybole Foothills* (17d) at the transition with adjacent coast and valleys which are relatively well-settled and where multiple turbines associated with a number of land holdings may be seen in close proximity.
- Potential cumulative effects with existing wind farms sited in the *Foothills with Forestry and Wind Farms* (17c) seen in combination with the consented Kirk Hill wind farm and any further development located in the *Maybole Foothills* (17d) and the *Foothills with Forestry West of the Doon Valley* (17b) which could lead to a perception of 'encirclement' and dominance experienced from the Girvan Valley.

19.2.2 *Constraints*

- The prominent steep-sided, craggy basalt Mochrum and Kildoon Hills which form key landmark features and other hills with pronounced summits on the

north side of the Girvan valley, including Craigfin, Kirk Hill and High Craighead.

- The backdrop and prominent skylines the *Maybole Foothills* provide to Culzean Castle and its extensive designed landscape, to the diverse Doon and Girvan valleys and to the coast and Firth of Clyde.
- The relatively low relief of the landform which could easily be dominated by taller turbines.
- More rolling landform in the north-eastern part of this landscape where drumlin-like small interlocking small hills combine with a relatively dense pattern of regularly spaced small farms and houses to reduce scale.
- The relatively well-settled nature of much of these foothills where small farms, woodlands and hedged fields provide ready scale references on lower hill slopes and within valleys.
- Dramatic views from popularly accessed hills such as Kildoon and Mochrum and from minor roads and settlement within these foothills to the coast, the Firth of Clyde, Alisa Craig and Arran.
- Key views from the A719 south of the Electric Brae to Culzean Castle and its designed landscape where these foothills (and particularly Mochrum Hill) forms an integral part of its wider setting.

19.2.3 *Opportunities*

- Gentler and simpler upland basins which are sparsely settled and partially contained by higher hills where turbines could be sited to minimise intrusion on sensitive skylines and the more prominent landmark hills (although consented wind farm development is already sited in this part of the LCT and cumulative effects will be a key constraint).

19.3 Guidance for development

There is ***no scope*** for the very large and the large typology (turbines >70m high) to be accommodated within this landscape.

There is ***very limited*** scope for turbines towards the lower height band of the medium typology (50-70m) to be located in this landscape. Turbines of this size are likely to comprise single or very small groups of turbines and they may be more able to be contained by landform minimising visibility from adjacent valleys. The setting of landmark hills, Culzean Castle and its extensive policies and skylines overlooking the coast and smaller scale valleys remain highly sensitive and turbines should be set well back within the core of these foothills to avoid intrusion. The limited extent of simpler, sparsely settled upland basins lying within the core of these foothills will restrict scope for multiple turbines of this size and potential cumulative effects with the consented Kirk Hill wind farm would also need to be carefully considered.

There is ***some limited*** scope for the small-medium typology (30-50m) and the small (15-30m) typology to be accommodated in this landscape. These smaller turbines could have cumulative effects with any larger typologies which may be located within the core of this landscape. There is increased scope to accommodate the small typology (15-30m) on lower hill slopes to avoid intrusion on prominent skylines and to minimise inter-visibility.

Turbines should not be sited on or nearby the landmark hills and should avoid prominent ridges and knolls, instead being set down to benefit from a backdrop of rising ground to reduce prominence. They should also be sited away from designed landscapes and avoid intrusion on the setting of settlements, historic buildings and archaeological features. Opportunities are most likely to be found in the more gently graded slopes, dips in less prominent ridges, gentle bowls and lower hill slopes where there is less likelihood of impacting on prominent skylines.

Small turbines below 15m high could also be accommodated but should be sited where they can be clearly associated with existing built development to minimise visual clutter. Detailed siting and design should accord with the guidance set out in Annex F.

A number of well-defined hills lie on the south-eastern edge of these foothills and are prominent in views from the Girvan valley.

Gently undulating lower slopes fall to the coastal edge at Turnberry and are relatively well-settled with small farms.

The more complex rolling landform in the north-eastern part of this landscape, small woodlands, enclosed fields and buildings influence the smaller scale of this area.

Broader basins with semi-improved pasture, moorland and forestry occurs within the core of these foothills

The setting to the settlement of Maybole is framed by these foothills and the Brown Carrick Hills

The heather and bracken capped Mochrum Hill is a highly visible landmark feature

20 CHARACTER TYPE 17E: COASTAL FOOTHILLS

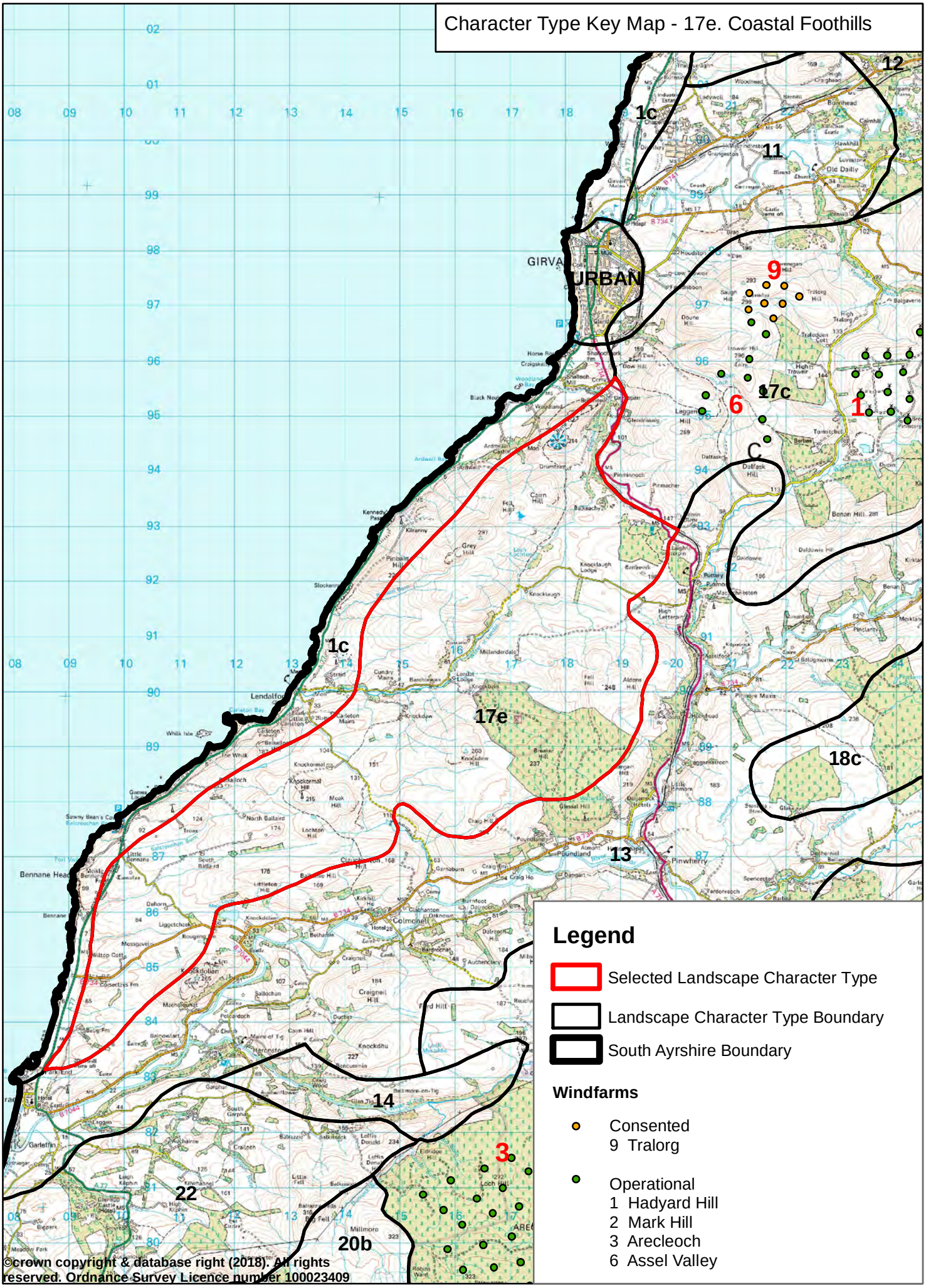
20.1 Introduction

This sensitivity assessment is for the *Coastal Foothills* (17e). The detailed assessment considers both larger and smaller development typologies. Turbines >130m are not considered in the detailed sensitivity tables which follow as no scope for turbines >70m was found in the 2013 South Ayrshire Landscape Wind Capacity Study.

20.1.1 *Operational/consented wind farms*

The operational Hadyard Hill, Assel Valley and Tralorg wind farms are located in the adjacent *Foothills with Forest and Wind Farm* (17c) landscape character type.

The operational Arecleoch, Mark Hill and Kilgallioch wind farms are located within the *Plateau Moorland with Forest and Wind Farms* (18c) character type. These developments lie at distances of between 7km and 9km respectively from this character type and are visible from higher hills and roads.



Character Type 17e: Coastal Foothills – Sensitivity assessment for large and medium typologies

Topic and summary description	Assessment of large typology (70m+)	Assessment of medium typology (50-70m)
Landscape context This landscape is broader in the north but tapers in the south to form a narrow band of hills. The western edge of these hills, and particularly the craggy hills between Byne and Pinbain Hill south-west of Girvan, are highly visible from the *Raised Beach Coast* (1c) and form an integral part of the setting to Girvan and the coast. Other pronounced hills also lie at the transition between this character type and the adjacent *Intimate Pastoral Valley* (13) of the Stinchar valley and include Knockdolian and Bargain Hills which form landmark features contributing to the scenic backdrops and skylines to smaller scale settled landscapes.	This size of turbine would be likely to significantly affect adjacent smaller scale coasts and valleys and nearby more pronounced 'landmark' hills. There may be some limited scope for turbines towards the lower height band of this typology to avoid intrusion on more sensitive coasts and valleys if sited in lower-lying basins set back within the interior of these foothills in areas where the hills broaden in their extent. ***High-medium sensitivity***	This size of turbine would significantly affect adjacent smaller scale coasts and valleys if sited close to the outer edges of these foothills and on or nearby more pronounced 'landmark' hills. There may be some limited scope to site turbines of this size (which are likely to comprise single and small groups of turbines) to avoid intrusion on more sensitive coasts and valleys if sited in lower-lying basins set back within the interior of these foothills in areas where the hills broaden in their extent. ***High-medium sensitivity***
Scale The rugged steep slopes and often craggy summits of these coastal hills make them appear higher than they are. A lower undulating platform occurs in the south-west raised above the coast and punctuated by occasional landmark hills. The irregular landform creates a degree of enclosure, with interior settled glens and broader basins surrounded by higher ridges and tops. These hills are sparsely settled with farms sited in narrow valleys and on the lower coastal platform to the south-west.	This typology would dominate the scale of the more defined landmark hills, particularly in views where the degree of relative relief is limited. They would also impact significantly on the scale of the smaller settled valleys which cut into these hills and the small farms dispersed across the lower south-western platform and hill slopes. The limited extent of broader basins within the interior of these hills constrains the number of turbines of this size that could be accommodated. ***High-medium sensitivity***	This typology would dominate the scale of the more defined landmark hills, particularly in views where the degree of relative relief is limited. They would also impact significantly on the scale of the smaller settled valleys which cut into these hills and the small farms dispersed across the lower south-western platform and hill slopes. The limited extent of broader basins within the interior of these hills constrains the number of turbines of this size that could be accommodated. ***Medium sensitivity***
Landform The northern hills are predominantly steep sided with the exposed hills against the coast featuring craggy upper slopes and summits. The narrow band of hills immediately backing the coast between Pinbain and Byne Hills form key landmark features. The landform	Areas of flatter or gently undulating landform are limited in extent. Steep slopes, more complex irregular craggy landform and the well-defined landmark hills are all sensitive to this typology. Turbines sited on or close to the landmark hills would be detractive and adversely affect their	Areas of flatter or gently undulating landform are limited in extent. Steep slopes, more complex irregular craggy landform and the well-defined landmark hills are all sensitive to this typology. Turbines sited on or close to the landmark hills would be detractive and adversely affect their

falls to the south-west and comprises a more gently undulating platform punctuated by isolated conical hills, with Knockdolian being the most prominent of these. Bargain Hill also forms a landmark feature seen at a pivotal point at the junction between the Duisk and Stinchar valleys. These hills are cut by narrow valleys including the Water of Lendal which is deeply incised in places. Broader gently undulating basins also occur although these are not extensive.	setting. The construction of access roads on steep, craggy or complex slopes would be a further constraint for this typology. ***High-medium sensitivity***	setting. The construction of access roads on steep, craggy or complex slopes would be a further constraint for this typology. ***High-medium sensitivity***
Landcover pattern The upper hill slopes have a simple pattern of unimproved grassland and moor. Wetter basins and areas of semi-improved pasture occur between hills and on lower hill slopes and these are broken by occasional small mixed woodlands. More extensive coniferous forestry occurs in the lower-lying gently undulating Breaker Hill area. The field enclosure pattern is more distinct in the more intensively farmed lower south-western part of this landscape.	The relatively simple land cover pattern of this landscape reduces sensitivity although more enclosed farmland in the south-west of these hills would be of increased sensitivity. ***Medium sensitivity***	The relatively simple land cover pattern of this landscape reduces sensitivity although more enclosed farmland in the south-west of these hills would be of increased sensitivity. ***Medium sensitivity***
Built environment Sparsely settled with small farms and houses sited in sheltered valleys and on the lower hill slopes in the south-west. Some archaeological features are associated with Knockdolian Hill and lower hill slopes. A number of minor public roads cut through valleys within these hills. Telecomm masts are sited on a few of these hills.	This typology could be accommodated with minimal effects within more sparsely settled areas although turbines of this size would affect the setting and scale of farms and houses in the more settled south-western lower hill slopes and within the valleys. The setting of archaeological features may be an additional constraint. ***Medium sensitivity***	This typology could be accommodated with minimal effects within more sparsely settled areas although turbines of this size would affect the setting and scale of farms and houses in the more settled south-western lower hill slopes and within the valleys. The setting of archaeological features may be an additional constraint. ***Medium sensitivity***
Perceptual qualities These coastal hills are little affected by extensive forestry and wind farm development unlike more extensive uplands within South Ayrshire. Areas of semi-natural vegetation on the more rugged hills increase the sense of naturalness although the general inter-visibility of the wider farmed and settled landscapes limits a strong sense of wildness.	Although the presence of settlement limits wildness, the introduction of turbines of this size to these hills could affect the perception of naturalness which can be particularly experienced in the more rugged upper slopes and summits of these hills. These hills are relatively undeveloped in contrast with other upland areas in South Ayrshire which	Although the presence of settlement limits wildness, the introduction of turbines of this size to these hills could affect the perception of naturalness which can be particularly experienced in the more rugged upper slopes and summits of these hills. These hills are relatively undeveloped in contrast with other upland areas in South Ayrshire which

	accommodate operational and consented wind farms and forestry. ***High sensitivity***	accommodate operational and consented wind farms and forestry. ***High sensitivity***
Visual amenity The prominent outer hills bordering the coast are highly visible from the A77 (between Girvan and Glenapp and also further afield in the Turnberry area), from sections of the Ayrshire Coastal Path and from the sea (commonly seen in trips to Ailsa Craig). These hills form the backdrop to views from the Stinchar and lower Duisk valleys. The interior of these hills is mainly seen from more open elevated minor roads and settlement on lower slopes south of the River Stinchar and intermittently from the A714 due to the screening provided by steep hill slopes against the B734 in the Stinchar valley. Byne Hill and Knockdolian are popular with walkers and offer elevated views across this landscape and to the outer Firth of Clyde, Ailsa Craig and Arran.	Turbines of this size sited on the more prominent steep-sided outer hills which backdrop the coast would be highly intrusive. Turbines sited on or nearby the landmark and other well-defined higher hills lying on the edge of the Stinchar valley would be prominent in views from settlements such as Pinwherry and Pinmore. Visibility is restricted by steep valley sides from sections of the B734 (and settlement sited within the valley floor) within the Stinchar valley although turbines would be visible from more open and elevated sections of this road in the north-east. There could also be some visibility from the A714 with Bargain Hill and Byne Hill forming key foci in these views. Turbines of this size would be likely to be prominent in close views from popular hill summits such as Knockdolian and Byne Hill and would be visible from more sparsely settled lower hill slopes within the Stinchar and lower Duisk valleys ***High sensitivity***	Turbines of this size sited on the more prominent steep-sided outer hills which backdrop the coast and the settlement of Girvan would be highly intrusive. Turbines sited on or nearby the landmark hills lying on the edge of the Stinchar valley would be prominent in views from settlements such as Pinwherry and Pinmore. Visibility is restricted by steep valley sides from sections of the B734 (and settlement sited within the valley floor) within the Stinchar valley although turbines would be visible from more open and elevated sections of this road in the north-east. There could also be some visibility from the A714 with Bargain Hill and Byne Hill forming key foci in these views. Views from popular hill summits such as Knockdolian and Byne Hill and from more sparsely settled lower hill slopes within the Stinchar and lower Duisk valleys increase visual sensitivity. ***High sensitivity***
Cumulative effects The Hadyard Hill, Assel Valley and Tralorg wind farms are located close to the *Coastal Foothills* and are visible from the A77, the sea and from much of this landscape. The Mark Hill and Arecleoch wind farms are visible from parts of the lower Stinchar valley and, more extensively, from elevated roads and settlement within the Duisk valley including sustained views from the A714 south-east of Barrhill. The Arecleoch wind	Turbines of this size could significantly increase the influence of wind farm development prominent on the skyline of hills containing the Stinchar Valley. Sequential and simultaneous views could also occur from the A714, from settlement and minor roads within the Duisk and Stinchar valleys and from popularly accessed hills such as Knockdolian and Byne Hill where operational wind farms are already visible and further development in these foothills would be	This typology (which is likely to comprise single and small groups of turbines) could have significant cumulative effects with operational wind farms particularly if sited on the more sensitive edges of these foothills and thereby increasing intrusion on the Stinchar valley. Sequential and simultaneous views could also occur from the A714, from settlement and minor roads within the Duisk and Stinchar valleys and from popularly accessed hills such as

farm is also briefly visible from the A77 south-west of Lendalfoot. The little developed *Coastal Foothills* are important in limiting the visual influence of wind farm development on the coast and sea and in minimising cumulative effects on the highly sensitive Stinchar Valley.	seen in close proximity. Cumulative effects would also be experienced from the A77 particularly in combination with the Tralorg and Assel Valley wind farms. This landscape is one of the few remaining areas of foothills which are unaffected by wind farm development. Introducing wind farms into this landscape would extend the influence of such development into coastal areas and potentially present a continuous array of turbines seen from the sea in combination with existing wind farms sited close to Girvan. ***High sensitivity***	Knockdolian and Byne Hill where operational wind farms are already visible and further development in these foothills would be seen in close proximity. Cumulative effects could also be experienced from the A77, the coast and sea especially if multiple developments occurred within this character type. ***High-medium sensitivity***.

Character Type 17e: Coastal Foothills – Sensitivity assessment for small-medium and small typologies

Topic and summary description	Assessment of small-medium typology (30-50m)	Assessment of small typology (15-30m)
Landscape context This landscape is broader in the north but tapers in the south to form a fairly narrow band of hills. The western edge of these hills, and particularly the craggy hills between Byne and Pinbain Hill south-west of Girvan are highly visible from the *Raised Beach Coast* (1c) and form an integral part of the setting to Girvan. Other pronounced hills also lie at the transition between this character type and the adjacent *Intimate Pastoral Valley* (13) of the Stinchar valley and include Knockdolian and Bargain Hills which form landmark features contributing to the scenic backdrops to smaller scale settled landscapes.	This size of turbine would affect adjacent smaller scale coasts and valleys if sited close to the edge of these foothills and on, or nearby, the landmark hills. Turbines of this size would however be likely to have less of an effect on adjoining sensitive landscapes if sited in broader valleys/basins and on lower hill slopes in the core of these foothills. ***Medium sensitivity***	This size of turbine would also affect adjacent smaller scale coasts and valleys if sited so visible on sensitive skylines seen above the Stinchar valley and the coastal edge. There are increased opportunities to site these smaller turbines on lower farmland and within broader valleys and to set them back sufficiently from landmark hills and containing skylines to avoid significant intrusion. ***Medium-low sensitivity***
Scale The rugged steep slopes and often craggy summits of these coastal hills make them appear higher than they are. A lower undulating platform occurs in the south-west raised above the coast and punctuated by occasional landmark hills. The irregular landform creates a degree of enclosure, with interior settled glens and broader basins surrounded by higher ridges and tops. These hills are sparsely settled with farms sited in narrow valleys and on the lower coastal platform to the south-west.	Although this typology would still appear large in relation to smaller hills and the narrow settled valleys, there is scope to site this size of turbine within broader basins and within the more settled lower slopes in the south-western part of these *Coastal Foothills*. ***Medium sensitivity***	While there is increased scope to site these smaller turbines within more settled valleys and the lower farmed platform in the south-west, turbines of this size could appear out of scale with broader upland basins. ***Medium sensitivity***
Landform The northern hills are predominantly steep sided with the exposed hills against the coast featuring craggy upper slopes and summits. The narrow band of hills immediately backing the coast between Pinbain and Byne Hills form key landmark features. The landform falls to the south-west and comprises a more gently	Steep slopes and more complex irregular craggy landform would be sensitive to this typology. Turbines sited close to the landmark hills would be detractive and adversely affect their setting. Gentler lower hill slopes, broader basins and valleys could accommodate this typology. ***Medium sensitivity***	This typology could be accommodated on even small areas of gently graded landform, although the landmark hills, the tops of smaller hills and skyline ridges are still key constraints. ***Medium-low sensitivity***

undulating platform punctuated by isolated conical hills, with Knockdolian being the most prominent of these. Bargain Hill also forms a landmark feature seen at a pivotal point at the junction between the Duisk and Stinchar valleys. These hills are cut by narrow valleys including the Water of Lendal which is deeply incised in places. Broader gently undulating basins also occur although these are not extensive.		
Landcover pattern The upper hill slopes have a simple pattern of unimproved grassland and moor. Wetter basins and areas of semi-improved pasture occur between hills and on lower hill slopes and these are broken by occasional small mixed woodlands. More extensive coniferous forestry occurs in the lower-lying gently undulating Breaker Hill area. The field enclosure pattern is more distinct in the more intensively farmed lower south-western part of this landscape.	The relatively simple land cover pattern of this landscape reduces sensitivity although more enclosed farmland in the south-west of these hills would be of increased sensitivity. ***Medium-low sensitivity***	The relatively simple land cover pattern of this landscape reduces sensitivity and turbines of this size could be accommodated without detracting from more enclosed farmland. ***Low sensitivity***
Built environment Sparsely settled with small farms and houses sited in sheltered valleys and on the lower hill slopes in the south-west. Some archaeological features are associated with Knockdolian Hill and lower hill slopes. A number of minor public roads cut through valleys within these hills. Telecomm masts are sited on a few of these hills.	This typology could be accommodated with minimal effects within more sparsely settled areas. There also may be opportunities to site turbines towards the lower height band of this typology in the more settled south-western lower hill slopes. The setting of archaeological features may be an additional constraint. ***Medium-low sensitivity***	There is increased scope to site these smaller turbines to avoid impact on the setting of individual houses, smaller farms and archaeological features. The smaller heights of turbines could also be accommodated near to larger farm buildings to form 'development clusters'. ***Low sensitivity***
Perceptual qualities These coastal hills are little affected by extensive forestry and wind farm development unlike more extensive uplands within South Ayrshire. Areas of semi-natural vegetation on the more rugged hills increase the sense of naturalness although the general inter-visibility of the wider farmed and settled landscapes limits a strong sense of wildness.	Although the presence of settlement limits wildness, the introduction of turbines of this size to these hills could affect the perception of naturalness particularly experienced in the more rugged upper slopes and summits. ***Medium sensitivity***	This small typology would have minimal effects on perceptual qualities, if closely associated with the transition between farmed and upland moors, the farmed landscape and the settled lower slopes. ***Medium-low sensitivity***

Visual amenity Settlement tends to be either sited on outward-facing slopes or be located in narrow strongly contained valleys. The prominent outer hills bordering the coast are highly visible from the A77 (between Girvan and Glenapp and also further afield in the Turnberry area) and from sections of the Ayrshire Coastal Path. These hills form the backdrop to views from the Stinchar and lower Duisk valleys and are mainly seen from more open elevated minor roads and settlement on lower slopes south of the river and intermittently from the A714 due to the screening provided by steep hills slopes against the B734. Byne Hill and Knockdolian are popular with walkers and offer elevated views across this landscape and to the outer Firth of Clyde, Ailsa Craig and Arran. The more prominent coastal hills are also highly visible from the sea.	These coastal hills are widely visible and form key landmark features from surrounding valleys, the coast and sea. Turbines of this size sited on the more prominent outer hills which backdrop the coast and on or near other landmark hills would be highly intrusive. There are however opportunities to site turbines of this size within lower-lying basins and lower hill slopes to minimise intrusion on sensitive skylines seen above the Stinchar valley and the coast. ***High-medium sensitivity***	A number of these coastal hills are widely visible and form key landmark features from surrounding valleys, the coast and sea. Taller turbines within this typology could be moderately visible within the character type, as well as from key viewpoints and more widely, especially if located on prominent ridges, skylines or widely visible upper slopes. There are increased opportunities to locate these smaller turbines on lower hill slopes to avoid intrusion on sensitive skylines. ***Medium sensitivity***
Cumulative effects The Hadyard Hill, Assel Valley and Tralorg wind farms are located close to the *Coastal Foothills* and are visible from the A77, the sea and from much of this landscape. The Mark Hill and Arecleoch wind farms are visible from parts of the lower Stinchar valley and, more extensively, from elevated roads and settlement within the Duisk valley including sustained views from the A714 south-east of Barrhill. The Arecleoch wind farm is also briefly visible from the A77 south-west of Lendalfoot. The little developed *Coastal Foothills* are important in limiting the visual influence of wind farm development on the coast and sea and in minimising cumulative effects on the highly sensitive Stinchar Valley.	This typology is more likely to comprise single or very small groups of turbines (<3) and this, together with the smaller size of these turbines, would reduce cumulative effects with other operational wind farms. There is increased scope to site turbines of this size (and particularly those towards the lower height band of this typology) to limit visual intrusion and in doing so, minimise cumulative effects. ***Medium sensitivity***	This size of turbine would be significantly smaller than existing turbines and cumulative effects would therefore be minimal provided turbines were well sited, avoiding prominent hill tops and ridges. ***Low sensitivity***

20.2 Summary of sensitivity

The *Coastal Foothills* comprise a narrow band of relatively small hills set between the *Raised Beach Coast* (1c) and the *Intimate Pastoral Valley* (13) character types. The northern hills directly overlooking the coast form a highly scenic ridge of sheer-sided craggy hills. Similar well-defined hills also arise on the outer inland edges of this character type close to the Stinchar valley and include Knockdolian and Bargain Hill. The landform of these foothills is more gently undulating elsewhere with some broader valleys and basins occurring in the south-eastern area; these covered with a mix of grass moorland and coniferous forestry. Farming is more intensive on the gentle hill slopes and lower plateaux within the tapering south-western area of these *Coastal Foothills*. Settlement is tucked down into the narrow valleys which cut through these hills and on the lower hill slopes to the south-west.

The *Coastal Foothills* are important in being one of the few foothill landscapes free from wind farm development and as such contribute to the scenic diversity of South Ayrshire in conjunction with the richly varied coastal area south-west of Girvan.

There would be a ***High*** sensitivity to the large typology (turbines 70-130m) due to the prominence of these hills in providing scenic backdrops to smaller scale settled valleys and coasts and the cumulative effects which may occur with existing wind farm developments. Sensitivity would be ***High-medium*** for the medium typology (turbines 50-70m), ***Medium*** for the small-medium typology (30-50m) and ***Medium-low*** for the small typology (15-30m).

20.2.1 *Potential cumulative issues*

The following issues may arise in connection with any possible development situated in this and adjacent landscapes:

- Simultaneous and sequential views of operational and consented wind located in the *Foothills with Forest and Wind Farms* (17c) and within the *Plateau Moorland with Forest and Wind Farms* (18c) character types seen from the small scale and well-settled Stinchar and Duisk Valleys and seen sequentially from key roads such as the A714.
- Potential cumulative effects of multiple wind farms seen increasingly close to the coast from the Firth of Clyde and Ailsa Crag which is a popular destination for excursions from Girvan.
- Multiple turbines of varying sizes and designs located in these *Coastal Foothills* which could have cumulative effects on views from surrounding valleys and popularly accessed hills.

20.2.2 *Constraints*

- The more prominent steep-sided peripheral hills with well-defined summits which generally occur on the outer edges of these foothills and include Knockdolian and Bargain Hill and the band of craggy hills between Pinbain and Byne Hill. These hills form ‘landmark’ features in views from the

Stinchar and the lower Duisk valleys, along the coast and in views from the sea.

- The backdrop and scenic skylines these *Coastal Foothills* provide to the settled and smaller scale Intimate Pastoral Valley (13) of the Stinchar valley and the *Raised Beach Coast with Flat Fields and Headlands* (1c) and the limited relief of these hills appreciated in key views from settlement and roads which increases sensitivity to larger typologies.
- The relative narrowness of these foothills, particularly in the south-west, which increases potential for intrusion on more sensitive small scale and highly scenic adjacent valleys and coasts.
- Lower hill slopes and valleys within these uplands which are farmed and settled and have a smaller scale.
- Elevated views from hills such as Knockdolian and Byne Hill which are particularly popular with walkers.
- The openness and relatively unmodified character of these *Coastal Foothills* which are not affected by extensive forestry and large-scale wind farm development unlike other uplands within South Ayrshire and which, together with their rugged appearance and coastal context, give a heightened sense of naturalness.
- Cumulative effects with the Hadyard Hill, Assel Valley and Tralorg wind farms sited in the adjacent *Foothills with Forestry and Wind Farms* (17c) and the Arecleoch, Mark Hill, Glen App, Chirmorrie and Kilgallioch wind farms, sited in the *Plateau Moorlands with Forestry and Wind Farms* (18c) affecting roads and settlement within the Stinchar, Girvan and Duisk valleys and the A77.

20.2.3 *Opportunities*

- More gently sloping ground away from sensitive skylines and prominent 'landmark' hills where single/very small groups of smaller turbines (<50m) could be accommodated to avoid intrusion on adjacent highly sensitive coasts and valleys and to also minimise cumulative effects with existing wind energy developments.

20.3 Guidance for development

There is **no scope** for turbines >50m high to be accommodated in the *Coastal Foothills*.

There is some limited scope for turbines 30-50m to be accommodated. This typology is most likely to be located within more settled/farmed areas where turbines should be sited on lower, gentler hill slopes, lower ridges and natural terraces or close to the head-dyke at the transition between enclosed pasture and more open hill land. Turbines should be set well away from landmark hills and should avoid intrusion on prominent hills and skylines seen from the coast and the Stinchar and Girvan valleys. Single and small groups <3 of this size of turbine could be accommodated although significant cumulative effects could be associated with multiple turbines of this size and also arise with larger wind turbines and wind farms sited in nearby upland areas.

There is increased scope for the small typology (turbines 15-30m high) to be accommodated in this landscape. Turbines should be set back from prominent skylines and the landmark hills. Turbines <20m high should be associated with existing buildings to minimise clutter. Detailed siting and design should accord with the guidance set out in Annex F.

Steep-sided rugged hills form a prominent backdrop to the coast seen above Lendalfoot from the A77

The lower platform in the south-western part of these foothills is farmed and settled and punctuated by the prominent cone of Knockdolian Hill

The Coastal Foothills contain the well-settled smaller scale Stinchar valley, seen here forming the backdrop to the settlement of Colmonell.

Occasional broader basins of upland pasture occur in the north-eastern part of these foothills

A gradual transition occurs at the Stinchar valley with these foothills where upland pastures are more open and settlement is sparse.

The east-facing slopes and valleys of the landmark Byne to Pinbain Hills have a complex landform and small to medium scale as seen by the relative size of farm buildings in this view from the A714

21 CHARACTER TYPE 18C: PLATEAU MOORLANDS WITH FORESTRY AND WIND FARMS

21.1 Introduction

This upland landscape character type is found in two areas on the southern edge of South Ayrshire and extending into neighbouring Dumfries and Galloway.

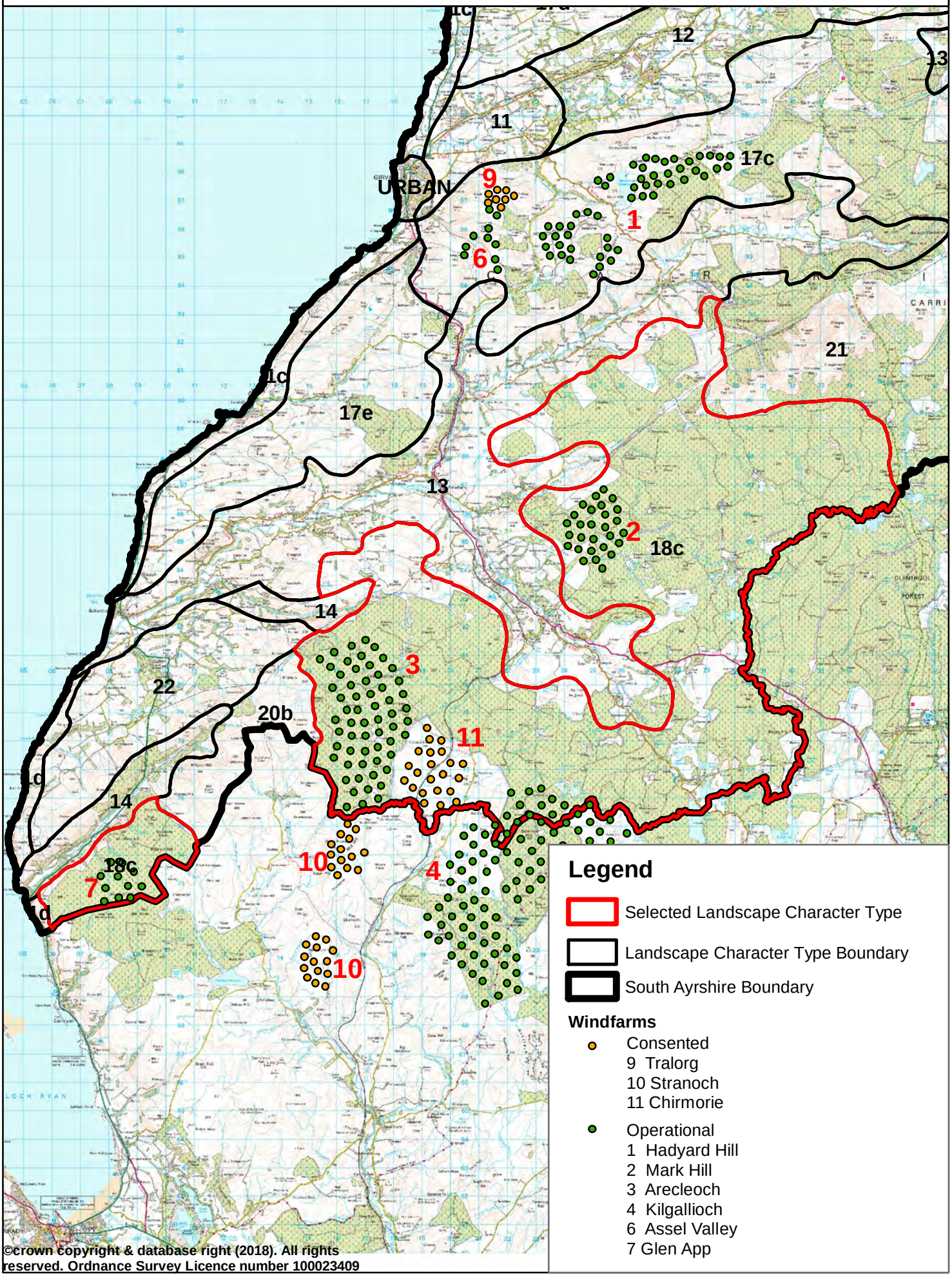
The detailed tabular assessment considers larger development typologies (turbines >70m) with key constraints and opportunities for smaller turbines under that height briefly outlined in the summary and guidance section only.

21.1.1 *Operational/consented wind farms*

The operational Arecleoch windfarm (60 turbines, 120m high), Mark Hill (28 turbines, 110m high) and Glen App (11 turbines, 126.5m high) wind farms are wholly located within this character type in South Ayrshire. Approximately 12 turbines of the operational/under-construction 96 turbine Kilgallioch wind farm are located in the part of this landscape which lies in South Ayrshire (the remaining turbines lie in Dumfries and Galloway). The consented Chirmorrie wind farm (21 turbines, 146.5m) is also located in this character type in South Ayrshire.

The Hadyard Hill wind farm (52 turbines, 111m high) lies approximately 4km distance from the northern-most area of this character type. The consented Stranoch wind farm is situated within the nearby *Plateau Moorlands* landscape character type in Dumfries and Galloway.

Character Type Key Map - 18c. South Ayrshire Plateau Moorlands + Forestry + Wind Farms



Legend

- Selected Landscape Character Type
- Landscape Character Type Boundary
- South Ayrshire Boundary

Windfarms

- Consented
  - 9 Tralorg
  - 10 Stranoch
  - 11 Chirmorie
- Operational
  - 1 Hadyard Hill
  - 2 Mark Hill
  - 3 Arecleoch
  - 4 Kilgallioch
  - 6 Assel Valley
  - 7 Glen App

Character Type 18c: South Ayrshire Plateau Moorlands with Forestry and Wind Farm – Sensitivity assessment for larger typologies

Topic and summary description	**Very Large typology (130m+)**	**Large typology (70-130m)**
Landscape context This extensive landscape comprises a relatively low upland plateau which forms an even and generally indistinct edge to the smaller scale settled *Intimate Pastoral Valley* (13) of the Duisk and Stinchar valleys and the *Upland Glen* (14) of Glen App and Glen Tig. The south-western area of this character type near Glen App also backdrops Loch Ryan and is visible from the northern Rhinns of Galloway. The higher *South Ayrshire Southern Uplands* (20b) visually contain this plateau (and the Arecleoch wind farm) from Glen App and the *Coastal Rolling Farmland and Policies* (22). While this landscape generally does not make a strong contribution to the wider landscape composition its relatively low-lying character allows views to the distant Galloway and Carrick Hills from roads and hills to the west. This character type extends into Dumfries and Galloway to the south-east where it comprises part of a much more extensive tract of upland plateau principally characterised by forest cover and wind farm development.	Operational wind farm developments situated in this landscape are visible from parts of the Duisk and Stinchar valleys. Additional turbines of this size sited on the remaining undeveloped edges of this character type would be likely to significantly intrude on smaller scale *Intimate Pastoral Valleys* (13) and adjacent *Upland Glens* (14). Turbines set back into the core of this extensive upland plateau would have less of an effect on adjacent more sensitive small-scale landscapes. Much of this interior landscape is already occupied by wind farm development south of the Duisk valley. While effects on the Stinchar and Duisk valleys could be minimised in the less developed forested area to the north and north-east of the Duisk Valley, effects on the setting of the high rugged Galloway Hills and the *Rugged Hills, Lochs and Forest* (21) character type is a constraint to development. Very large turbines could have a more intrusive effect on these more remote landscapes with lighting of turbines >150m high additionally likely to adversely affect their character. ***High-medium sensitivity***	Operational wind farm developments situated in this landscape are visible from parts of the Duisk and Stinchar valleys. There may be increased scope to accommodate smaller turbines to avoid significant intrusion on the Stinchar and Lower Duisk valleys (wind farm development already significantly impacts on the upper Duisk), although turbines (and particularly those towards the upper height band of this typology) would still need to be set back from sensitive outer edges of these uplands. Much of this interior landscape is already occupied by wind farm development south of the Duisk valley. While effects on the Stinchar and Duisk valleys could be minimised in the less developed forested area to the north and north-east of the Duisk Valley, effects on the setting of the high rugged Galloway Hills and the *Rugged Hills, Lochs and Forest* (21) character type is a constraint to development. ***Medium sensitivity***
Scale This landscape has an expansive scale due to its simple gently undulating plateau landform and absence of settlement. Extensive areas of forestry and wind farm development reduce openness and there are few remaining areas of open moorland within this character type. Scale is reduced where more intricately patterned small pockets of rolling	The expansiveness of this landscape and absence of smaller scale features reduces sensitivity across much of this landscape. Turbines of this size would need to be sited well away from rare areas of settled farmland and policies on the south-eastern fringes of these uplands to avoid dominating their scale. ***Medium-low sensitivity***	The expansiveness of this landscape and absence of smaller scale features reduces sensitivity across much of this landscape. This size of turbine would dominate buildings and other small-scale features if sited within or close to rare areas of open farmland and policies. ***Medium-low sensitivity***

open farmland, moorland, lochs, wooded policies and settlement occur in the south-east of this character type.		
Landform A simple, gently undulating upland plateau within generally rounded and subtle topography. Larger hills rise to around 300m. The extensive forest cover of this area tends to 'flatten' and mask underlying topography and some occasional steeper slopes occur, notably at Pindonnan Craigs and at the transition with the *Rugged Hills, Lochs and Forest* (21) to the north.	Turbines could relate to the generally gently undulating landform of this character type although steeper hill slopes and occasional more diverse loch basins would be more sensitive. ***Medium-low sensitivity***	Turbines could relate to the generally gently undulating landform of this character type although steeper hill slopes and occasional more diverse loch basins would be more sensitive. ***Medium-low sensitivity***
Landscape pattern 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 in the Drumlamford and Corwar area are important in providing diversity and contrast within the character type.	While the simple pattern of commercial forestry generally reduces sensitivity, turbines of this size (and large numbers of turbines) sited within open moorland and farmland would diminish the visual contrast these more open and diverse areas provide with extensive forest cover. They would also be likely to detract from landmark lochs. ***Medium-low sensitivity***	While the simple pattern of commercial forestry generally reduces sensitivity, turbines of this size (and large numbers of turbines) sited within open moorland and farmland would diminish the visual contrast these more open and diverse areas provide with extensive forest cover. They would also be likely to detract from landmark lochs. ***Medium-low sensitivity***
Built environment This character type is very sparsely settled and accommodates only a few narrow minor public roads. The operational wind farms of Arecleoch and Mark Hill are dominant features. Small clusters of houses and estate buildings are located in the south-east of this landscape and some archaeological features also occur on the hill fringes	The presence of extensive operational and consented wind farms and the sparsely settled character of this landscape generally reduce sensitivity although this typology would affect the setting and scale of settlement if sited nearby. ***Medium-low sensitivity***	The presence of extensive operational and consented wind farms and the sparsely settled character of this landscape generally reduce sensitivity although this typology would affect the setting and scale of settlement if sited nearby. ***Medium-low sensitivity***
Perceptual qualities While wind farm development and forestry are key characteristics of this landscape, the eastern part of this landscape is remote and has some degree of wildness.	Sensitivity would be reduced in respect of perceptual qualities to the south of the Duisk Valley. To the north of the Duisk Valley, the sense of remoteness could be affected by very large turbines, particularly if illuminated. ***Medium sensitivity***	Sensitivity would be reduced in respect of perceptual qualities although there could be some diminishment of the sense of remoteness experienced in the area to the north of the Duisk Valley. ***Medium sensitivity***

Visual amenity The relatively subdued landform of this upland plateau, together with the very sparse settlement and restricted access, limits visibility of the interior of this landscape. This landscape is visible from the A714, B7027 and from the relatively little-used minor public road between New Luce and Barrhill. The rugged profile of the Merrick and the other Galloway and Carrick Hills provides a dramatic backdrop to views from this character type where open areas occur in dense forest cover and is a particular focus from the A714 south-east of Barrhill.	While the sparsely settled nature and limited accessibility of this character type reduces visual sensitivity, operational and consented wind farm development occupies much of the less visible interior of the southern parts of this landscape. Containing ridges and hills on the outer edges of this character type form the skyline to views from settled valleys and glens and are highly sensitive to intrusion. Views from the A714 to the Galloway and Carrick Forest Hills and also views from these hills could be significantly affected by turbines of this size especially if >150m and sited on the eastern fringes of this character type. ***High-medium sensitivity***	While the sparsely settled nature and limited accessibility of this character type reduces visual sensitivity, operational and consented wind farm development occupies much of the less visible interior of the southern parts of this landscape. Containing ridges and hills on the outer edges of this character type form the skyline to views from settled valleys and glens and are highly sensitive to intrusion. Views from the A714 to the Galloway and Carrick Forest Hills and views from these hills could be significantly affected, although the smaller turbines in this height band could minimise intrusion depending on location. ***Medium sensitivity***
Cumulative effects This landscape is characterised by extensive operational and consented wind farm development. The Kilgallioch, Chirmorrie and Arecleoch wind farms are located to the south of the Duisk Valley; the Mark Hill wind farm to the north. These wind farms are generally set back into the core of this upland plateau with relatively limited visibility occurring from the sensitive lower Duisk and Stinchar Valleys. The Kilgallioch, Chirmorrie and Arecleoch wind farms however form a substantial extent of development visible on the skyline of the *Plateau Moorlands* from the upper Duisk valley, particularly in views from the A714, east of Barrhill. The Hadyard Hill wind farm is located in LCT 17c and prominent in views from the upper Stinchar valley.	Turbines around 150m and below would fit with the size of the majority of operational and consented wind turbines already sited in this landscape. Turbines substantially higher than 150m and closer to 200m high could have significant cumulative effects if seen in close proximity with operational and consented turbines. The different spacing and design between wind farms may also result in cumulative effects. Cumulative effects could also occur on the sensitive Galloway Hills, diminishing the sense of wildness experienced with turbines closer to 200m likely to have an increased effect. New development sited in the north-west and east of this LCT could also have a dominant effect on settled valleys when seen with existing wind farms sited in this LCT and in LCT 17c. ***High-medium sensitivity***	Turbines towards the lower height band of this typology could contrast with the size of operational/consented wind turbines if sited nearby (although there is some scope to avoid contrasts of scale in the less developed northern part of this landscape, especially as this size of turbine would be more likely to comprise a single or very small group of turbines). ***Medium sensitivity***

21.2 Summary of sensitivity

This landscape forms an expansive upland plateau which extends into neighbouring Dumfries and Galloway to the south and south-east. It has a simple landform of broad rounded hills and shallow basins which form a low, even and generally indistinct backdrop to smaller scale settled valleys and glens within South Ayrshire. Land cover is dominated by coniferous forestry, particularly to the north of the Duisk Valley, with small areas of open moorland and moss mainly present on lower slopes at the transition with the Duisk and Stinchar valleys. Small pockets of rolling farmland, wooded policies, lochs and settlement are found in the south-eastern part of this landscape (and extend into Dumfries and Galloway). This landscape is sparsely settled with few roads. Extensive operational and consented wind farm development is a key feature of this landscape.

While the large scale, simple landform and land cover and sparsely settled nature of these uplands reduces sensitivity to larger turbines, the extent of operational and consented wind farm development already accommodated in the generally less sensitive parts of this landscape reduces scope for additional development. Remaining undeveloped areas in this landscape either lie closer to more sensitive features such as lochs and farmland, adjacent settled valleys and glens or landscapes with a strong sense of wildness. Potential cumulative effects with other wind farm developments in relation to turbine size, design and layout may also constrain development in parts of this landscape.

This sensitivity assessment considers the current baseline of operational, under-construction and consented wind farms and remaining scope for ***additional new wind farm development*** in undeveloped parts of the landscape character type.

Capacity is close to being reached in the part of this landscape lying to the south and south-east of the Duisk Valley with little scope for any additional larger wind turbines to be accommodated. Operational and consented wind farms already occupy much of the least sensitive 'interior' of these plateau uplands and any additional development would be likely to impinge on the more sensitive outer edges of these uplands. While some scope may exist for new development to the north of the Duisk Valley, the pronounced sense of remoteness experienced in this densely forested and very sparsely settled area would be likely to present a major constraint for development, and particularly for turbines >150m high which would need to be illuminated and would thus impact on dark skies.

Overall sensitivity to the Very Large typology (turbines >130m) is ***High-medium***. Sensitivity to the Large typology (70-130m) is ***Medium***.

There may be some potential for turbines over 130m high to be accommodated as part of ***repowering schemes*** for operational wind farms. This is addressed in more detail in the guidance below and in Annex D of this report with the Glen App, Arecleoch and Mark Hill wind farms considered as representative schemes within this landscape.

21.2.1 *Constraints*

- The outer edges of this upland plateau which form the immediate skyline to the smaller scale settled Duisk and Stinchar valleys and to the dramatic and strongly contained Glen App.
- Small pockets of farmland and lochs in the Drumlamford and Corwar area where small farms and houses, woodlands and rolling enclosed pastures provide ready scale references and a valuable contrast with extensive forestry.
- Steeper hill slopes and higher ground present in the north and east at the transition with the *Rugged Hills, Lochs and Forest* (21) character type.
- The strong sense of remoteness experienced within the forested plateau north of the Duisk Valley which influences its dark skies.
- Dramatic views to the Galloway Hills suddenly revealed when travelling south-east on the designated tourist route of the A714 as dense forest cover opens up in the Corwar area.
- The high, rugged Galloway Hills focused on Merrick within Dumfries and Galloway and the Carrick Forest Hills which are popular with walkers, offering a strong experience of wildness that could be diminished by development lying close-by and/or being perceived as incrementally encircling these hills.
- Potential cumulative effects with the operational and consented wind farms of Hadyard Hill, Arecleoch, Mark Hill, Kilgallioch and Chirmorrie on landscape character and views from the Stinchar and Duisk Valleys.

21.2.2 *Opportunities*

- The generally simple landform, expansive scale and uniform land cover of commercial coniferous forestry and the sparsely settled interior of this landscape where large turbines could be sited to minimise effects on adjacent smaller-scale valleys and glens.

21.3 Guidance for development

21.3.1 *Additional new development of larger turbines*

There is ***some limited*** scope for the Very Large typology (turbines >130m) to be accommodated within this landscape although capacity is close to being reached in the parts of this landscape character type which lie to the south of the Duisk valley. Development should be sited within the simpler basins and low hills lying in the interior of this upland plateau and set well back to avoid intrusion on adjacent smaller scale settled valleys and glens. The setting of the high rugged Galloway and Carrick Forest Hills is a key constraint to siting turbines in the eastern part of this character type, particularly turbines >150m which would be likely to be more intrusive and require lighting.

The Large typology (turbines 70-130m) could also be accommodated either as new developments, or extensions to operational wind farms if close in size to existing turbines although similar constraints apply in respect of minimising intrusion on adjacent settled valleys and glens.

All turbines should be sited to avoid rare small pockets of more diverse farmland. lochs and settlement in the Drumlamford/Corwar area close to the boundary with Dumfries and Galloway.

There is potential for wind farm development to accelerate positive change to existing commercial forestry within this character area. Any proposals for wind farm development should aim to improve the composition, age structure and design of existing forestry in accordance with current guidance. A high proportion of broadleaves species should be restocked on the fringes of moorland and pastures to ameliorate often geometric hard margins.

21.3.2 *Repowering of operational and consented wind farms*

There is some scope for replacing turbines within operational wind farms with larger turbines >130m high. Appropriate sizes of replacement turbines will be dependent on the siting of the original development and the ability of a redesigned layout to avoid significantly exacerbating landscape and visual effects on the sensitive valleys of the Duisk, Stinchar and Glen App and on the Merrick Wild Land Area. This may involve consideration of reducing the numbers of turbines and/or moving turbines sited closer to the outer edges of this landscape character type more into the interior to minimise effects.

21.3.3 *Guidance for accommodating turbines under 70m high*

Turbines <70m could potentially be accommodated as single or small groups of turbines but would need to be sited well away from operational and consented wind farms to minimise cumulative effects. Turbines could be sited on hill fringes and farmland although should avoid impacting on the small scale settled Duisk and Stinchar valleys and dominating small pockets of more diverse farmland and lochs in the south-east of this landscape. Turbines <50m high would be more likely to minimise landscape and visual effects in these areas.

The operational Mark Hill wind farm sited on a simple 'platform' above the Duisk valley

Long views across this relatively low-lying and expansive moorland and forested plateau to the Galloway and Carrick Forest Hills

The Arecleoch wind farm forms an extended band of turbines seen from the A714 in the upper Duisk valley – its impact is however lessened by being set within the core of a simple large scale upland plateau and also because turbines avoid higher summits.

More open hill fringes on the edge of the upper Duisk valley are sparsely settled with semi-improved and rough pasture and small conifer blocks

22 CHARACTER TYPE 20B: SOUTH AYRSHIRE SOUTHERN UPLANDS

22.1 Introduction

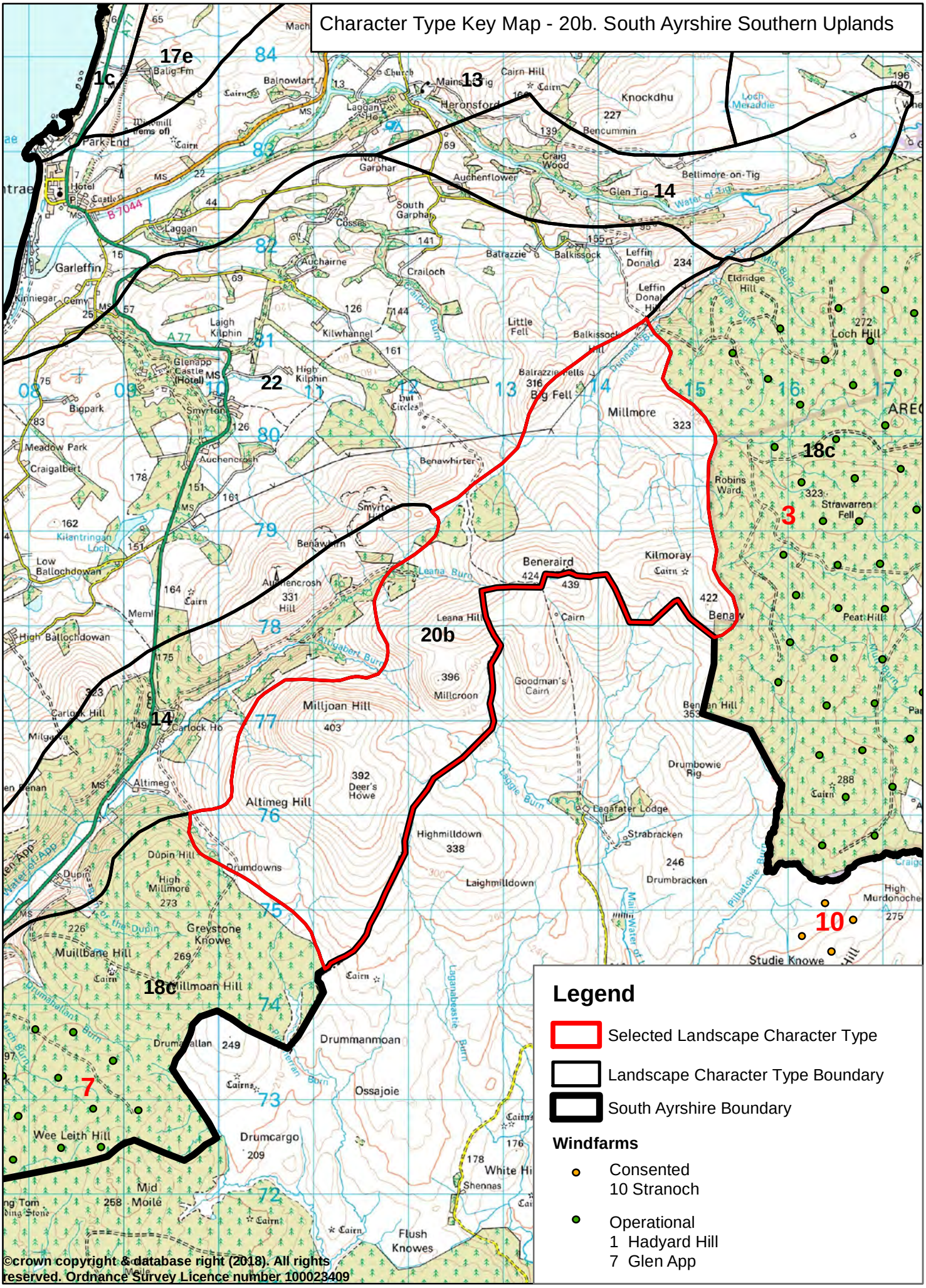
This sensitivity assessment is for the *South Ayrshire Southern Uplands* character type (20b) which lies in a single area close to Glen App.

The detailed assessment considers larger development typologies (turbines >50m) with key constraints and opportunities for smaller turbines briefly outlined in the summary and guidance section only.

22.1.1 *Operational/consented wind farms*

The operational Arecleoch windfarm (60 turbines, 120m high), Mark Hill (28 turbines, 110m high) and Glen App (11 turbines, 126.5m high) wind farms are wholly located within this character type in South Ayrshire. Approximately 12 turbines of the operational/under-construction 96 turbine Kilgallioch wind farm are located in the part of this landscape which lies in South Ayrshire (the remaining turbines lie in Dumfries and Galloway). The consented Chirmorrie wind farm (21 turbines, 146.5m) is also located in this character type in South Ayrshire.

The consented Stranoch wind farm is situated within the nearby *Plateau Moorlands* landscape character type in Dumfries and Galloway.



Character Type 20b: South Ayrshire Southern Uplands – Sensitivity assessment for large and medium typologies

Topic and summary description	**Assessment of large typology (70m+)**	**Assessment of medium typology (50-70m)**
Landscape context This area of the Southern Uplands comprises a narrow band of hills which strongly contain the dramatically incised Upland Glen (14) of Glen App to the south-east. They also form a backdrop to an extensive tract of lower-lying *Plateau Moorland with Forestry and Wind Farms* (18c) lying to the east and to a similarly large-scale upland basin to the south within neighbouring Dumfries and Galloway.	This typology would dominate the adjacent *Upland Glen* (14) of Glen App if sited so visible on containing skylines. Although the large scale, simple and sparsely settled *Plateau Moorland with Forestry and Wind Farms* (18c) and similar upland landscapes in Dumfries and Galloway are less sensitive, these hills contribute to the 'buffer' of higher ground which screens views of existing and potential wind farm development from smaller scale settled landscapes lying to the north-west within South Ayrshire. ***High sensitivity***	This typology would dominate the adjacent *Upland Glen* (14) of Glen App if sited so visible on containing skylines. Although the large scale, simple and sparsely settled *Plateau Moorland with Forestry and Wind Farms* (18c) and similar upland landscapes in Dumfries and Galloway are less sensitive, these hills contribute to the 'buffer' of higher ground which screens views of existing and potential wind farm development from smaller scale settled landscapes lying to the north-west within South Ayrshire. ***High sensitivity***
Scale The summits of these hills rise above 400m. The narrowness of this band of hills and the well-defined form of individual hills with confined summits and interlocking spurs and valleys, reduces scale however. These hills are open and unsettled.	The openness and absence of small features providing ready scale references reduces sensitivity although these hills form a narrow band and their confined summits and deeply cut slopes limit scope for multiple turbines. ***Medium sensitivity***	The openness and absence of small features providing ready scale references reduces sensitivity although these hills form a narrow band and their confined summits and deeply cut slopes limit scope for multiple turbines. ***Medium sensitivity***
Landform This narrow band of hills comprises the well-defined peaks of Beneraird and Milljoan. These hills predominantly have steep, smooth interlocking slopes cut by deeply incised burns and rounded summits but with some broader, more gently sloping slopes also present in places. The greater height and more pronounced form of these hills makes them stand out above the more subdued *Plateau Moorlands with Forestry and Wind Farms* (18c) when seen in glimpsed views from the A77 and hills such as Knockdolian.	Defined summits and steep slopes would be sensitive to any development and it would be difficult to attain a cohesive layout for larger wind farms due to the predominant complexity of landform. Even single and small numbers of this size of turbine sited on more gentle slopes would detract from the well-defined form of these hills. ***High-medium sensitivity***	Defined summits and steep slopes would be sensitive to any development and it would be difficult to attain a cohesive layout for larger wind farms due to the predominant complexity of landform. Even single and small numbers of this size of turbine sited on more gentle slopes would detract from the well-defined form of these hills. ***High-medium sensitivity***

Landscape pattern These uplands have a simple land-cover of grass moorland with occasional patchy heather. Some small mixed woodlands occur on lower slopes within the upper reaches of Glen App.	There is an absence of pattern which would theoretically be less sensitive to wind farm development although the openness of these hills is a valuable characteristic in terms of the contrast these uplands provide with densely forested surrounding landscapes. ***Medium sensitivity***	There is an absence of pattern which would theoretically be less sensitive to wind farm development although the openness of these hills is a valuable characteristic in terms of the contrast these uplands provide with densely forested surrounding landscapes. ***Medium sensitivity***
Built environment An unsettled landscape with no buildings or roads. A track, forming the historic route between Ballantrae and Stranraer, is aligned through these hills close to the summit of Beneraird. The Scotland-Ireland interconnector transmission line is aligned at the foot of north-western slopes.	There is scope for larger scale typologies to be accommodated without incurring significant effects on the setting and scale of settlement and other sensitive built features. ***Low sensitivity***	There is scope for larger scale typologies to be accommodated without incurring significant effects on the setting and scale of settlement and other sensitive built features. ***Low sensitivity***
Perceptual qualities These hills are little modified although their close proximity to large scale wind farm development and extensive commercial forestry in adjacent character types reduces the sense of wildness.	Wind turbines sited on these hills would further erode the sense of naturalness and seclusion. ***Medium sensitivity***	Wind turbines sited on these hills would further erode the sense of naturalness and seclusion. ***Medium sensitivity***
Visual amenity These hills are unsettled. The historic route between Ballantrae and Stranraer forms a track used by walkers. Views from the summit of Beneraird are panoramic with the sea, Ailsa Craig and Knockdolian Hill forming key foci. The operational Arecleoch wind farm forms a dominant feature in views inland. These hills are shielded by lower hills on the western edge of Glen App, limiting views to them from the A77 and settled coastal areas to the north-west in South Ayrshire. They are visible from small hill tops such as Knockdolian and there are also views from the sparsely settled upland plateau to the south within neighbouring Dumfries and Galloway where these hills form a prominent 'rim' to an extensive moorland basin.	Turbines sited on these hills would be seen in close proximity by walkers accessing the hill of Beneraird. They would also be prominent in views from Knockdolian and other nearby hills popular with walkers. This typology may be visible in views from the A714 within South Ayrshire and seen in conjunction with Arecleoch wind farm. They would be prominent in views from the plateau moorland to the south within Dumfries and Galloway although this area is sparsely settled. While the summits of these hills are not readily visible from Glen App and to the north-western coastal area of South Ayrshire, turbines of this height may be seen on key skylines. ***High sensitivity***	Turbines sited on these hills would be seen in close proximity by walkers accessing the hill of Beneraird. They would also be prominent in views from Knockdolian and other nearby hills popular with walkers. This typology may be visible in views from the A714 within South Ayrshire and seen in conjunction with Arecleoch wind farm. They would be prominent in views from the plateau moorland to the south within Dumfries and Galloway although this area is sparsely settled. Although the summits of these hills are not readily visible from Glen App and to the north-western coastal area of South Ayrshire, turbines of this height may be seen on key skylines ***High sensitivity***

Cumulative effects The operational Arecleoch, Kilgallioch, Glen App and Mark Hill wind farms are located within the extensive lower-lying *Plateau Moorland with Forestry and Wind Farms* (18c) which lies adjacent to this landscape. The consented Stranoch wind farm wind farm in Dumfries and Galloway is located to the south of this landscape. These operational and consented wind farms virtually encircle and lie very close to this small LCT.	Turbines sited on these hills would significantly affect the design rationale and setting of operational wind farms which are clearly associated with a more extensive lower-lying upland plateau with a simple landform. Turbines sited on these hills would be prominent and could adversely affect the design integrity of nearby wind farms seen in views from the A714 within the upper Duisk valley, from Glen App and from the coast, valleys and foothills of South Ayrshire to the north and west. The role of these hills in screening and separating wind farms would be breached if development were to be sited in this LCT. ***High sensitivity***	Turbines sited on these hills would significantly affect the design rationale and setting of operational wind farms which are clearly associated with a more extensive lower-lying upland plateau with a simple landform. Turbines sited on these hills would be prominent and could adversely affect the design integrity of nearby wind farms seen in views from the A714 within the upper Duisk valley, from Glen App and from the coast, valleys and foothills of South Ayrshire to the north and west. The role of these hills in screening and separating wind farms would be breached if development were to be sited in this LCT. ***High sensitivity***

22.2 Summary of sensitivity

This landscape comprises a small area of the *Southern Uplands* character type which extends into neighbouring Dumfries and Galloway. The *Southern Uplands* in this area form steep-sided open hills with confined rounded summits covered with heather-flecked grassland. These hills are higher than the extensive gently undulating plateau moorlands which abut them to the south and east. The hill of Beneraird lies close to the historic route between Ballantrae and Stranraer and is popular with walkers. Fine views across the outer Firth of Clyde to Ailsa Craig are possible from its summit. These hills are unsettled and little modified although operational and consented wind farm development and extensive commercial forestry is located close-by.

These hills are important in visually containing extensive lower-lying upland plateaux (and operational and consented wind farm developments) in both South Ayrshire and neighbouring Dumfries and Galloway. Their open character and well-defined form are also valuable in a context where extensive forestry strongly influences these adjacent upland landscapes. There would be a ***High*** sensitivity to the large and medium typologies (turbines >50m).

22.2.1 *Sensitivity to smaller typologies <50m*

There is unlikely to be a significant demand for smaller typologies within this unsettled upland area. The small-medium typology (30-50m) would have similar adverse effects on landform, visual amenity and cumulative effects as larger typologies (turbines >50m). The small typology (15-30m) would appear out of scale in relation to the size and openness of these unsettled uplands.

22.2.2 *Potential cumulative issues*

These *Southern Uplands* are important in visually containing an extensive lower-lying upland basin accommodating wind farms lying to the south within Dumfries and Galloway providing a 'buffer' preventing intrusion on more sensitive smaller scale settled landscapes within South Ayrshire including the *Upland Glen* (14) of Glen App and the *Glen App Rolling Farmland and Policies* (22). Development on these hills would introduce turbines into views from more sensitive settled landscapes to the north-west. It would also increase the extent of turbine development seen on containing (and more prominent) skylines from the lower Stinchar valley and from elevated roads and hill tops within the *Coastal Foothills* (17e).

22.2.3 *Constraints*

- The strong containment provided by this narrow band of steep-sided hills to the dramatically incised Glen App – although the summits of these hills are rarely visible from the *Upland Glen* (14) of Glen App and the *Glen App Rolling Farmland and Policies* (22), large turbines sited on their summits and upper slopes would be likely to be seen above sensitive containing skylines.
- The shapely interlocking landform of the steep-sided hills of Beneraird and Milljoan which have confined summits and are deeply cut by valleys.

- Extensive commercial forestry and large-scale wind farm development within adjacent upland areas both in South Ayrshire and Dumfries and Galloway which increases the value of these more diverse, open and little modified hills.
- The historic route between Ballantrae and Stranraer which passes close to Beneraird and provides a popular access route for walkers to this hill who experience fine views of the sea and Ailsa Craig from its summit.
- The importance of these hills in providing a rim of higher ground containing lower-lying plateau moorlands to the south within Dumfries and Galloway and thus limiting visibility of consented wind farm development sited in this more expansive and simple upland landscape.
- The established association of the operational Arecleoch, Glen App, Kilgallioch and Mark Hill wind farms sited in the adjacent *Plateau Moorland with Forestry and Wind Farms* (18c) with an extensive, simple and relatively low-lying landscape, avoiding higher more prominent hills – turbines sited on these hills would be contrary to this design rationale and affect the integrity of these developments leading to significant cumulative effects.

22.2.4 *Opportunities*

- There are no opportunities to accommodate wind turbines in this character type.

22.3 Guidance for development

It is recommended that there is ***no scope*** for any size of turbine to be accommodated in this landscape.

This character type forms a 'rim' of higher hills containing an extensive lower-lying upland plateau within Dumfries and Galloway

The hill of Beneraird extends above the Stinchar valley – seen in the far distance of this view from Knockdolian Hill.

23 CHARACTER TYPE 21: RUGGED UPLANDS WITH LOCHS AND FOREST

23.1 Introduction

This sensitivity assessment is for the *Rugged Uplands with Lochs and Forests* character type which lies in the Carrick Forest and Loch Doon area within East and South Ayrshire. The craggy granite hills which lie at the core of this landscape extend southwards into Dumfries and Galloway and culminate in the dramatic high hills of Merrick and the Rhinns of Kells.

This landscape is very sparsely settled and the detailed assessment therefore focuses on larger development typologies (turbines >50m) with key constraints and opportunities for smaller turbines briefly outlined in the summary and guidance section only.

23.1.1 *Operational/consented wind farms*

There are no operational or consented wind turbines within this character type.

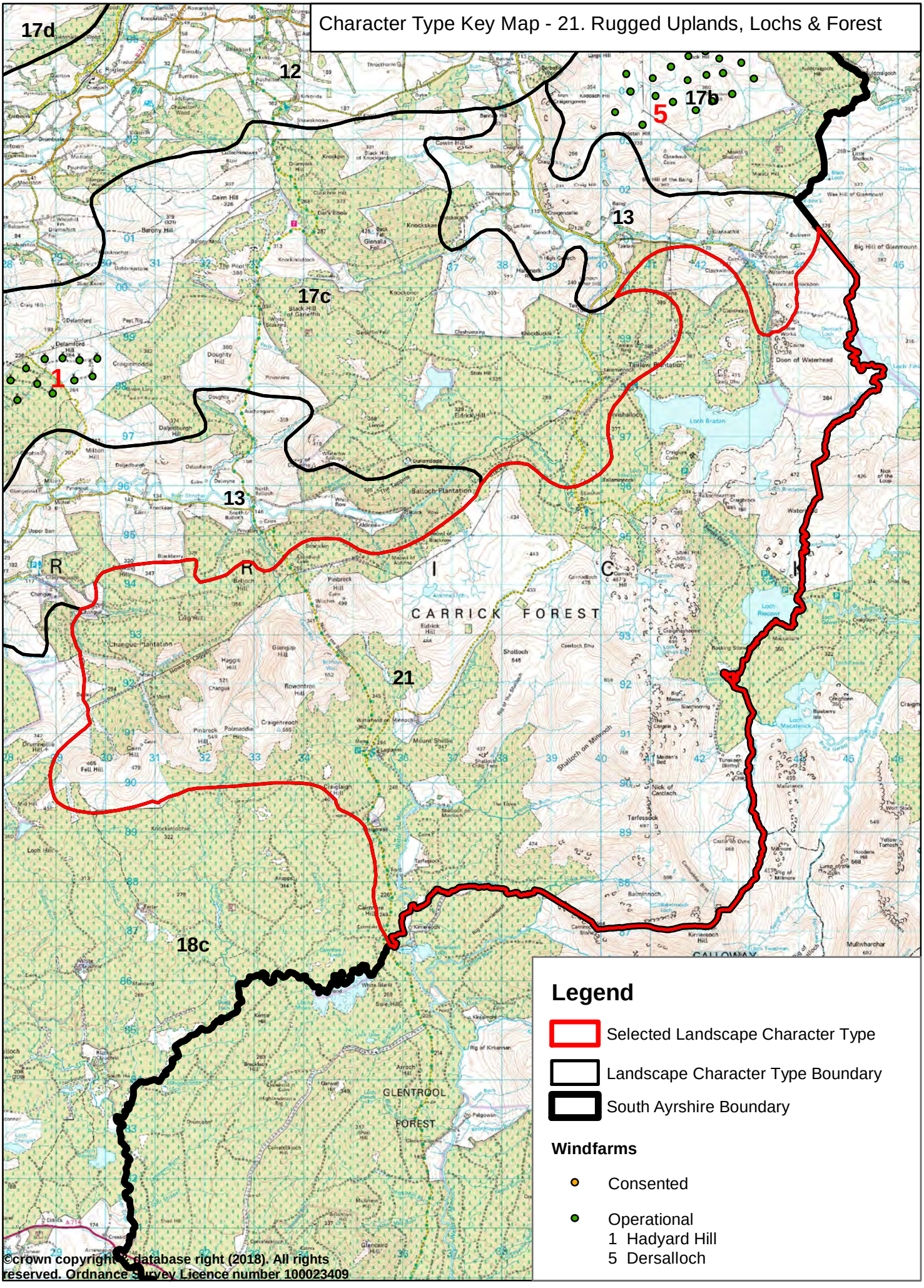
The operational Windy Standard II wind farm and the consented South Kyle and Benbrack wind farms are located within the *Southern Uplands with Forestry* (20c) character type, located in both East Ayrshire and neighbouring Dumfries and Galloway. These developments will cumulatively present an extensive band of turbines (98 turbines between 120m and 149m high) to the east of Loch Doon.

The operational Mark Hill, Arecleoch and Kilgallioch wind farms are located in the nearby *South Ayrshire Plateau Moorland with Forest and Wind Farms* (18c) landscape character type and together form a very extensive array of 185 turbines between 110m and 146m. The consented Chirmorrie wind farm lies between the Kilgallioch and Arecleoch wind farms.

The operational Hadyard Hill wind farm (52 turbines, 111m high) located within the *Foothills with Forest and Wind Farm* (17c) and the Dersalloch wind farm (23 turbines 115/125m) located in the *Foothills West of Doon Valley* (17b) character types, both in South Ayrshire.

These wind farms are especially visible from the higher hills within this character type (generally seen at distances of between 5km and 20km) although other wind farm developments sited within neighbouring Dumfries and Galloway are also visible.

Character Type Key Map - 21. Rugged Uplands, Lochs & Forest



Character Type 21: Rugged Uplands with Lochs and Forests – Sensitivity assessment for large and medium typologies

Topic and summary description	Assessment of large typology (70m +)	Assessment of medium typology (50-70m)
Landscape context This character type is generally remote from more settled lowland areas although lower rugged hills in the north of this landscape provide an integral part of the setting to the diverse *Upland River Valley* (10) of the Doon Valley which accommodates Craigengillan House and its designed landscape. The higher hills lying at the core of this landscape form a rugged mountainous backdrop in distant views from elevated roads within the more open parts of the *Foothills* (17c) and *Plateau Moorland* (18c) landscapes of South Ayrshire. This landscape forms part of an expansive upland area which extends southwards into Dumfries and Galloway.	This typology would detract from the dramatic mountainous backdrop these uplands provide to the upper Doon Valley and the Craigengillan designed landscape. Some parts of this character type are less visible however and the extensiveness of these uplands and their distance from the smaller scale settled lowlands reduces sensitivity in relation to landscape context. ***Medium sensitivity***	This typology would detract from the dramatic mountainous backdrop these uplands provide to the upper Doon Valley and the Craigengillan designed landscape. Some parts of this character type are less visible however and the extensiveness of these uplands and their distance from the smaller scale settled lowlands reduces sensitivity in relation to landscape context ***Medium sensitivity***
Scale Relief ranges from around 300m with higher hills between 500 and 768m. Although the hills have a large vertical scale they commonly have confined pronounced summits. The complex form of this landscape creates myriad narrow valleys and loch basins which are strongly contained and of a smaller scale.	Occasional broader open basins and hill slopes would be less sensitive. Complex small knolly hills, narrow valleys, small loch basins and confined summits would be of increased sensitivity to turbines of this size. ***High-medium sensitivity***	Occasional broader open basins and hill slopes would be less sensitive. Complex small knolly hills, narrow valleys, small loch basins and confined summits would be of increased sensitivity to turbines of this size. ***High-medium sensitivity***
Landform Exposed crags and boulders give a notably 'Highland' appearance to steep-sided north/south orientated granite ridges. The landform of the western *Southern Uplands* is less craggy but still features steep-sided interlocking rounded hills and the dramatic cleft of the Nick of the Balloch. Some smoother and gentler hill slopes occur on the edge of loch basins although generally the scenery is rugged and dramatic.	Turbines would significantly detract from the distinctive craggy, irregular landform of these uplands and it would be difficult to attain a cohesive layout for larger developments due to the complexity of landform. Turbines of this size (which may comprise wind farms) sited on occasional smoother gentler hill slopes would detract from nearby more complex landform. ***High sensitivity***	Turbines would significantly detract from the distinctive craggy irregular landform of these uplands. There may some very limited scope to site single or very small groups of turbines towards the lower height band of this typology on occasional smoother lower slopes and ridges yet minimise effects on adjacent more complex landform features. ***High-medium sensitivity***

Landscape pattern While vegetation cover is simple, largely comprising grass moorland with patchy heather, the landscape is strongly patterned in places with exposed rock. A number of lochs, of which Loch Doon is the largest, are located on the lower northern edge of the more pronounced granite peaks and these add to the diversity of this landscape. Coniferous forestry extends into some of the valleys on lower hill slopes and fringing lochs.	Turbines, access roads and other ancillary development would detract from the predominantly complex pattern of this landscape. Broader, smoother hill slopes covered with a simpler pattern of moorland or coniferous forestry would be less sensitive in this respect although there could be impacts on the setting of landmark hills and lochs. ***High-medium sensitivity***	Turbines, access roads and other ancillary development would detract from the predominantly complex pattern of this landscape. Broader, smoother hill slopes covered with a simpler pattern of moorland or coniferous forestry would be less sensitive in this respect although there could be impacts on the setting of landmark hills and lochs. ***High-medium sensitivity***
Built environment This landscape is very sparsely settled with small farms and occasional estate houses sited on the west side of Loch Doon and with some archaeological features on small knolly hills. A public road is aligned on the west side of Loch Doon and the Carrick Forest Drive links with this and the minor road south of Straiton. Forest tracks are present on lower hill slopes.	The sparsely settled nature of this landscape reduces sensitivity although the setting of archaeological features may be a constraint. ***Medium-low sensitivity***	The sparsely settled nature of this landscape reduces sensitivity although the setting of archaeological features may be a constraint. ***Medium-low sensitivity***
Perceptual qualities The very sparsely settled nature of this landscape and difficulty of access, particularly to the higher and more rugged hills extending north from Merrick, can give a strong sense of seclusion. The rugged landform and lochs (where not impounded) have strong natural qualities although commercial coniferous woodland diminishes this in places.	Wind farm development, and particularly larger typologies, would significantly diminish the strong sense of naturalness and remoteness which is more likely to be experienced in the upland core of this landscape. ***High sensitivity***	Wind farm development, and particularly larger typologies, would significantly diminish the strong sense of naturalness and remoteness which is more likely to be experienced in the upland core of this landscape. ***High sensitivity***
Visual amenity This landscape is popular with walkers and cyclists. The Merrick and Rhinns of Kells in Dumfries and Galloway, Cornish Hill and Shalloch on Minnoch offer elevated views and there are a number of footpaths in the area west of Loch Doon. There are few public roads and views are generally limited from these by landform and forestry although the Straiton to Newton Stewart Road offers more open views in the Carrick	Although the interior valleys and basins within this landscape are less visible from external view, the popularity of the higher hills with walkers increases sensitivity to wind farm development even in more visually contained areas. Turbines sited on hill tops and ridges within this character type would be prominent in views from lochs and footpaths within this character	Although the interior valleys and basins within this landscape are less visible from external view, the popularity of the higher hills with walkers increases sensitivity to wind farm development even in more visually contained areas. Turbines sited on hill tops and ridges within this character type would be prominent in views from lochs and footpaths within this character type and in views from more elevated roads in the

Forest area.	type and in views from more elevated roads in the surrounding area. ***High sensitivity***	surrounding area. ***High sensitivity***
Cumulative effects There are no operational or consented wind farm developments in this landscape character type. Extensive wind farm development is/will be a key feature in the nearby uplands of *Southern Uplands with Forestry* (20c) and the *South Ayrshire Plateau Moorlands with Forest and Wind Farms* (18c) and is clearly visible from the open hills within this landscape.	Wind farm development sited in this landscape could have cumulative effects on the setting and views from the Loch Doon area in combination with the existing and consented Windy Standard developments. ***High-medium sensitivity***	This typology is more likely to comprise single or very small groups of turbines and as such it would present a clear contrast with the more extensive wind farms sited in nearby upland areas. Cumulative effects could occur however on the setting and views from the Loch Doon area in combination with operational and consented developments sited in the *Southern Uplands with Forest* (20c) in East Ayrshire. The use of turbines towards the lower height band of this typology would minimise cumulative effects. ***Medium sensitivity***

23.2 Summary of sensitivity

This character type extends south into Dumfries and Galloway encompassing an extensive upland tract which includes the high hills of Merrick and the Rhinns of Kells. The dramatic craggy mountainous scenery, which is a feature of the granite hills lying at the core of this landscape, is enhanced by a band of smoother, more rounded but steep-sided hills lying to the west and Loch Doon and other smaller lochs which lie within a rough basin of moorland, wetland and forest to the east. The complex landform and land cover, including the varied pattern of lochs and mature woodland and heather moor, is more reminiscent of a typically Highland landscape and this character type is highly scenic and a popular destination for recreation. This landscape is also very sparsely settled and, although it features some commercial forestry and impounded lochs, a strong sense of seclusion and naturalness can be experienced, particularly within the rugged hills lying at its core.

These scenic and rugged hills, lochs and forests are important within East Ayrshire in providing a little modified landscape which is highly valued for recreation. There would be an overall ***High*** sensitivity to both the large and medium wind turbine typologies (turbines >50m).

23.2.1 *Potential cumulative issues*

The following issues may arise in association with any potential developments sited in adjacent landscapes:

- Incremental effects of multiple wind farm developments located in surrounding upland landscapes on key views from this character type, including those from the higher, popularly accessed hills such as the Corbett Shalloch on Minnoch and from Loch Doon, and on the perception of wildness.

23.2.2 *Constraints*

- The strong enclosure provided by the complex craggy landform and the often small-scale landform features including narrow valleys, lochans, knolls and confined hill summits.
- The dramatic rugged hills of this landscape which form a scenic western backdrop to Loch Doon, the upper Doon Valley (including Craigengillan House and its designed landscape) and are also visible from the more open parts of the *Foothill* (17b and 17c) landscapes within South Ayrshire.
- The complexity of the topography which features craggy and steep-sided hills and an intricate pattern of lochs and diverse vegetation cover.
- The distinct sense of wildness that can be experienced within the more difficult to access core hills, accentuated by the sparse settlement and naturalness of open rough ground and unmodified lochs (these qualities also contribute to the ‘Dark Skies’ designation).
- The popularity of this landscape for recreational pursuits including walking and cycling and its role in providing respite from nearby more developed landscapes within East Ayrshire.

23.2.3 *Opportunities*

- Smoother lower hill slopes on the outer fringes of this character type and within forest clearings where the small typology (turbines 15-30m) could be sited in association with existing buildings providing turbines did not intrude on key views.

23.3 Guidance for development

There is ***no scope*** for turbines >50m high to be accommodated in this landscape.

The detailed sensitivity assessment considers larger typologies only. Smaller turbines <50m would not fit with the more expansive scale of the higher hills of this landscape. They would also have a similarly detractive effect on the often complex landform of this landscape and would impact on perceived qualities of wildness, particularly experienced within the more rugged core hills. There would however be some very limited scope to site small turbines <20m so associated with more settled lower hill slopes. Turbines should avoid being sited between the public road and the shore of Loch Doon in order to minimise visual intrusion. Detailed siting and design should accord with the guidance set out in Annex F of this report.

The smoother but steep-sided hills which contain Nick o' the Balloch

Loch Doon and the backdrop of high craggy hills lying at the core of this landscape seen from the A713

Loch Doon with its naturalistic scrub and wetland margins and diverse form forms the largest of the lochs which are a key characteristic of this landscape.

The spine of high craggy granite hills extend southwards to the Merrick Wild Land Area in Dumfries and Galloway

24 CHARACTER TYPE 22: GLENAPP COASTAL FARMLAND AND POLICIES

24.1 Introduction

This character type only occurs in a single area in Ayrshire. It comprises the rolling coastal farmland and policies surrounding the Glenapp Estate in the south-western edge of South Ayrshire.

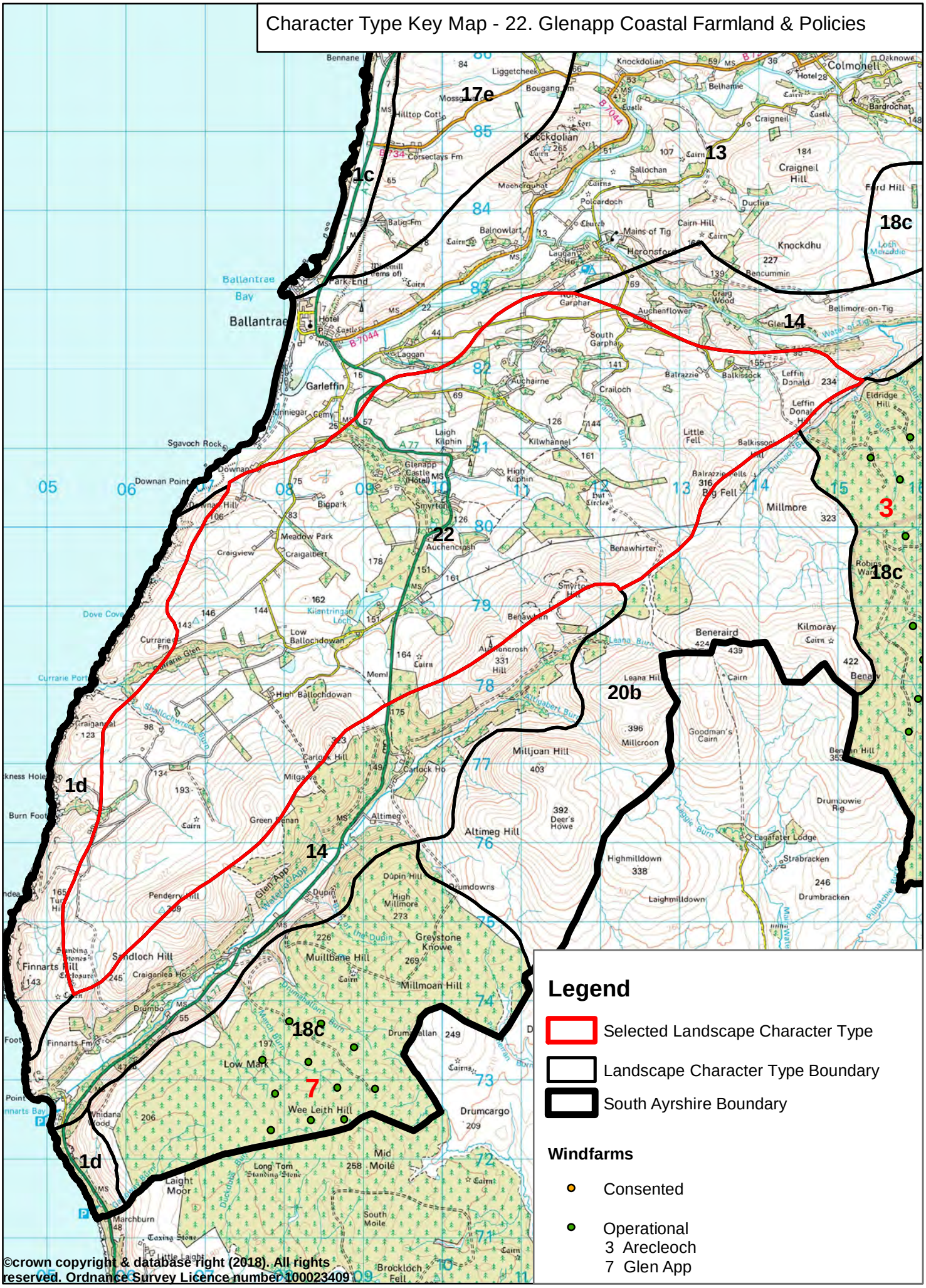
The detailed assessment considers both larger and smaller development typologies.

24.1.1 *Operational/consented wind farms*

No operational or consented wind turbines are located in this character type.

Limited views of the operational Arecleoch and Glen App wind farms sited in the nearby *Plateau Moorland with Forestry and Wind Farms* (18c) are possible from the more elevated parts of this landscape character type.

Character Type Key Map - 22. Glenapp Coastal Farmland & Policies



Character Type 22: Glenapp Coastal Farmland and Policies – Sensitivity assessment for large and medium typologies

Topic and summary description	Assessment of large typology (70m +)	Assessment of medium typology (50-70m)
Landscape context This landscape is relatively limited in extent. A narrow band of hills provide strong containment on the south-eastern edge of this landscape, restricting inter-visibility with the adjacent *Upland Glen* (14) of Glen App and the more extensive upland landscapes which extend into Dumfries and Galloway. This landscape backs the *Raised Beach Coast with Rocky Shore* (1d). Inter-visibility with the coast is limited by the steep face of the cliffs, although there is a gradual merging where farmland extends across the boundary between these LCTs.	Turbines sited on lower hill slopes within this landscape would be visually contained by the higher band of hills, limiting effects on landscapes lying to the south-east. Turbines sited on the upper slopes and tops of these hills would however intrude on sensitive skylines containing the *Upland Glen* (14) of Glen App. This typology would also have significant effects on the appreciation of the highly sensitive small scale, complex and wild *Raised Beach Coast with Rocky Shore* (1d). It would also impact on the wider setting of the Firth of Clyde as experienced from the sea. ***High sensitivity***	Turbines sited on lower hill slopes within this landscape would be visually contained by the higher band of hills, limiting effects on landscapes lying to the south-east. Turbines sited on the upper slopes and tops of these hills would however intrude on sensitive skylines containing the *Upland Glen* (14) of Glen App. This typology would also have significant effects on the appreciation of the highly sensitive small scale, complex and wild *Raised Beach Coast with Rocky Shore* (1d). It would also impact on the wider setting of the Firth of Clyde as experienced from the sea. ***High sensitivity***
Scale The rolling and often complex landform of this landscape and the containment provided by the rich pattern of woodlands (particularly in the north-east) gives a relatively small scale. This landscape becomes more open to the south-west and on the hills which form the south-eastern boundary of this character type. The narrow band of well-defined hills on the south-eastern boundary of this character type are however relatively low in relief when appreciated from key viewpoints such as the A77. Regularly dispersed small farms and houses dot this landscape and it is particularly well-settled within the more sheltered northern area away from the coast.	This typology would dominate the scale of this landscape which is influenced by the rolling and often complex landform, small intricately patterned woodlands, individual trees and field enclosures and small buildings. Turbines of this size would overwhelm the vertical scale of the hills which lie on the south-eastern boundary of the LCT. ***High sensitivity***	This typology would dominate the scale of this landscape which is influenced by the rolling and often complex landform, small intricately patterned woodlands, individual trees and field enclosures and small buildings. Turbines of this size would appear overly large in relation to the vertical scale of the hills which lie on the south-eastern boundary of the LCT. ***High sensitivity***
Landform The majority of this landscape comprises a rolling gently north-west sloping platform elevated above the	There are few areas of flatter or gently undulating landform sufficiently extensive to accommodate multiple turbines of this typology. More complex landform at the transition with the coast and	There are few areas of flatter or gently undulating landform sufficiently extensive to accommodate multiple turbines of this typology. More complex landform at the transition with the coast and

coastal edge which is cut by deeply incised valleys which run down to the sea. Rounded ridges occur between valleys and the topography becomes more complex and interlocking in the north and at the transition with *Raised Beach Coast with Rocky Shore* (1d). The well-defined knolly Finnarts Hill and Downan Hill along the coast and the band of craggy topped hills which form the south-eastern border of this character (and particularly the distinctly conical Carlock Hill) form key landmark features.	associated with the more deeply rolling north-eastern part of this landscape would be particularly sensitive to this typology. Turbines of this size would significantly detract from the many landmark hills which are a key characteristic of this landscape and which are highly visible along the South Ayrshire coast and from the A77. ***High sensitivity***	associated with the more deeply rolling north-eastern part of this landscape would be particularly sensitive to this typology. Turbines of this size would significantly detract from the many landmark hills which are a key characteristic of this landscape and which are highly visible along the South Ayrshire coast and from the A77. ***High sensitivity***
Landscape pattern Small hedged and fenced pastures and long snaking broadleaved shelterbelts divide small to medium rolling pastures. Mature roadside plantings of beech and stands of Scots pine feature and diverse riparian woodlands sit within steep-sided valleys. The influence of the Glenapp estate is evident in extensive policy woodlands and an arboretum around the Castle. Woodland cover is more intricately patterned in the sheltered north-eastern part of this landscape. Open rough pasture and grassland flecked with heather occurs in the more exposed south-west and on the containing hills on the south-eastern boundary of this landscape.	Turbines of this height would detract from the often diverse patterns of woodland, ornamental plantings, strongly enclosed pastures and field/road trees found on lower slopes and particularly in the north-east of this landscape. Less diverse upper hill slopes and more open pasture to the south-west would have a reduced sensitivity although still lie close to more strongly patterned areas. ***High-medium sensitivity***	Turbines of this height would detract from the often diverse patterns of woodland, ornamental plantings, strongly enclosed pastures and field/road trees found on lower slopes and particularly to the north-east of this landscape. There may be some scope to site turbines towards the lower height band of this typology on more open upper slopes to minimise effects on more strongly patterned areas. ***Medium sensitivity***
Built environment This landscape is accessed by a network of narrow twisting roads. The A77 trunk route is also aligned through this landscape. The Moyle Inter-connector transmission line is aligned to a substation at Auchencrosh. Glenapp Castle is located at the core of this landscape although it is not readily visible because of its densely wooded setting. Dispersed farms are commonly tucked down onto lower hill slopes and on the upper edges of valleys although there are some	This typology would dominate and detract from the setting of Glenapp Castle and its designed landscape if sited nearby or if visible in key views between the Castle and the sea. Turbines of this size would dominate the setting and scale of farm buildings if sited close-by although more sparsely settled south-western area would be less sensitive in relation to potential impact on the setting and scale of buildings. Downan Hill is very sensitive in relation to the setting of Ballantrae.	This typology would dominate and detract from the setting of Glenapp Castle and its designed landscape if sited nearby or if visible in key views between the Castle and the sea. Turbines of this size would dominate the setting and scale of farm buildings if sited close-by although more sparsely settled south-western area would be less sensitive in relation to potential impact on the setting and scale of buildings. Downan Hill is very sensitive in relation to the setting of Ballantrae.

relatively large isolated farm buildings in more prominent locations. The south-western extremity of this landscape is more sparsely settled. The landmark Downan Hill contributes to the setting of Ballantrae in views along the coast.	The character of narrow roads could be affected by transportation of turbines. ***High-medium sensitivity***	The character of narrow roads could be affected by transportation of turbines. ***High-medium sensitivity***
Perceptual qualities The more exposed south-western extremity is strongly influenced by the rugged coastal edge and sea and has a distinct sense of wildness. While the remainder of this landscape is more settled the policies of Glenapp estate have some historical integrity.	This typology would affect the experience of wildness if sited close to the coast. Elsewhere sensitivity is reduced in relation to wildness although the introduction of turbines of this size could adversely affect other perceptual qualities. ***Medium sensitivity***	This typology would affect the experience of wildness if sited close to the coast. Elsewhere sensitivity is reduced in relation to wildness although the introduction of turbines of this size could adversely affect other perceptual qualities. ***Medium sensitivity***
Visual amenity The route of the Ayrshire Coastal Path traverses the south-western extremity of this landscape before dropping down at Turf Hill to follow the coast. Downam Hill and Carlock Hills form key visual foci in views along the coast and from the A77 and Ballantrae. There are also views of the south-western part of this character area (and particularly Finnarts and Penderry Hills) from the ferry from Northern Ireland, which arrives in Scotland at Cairn Ryan. Rolling landform and woodland can restrict visibility from minor roads and visibility is also restricted from the A77 although there are more elevated open views across the south-western part of this landscape and to the sea south of Glenapp Castle before this road drops down into Glen App. Long views to the sea are dramatic from more open and elevated areas. There are relatively close views of this landscape from popularly accessed hills including Beneraird and Knockdolian in the surrounding area.	Although the south-western tip of this landscape is screened to some degree by the band of hills on its south-eastern edge, there would be close views from the Ayrshire Coastal Path and turbines of this size would also be likely to be seen in long views along the coast and from the A77. Turbines of this size sited on the band of hills along the south-eastern boundary of this character type would be highly visible in views from Ballantrae, Loch Ryan and could also significantly intrude on views from Glen App if sited on prominent skylines. Views to the sea from more open and elevated sections of the A77, minor roads and from settlement and Glenapp Castle and its designed landscape would be highly sensitive to intrusion from turbines of this size. ***High sensitivity***	Although the south-western tip of this landscape is screened to some degree by the band of hills on its south-eastern edge, there would be close views from the Ayrshire Coastal Path and turbines of this size would also be likely to be seen in long views along the coast and from the A77. Turbines of this size sited on the band of hills along the south-eastern boundary of this character type would be highly visible in views from Ballantrae, Loch Ryan and could also significantly intrude on views from Glen App. Views to the sea from more open and elevated sections of the A77, minor roads and from settlement and Glenapp Castle and its designed landscape would be highly sensitive to intrusion from turbines of this size. ***High sensitivity***
Cumulative effects The Arecleoch wind farm is partially visible in close	Cumulative effects could arise where this typology was seen in close proximity to the	Cumulative effects could arise where this typology was seen in close proximity to the

proximity in the Auchenflower area. The Glen App wind farm is also briefly seen from the A77 and higher more ground in this LCT.	Arecleoch wind farm where it could appear as if similarly large turbines were 'spilling down' over the skyline edge of the *Plateau Moorland with Forestry and Wind Farms* (18c) character type and would be contrary to the established association of larger turbines with much more extensive uplands. ***Medium-low sensitivity***	Arecleoch wind farm. Although smaller than the turbines of this operational wind farm, this size of turbine would still appear very large in close views from roads and settlement and would be could also appear to spill over the upland edge and would be contrary to the established association of larger turbines with much more extensive uplands. ***Medium-low sensitivity***

Character Type 22: Glenapp Coastal Farmland and Policies – Sensitivity assessment for small-medium and small typologies

Topic and summary description	Assessment of small-medium typology (30m-50m)	Assessment of small typology (15m-30m)
Landscape context This landscape is relatively limited in extent. A narrow band of hills provide strong containment on the south-eastern edge of this landscape, restricting inter-visibility with the adjacent *Upland Glen* (14) of Glen App and the more extensive upland landscapes which extend into Dumfries and Galloway. This landscape backs the *Raised Beach Coast with Rocky Shore* (1d). Inter-visibility with the coast is limited by the steep face of the cliffs, although there is a gradual merging where farmland extends across the boundary between these LCTs.	Turbines sited on lower hill slopes within this landscape would be visually contained by the higher band of hills, limiting effects on landscapes lying to the south-east. Turbines sited on the upper slopes and tops of these hills would however intrude on sensitive skylines containing the *Upland Glen* (14) of Glen App. This typology could also have significant effects on the appreciation of the highly sensitive *Raised Beach Coast with Rocky Shore* (1d) although there may be some limited scope to set these smaller turbines back from the coast to minimise intrusion on this LCT and on the wider setting of the Firth of Clyde as experienced from the sea. ***High-medium sensitivity***	This typology would have minimal effects on surrounding landscapes although turbines should still be set well back from the highly scenic rugged coast and avoid intrusion on sensitive skylines above Glen App. ***Medium sensitivity***
Scale The rolling and often complex landform of this landscape and the containment provided by the rich pattern of woodlands (particularly in the north-east) gives a relatively small scale. This landscape becomes more open to the south-west and on the hills which form the south-eastern boundary of this character type. The narrow band of well-defined hills on the south-eastern boundary of this character type are however relatively low in relief when appreciated from key viewpoints such as the A77. Regularly dispersed small farms and houses dot this landscape and it is particularly well-settled within the more sheltered northern area away from the coast.	This typology would appear very large in relation to the scale of much of this landscape which is influenced by the rolling and often complex landform, small intricately patterned woodlands, individual trees and field enclosures and small farms and houses. It would have less of a dominant effect on the scale of the hills which lie on the south-eastern boundary however and there is some limited scope to site turbines of this size in more open and sparsely settled areas to minimise conflicts of scale. ***High-medium sensitivity***	There is increased scope to site these smaller turbines to avoid significant conflicts of scale as they would relate better to the size of landform features, woodlands and buildings and multiple turbines of this size could also be accommodated within this landscape. ***Medium sensitivity***
Landform The majority of this landscape comprises a gently	More complex landform at the transition with the coast and associated with the more deeply rolling north-eastern part of this landscape would be	This smaller typology is less likely to involve significant numbers of turbines thereby reducing

rolling north-west sloping platform elevated above the coastal edge which is cut by deeply incised valleys which run down to the sea. Rounded ridges occur between valleys and the topography becomes more complex and interlocking in the north and at the transition with *Raised Beach Coast with Rocky Shore* (1d). The well-defined knolly Finnarts Hill and Downan Hill along the coast and the band of craggy topped hills which form the south-eastern border of this character (and particularly the distinctly conical Carlock Hill) form key landmark features.	sensitive to this typology. Turbines of this size would also significantly detract from the many landmark hills which are a key characteristic of this landscape and which are highly visible along the South Ayrshire coast and from the A77. Areas with a simpler landform including gentle lower hill slopes, dips and broader terraces would have a better relationship with turbines of this size. ***High-medium sensitivity***	potential impacts associated with producing an integrated layout and access tracks in more complex rolling landform. The landmark hills, tops of knolls and areas with a more complex interlocking rolling landform at the transition with the coast and in the north-eastern part of this landscape are sensitive although there is scope for turbines to be related to slacker hill slopes and terraces. ***Medium sensitivity***
Landscape pattern Small hedged and fenced pastures and long snaking broadleaved shelterbelts divide small to medium rolling pastures. Mature roadside plantings of beech and stands of Scots pine feature and diverse riparian woodlands sit within steep-sided valleys. The influence of the Glenapp estate is evident in extensive policy woodlands and an arboretum around the Castle. Woodland cover is more intricately patterned in the sheltered north-eastern part of this landscape. Open rough pasture and grassland flecked with heather occurs in the more exposed south-west and on the containing hills on the south-eastern boundary of this landscape.	Turbines of this size would detract from areas with a strong enclosure pattern, policy woodlands and field trees. Areas with a simpler land cover pattern, including the more open areas of rough pasture and grassland moorland in the south-west and on lower hill slopes would be less sensitive. ***High-medium sensitivity***	This typology could be more easily accommodated without detracting from more pronounced land cover pattern although the Glenapp designed landscape and particularly intricately patterned woodlands and small rolling pastures characteristic of the lower north-eastern part of this character type are of increased sensitivity. ***Medium sensitivity***
Built environment This landscape is accessed by a network of narrow twisting roads. The A77 trunk route is also aligned through this landscape. The Moyle Inter-connector transmission line is aligned to a substation at Auchencrosh. Glenapp Castle is located at the core of this landscape although it is not readily visible because of its densely wooded setting. Dispersed farms are commonly tucked down onto lower hill slopes and on the upper edges of valleys although	There would be increased scope to site this size of turbine in less well settled areas to minimise effects on the setting and scale of settlement and Glenapp Castle and its designed landscape. ***Medium sensitivity***	These smaller turbines are more likely to be able to be partially screened by landform and vegetation and would have a less dominant scale providing greater opportunities to site this typology to minimise effects on setting. ***Medium-low sensitivity***

there are some relatively large isolated farm buildings in more prominent locations. The south-western extremity of this landscape is more sparsely settled. The landmark Downan Hill contributes to the setting of Ballantrae in views along the coast.		
Perceptual qualities The more exposed south-western parts of this landscape are strongly influenced by the rugged coastal edge and sea and have a distinct sense of wildness. While the remainder of this landscape is more settled the policies of Glenapp estate have some historical integrity.	This typology would still have a significant impact on the experience of wildness if sited close to the coast and the core of the Glenapp estate would also be sensitive. ***Medium sensitivity***	This small typology would have minimal effects on perceptual qualities but would still need to be set well back from the more sensitive coast. ***Medium-low sensitivity***
Visual amenity The route of the Ayrshire Coastal Path traverses the south-western extremity of this landscape before dropping down at Turf Hill to follow the coast. Downam Hill and Carlock Hills form key visual foci in views along the coast and from the A77 and Ballantrae. There are also views of the south-western part of this character area (and particularly Finnarts and Penderry Hills) from the ferry from Northern Ireland, which arrives in Scotland at Cairn Ryan. Rolling landform and woodland can restrict visibility from minor roads and visibility is also restricted from the A77 although there are more elevated open views across the south-western part of this landscape to the sea south of Glenapp Castle before this road drops down into Glen App. Long views to the sea are dramatic from more open and elevated areas. There are relatively close views of this landscape from popularly accessed hills including Beneraird and Knockdolian in the surrounding area.	Turbines of this size would extend above woodlands and could be highly visible from roads and settlement. Although turbines of this size could be sited in less settled areas in the south-western part of this landscape, away from the A77 and contained to some degree by rising hill slopes, they would be likely to be seen in close proximity from the Ayrshire Coastal Path and may also intrude on the skyline provided by this landscape in views from the Ballantrae area. There may however be some very limited scope to minimise visual intrusion in some discrete parts of this character type. ***High-medium sensitivity***	There are greater opportunities to site these smaller turbines away from more open skylines and coastal views and to utilise the containment provided by rolling landform and woodlands on valley sides. ***Medium sensitivity***
Cumulative effects The Arecleoch and Glen App wind farms are visible from more elevated parts of this LCT.	Cumulative effects could arise where this typology was seen in close proximity to the Arecleoch wind farm due to the contrasts in size	This typology would be more able to be screened by landform and woodlands which would minimise the cumulative effects of multiple

	of turbine. Sensitivity in relation to cumulative effects would be reduced elsewhere however. ***Medium-low sensitivity***	turbines. Clear association of turbines of this size with farms and buildings would also reduce clutter and cumulative effects. ***Low sensitivity***

24.2 Summary of sensitivity

This landscape backs the rugged and wild *Raised Beach Coast with Rocky Shore* (1d), forming an elevated platform of rolling pastures and woodlands which rises from the coast to culminate in a narrow band of steep-sided, craggy-topped hills to the south-east. Rolling ridges are cut by deeply incised burns running down to the sea and the landform becomes more complex, forming interlocking small knolls and dips, at the transition with the coast and in the north-eastern part of this landscape. Downan and Finnarts Hills lie close to the coast and form highly visible landmark features and the band of hills on the south-eastern boundary of this coastal farmland are also prominent. Small to medium sized pastures are enclosed by fences and patterned with gorse in the more exposed coastal parts of this landscape while woodland cover is more extensive in the more sheltered north-east, accentuating the complexity of the rolling landform with its intricate pattern. The hills lying on the south-eastern boundary of this landscape are open and covered with heather-flecked grass moorland. The 19th century Glenapp Castle lies at the core of this landscape although it is not readily visible amongst densely wooded policies. Occasional mature field and roadside trees of beech and Scots pine and the ornamental plantings at the core of the Glenapp Castle designed landscape contribute to the diverse land-cover pattern of this landscape. Small farms and houses are dispersed across this landscape and are generally tucked down low into valleys and on lower hill slopes. This landscape forms the foreground to views to the sea from the A77 and is also prominent in views from Ballantrae.

The small to medium scale of this settled and often intricately patterned landscape, its complex landform and proximity to the highly sensitive rugged coast increase sensitivity to larger development typologies. There would be a ***High*** sensitivity to the large and medium typologies (turbines >50m). Sensitivity would be ***High-medium*** for the small-medium typology (turbines 30-50m) and ***Medium*** to the small typology (turbines 15-30m).

24.2.1 *Potential cumulative issues*

The sensitivity assessment for the adjacent *Raised Beach Coast with Rocky Shore* (1d) found it to be of high sensitivity to all but the small typology (turbines 15-30m) but with this size of turbine only able to be accommodated at the transition with the *Glenapp Coastal Farmland and Policies* (22). While potential cumulative effects could occur with any development located in this character type and the *Raised Beach Coast with Rocky Shore* (1d), turbines would be likely to be of a compatible size limiting cumulative effects.

There could also be cumulative effects experienced from hill tops in this character type and the wider surrounding area (for example from Knockdolian or Beneraird Hills which are popularly accessed by walkers). The large scale operational Arecleoch and Glen App wind farms sited in the *Plateau Moorland with Forestry and Wind Farms* (18c) are visible in close proximity from these hills and larger turbines sited in the *Glenapp Coastal Farmland and Policies* (22) could add to the cumulative encroachment on panoramic views from these hills (and additionally intrude on views to the coast and Firth of Clyde which form the key focus of these views).

24.2.2 *Constraints*

- The proximity of this landscape to the highly sensitive *Raised Beach Coast with Rocky Shore* (1d) where turbines could affect the strong sense of wildness experienced.
- The narrow band of steep-sided and well-defined hills lying on the south-eastern boundary of this character type which also form prominent skylines seen from the sensitive *Upland Glen* (14) of Glen App.
- The predominantly small to medium scale of this landscape where rolling landform and woodlands provide containment and the presence of small farms and other settlement form ready scale references.
- Complex rolling landform and landmark hills including Finnart and Downan Hills lying along the coastal edge and the narrow band of craggy-topped hills which form the south-eastern boundary of this character type and include Carlock and Penderry Hills – these hills are widely visible along the coast and from the sea.
- The often intricate land-cover pattern, especially evident within the valley floor and lower side slopes, where mixed policy woodlands, strongly enclosed small pastures and mature field and road trees contribute to the richly diverse character of this landscape.
- The setting this landscape provides to Glenapp Castle and its designed landscape.
- The Ayrshire Coastal Path which is aligned within the south-western extremity of this landscape and provides elevated views across this landscape.
- Views from settlement and from more open sections of the A77 trunk road but also from popularly accessed hills including Knockdolian and Beneraird where dramatic open views to the sea are a key attraction.

24.2.3 *Opportunities*

- Less settled south-western hill slopes where landform and land-cover is simpler and where the rising slopes of the band of hills which form the south-eastern boundary of this LCT could provide a degree of visual containment and backdrop potentially reducing visual intrusion of smaller turbine typologies.

24.3 Guidance for development

The assessment found **no scope** for the large and medium typologies (turbines >50m) to be accommodated within the *Glenapp Coastal Farmland and Policies* (22) landscape character type.

While the small-medium typology (turbines 30-50m) could fit with the simpler landform and increased scale of more sparsely settled farmland and less complex hill slopes which occur in the south-western part of this character type, there are a number of key constraints. These include the proximity of the highly sensitive *Raised Beach Coast with Rocky Shore* (1d) and views from the Ayrshire Coastal Path, the A77 and from Ballantrae. There may be some ***very limited*** scope to accommodate a single or small group <3 turbines of this size in this landscape by setting turbines well back from the coast and utilising the visual containment and backdrop provided by rising hill slopes. It is recommended that applicants should carefully consider the siting and the possible selection of lower height turbines to minimise intrusion and demonstrate this through computer-generated visualisations from key viewpoints. It is unlikely that multiple

developments of this size of turbine could be accommodated due to the limited extent of this landscape.

This assessment found there to be ***some limited*** scope for the small typology (turbines 15-30m high) to be accommodated in this landscape. All turbines should be set well back from the sensitive coastal areas and from the Ayrshire Coastal Path. They should not be sited on, or nearby landmark hills, and should avoid the tops of small knolls and areas with a more complex landform. Turbines should avoid intrusion on the Glenapp designed landscape and on key views from the Castle to the sea. They should also be sited to avoid intrusion on key views to the coast from the A77.

Turbines <20m, and below 15m height, should be located where they can reinforce the pattern of existing development, being associated with farms and buildings which provide a framework of built development-related spot features.

It is important that turbines have a consistency of design in order to minimise potential cumulative effects on this landscape which has strong integrity. Detailed siting and design should accord with the guidance set out in Annex F.

Small farms sit below the series of long ridges which fall to the coast

The 'landmark' Downan Hill is located close to the coast and visible from the A77 and Ballantrae.

The ridge of open hills lying on the south-eastern edge of this landscape character type.

The conical Corlock Hill forms one of a series of distinctive steep-sided hills which separate this landscape from Glen App

An often complex landform of long ridges cut by narrow incised wooded valleys and with occasional small knolly hills is accentuated by a diverse landcover pattern

Mixed shelterbelts and policy plantings are particularly rich in the more sheltered north-eastern part of this landscape.

Annex A: References

Close, R. (1992) *Ayrshire and Arran Illustrated Architectural Guide.* RIAS/Landmark Trust.

Close. R. and Riches, A. (2012) *Ayrshire and Arran: The Buildings of Scotland (Pevsner Architectural Guide).* Yale University Press.

Grant, A. 2010. *Landscape Capacity Studies in Scotland* – a review and guidance to good practice. Scottish Natural Heritage Commissioned Report No 385 and online Toolkit

Grant, A and Anderson, C. (2013) *Seascape/landscape assessment of the Firth of Clyde* Firth of Clyde Forum

Historic Environment Scotland (website). *Inventory of Designed Landscapes, Ayrshire*

Historic Environment Scotland. *Managing Change in the Historic Environment: Setting.* June 2016.

Landscape Institute and the Institute of Environmental Management and Assessment. *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition, 2013.

Land Use Consultants (1998). *Ayrshire landscape assessment.* Scottish Natural Heritage Commissioned Report No. 111.

Land Use Consultants (2004). *Ayrshire and Clyde Valley Windfarm Landscape Capacity Study.* Scottish Natural Heritage, the Ayrshire Joint Structure Plan and Transportation Committee and Glasgow and the Clyde Valley Structure Plan Joint Committee

Scottish Government, June 2014. *Scottish Planning Policy* (also online resource *Onshore Wind – Some Questions Answered*).

Scottish Government, January 2017. Onshore Wind Policy Statement (consultative draft)

Scottish Mountaineering Club Hillwalker's Guide Volume Two (1990). *The Corbetts and other Scottish Hills.* Section 0 Galloway and the Borders pages 7-9. Scottish Mountaineering Trust.

Scottish Natural Heritage (Carol Anderson Landscape Associates). August 2017 Guidance Note: Coastal Character Assessment.

Scottish Natural Heritage, February 2017, *Visual Representation of Wind Farms* (Version 2.2)

Scottish Natural Heritage. 2012. *Assessing the Cumulative Impacts of Onshore Wind Energy Developments*

Scottish Natural Heritage 2017. *Siting and Designing windfarms in the Landscape* (version 3)

Scottish Natural Heritage. June 2015. *Spatial Planning for Onshore Wind Energy Developments – Natural Heritage Considerations*.

Scottish Natural Heritage. June 2014. *Map of Wild Land Areas* and *Non-Technical Description of Methodology.*

Scottish Natural Heritage. February 2017. *Descriptions of Wild Land Areas*

Swanwick, C, University of Sheffield and Land Use Consultants 2005. *Landscape Character Assessment Guidance for England and Scotland – Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity.* Scottish Natural Heritage and The Countryside Agency

Visual material within various *Environmental Statements for wind farm developments* including those for South Kyle, Benbrack, Linfairn, Chirmorrie and Altercannoch.

Annex B: List of Landscape Character Types

Original name and reference in 1998 Ayrshire Landscape Assessment	New Ref	Landscape character type used in current wind capacity study	Authority
A. Raised Beach Coast	1a	North Ayrshire Raised Beach Coast	NA
	1b	Arran Raised Beach Coast	NA
	1c	Raised Beach Coast with Flat Fields and Headlands	SA
	1d	Raised Beach Coast with Rocky Shore	SA
B. Lowland Coast	2a	Coastal Lowlands with Industry	NA
	2b	Coastal Edge	NA/SA
C. Coastal Fringe with Agriculture	3a	Arran Coastal Fringe with Agriculture	NA
	3b	Cumbraes Coastal Fringe with Agriculture	NA
	3c	Rugged Island Core	NA
D. Coastal Headlands	4a	Arran Coastal Headlands	NA
	4b	Brown Carrick Hills	SA
E. Coastal Valley with Policies	5	Coastal Valley with Policies	SA
F. Coastal Lowland Moor	6	Coastal Lowland Moor	NA
G. Ayrshire Lowlands	7a	North Ayrshire Lowlands	NA
	7b	Small Rolling Hills	NA
	7c	East Ayrshire Lowlands	EA
	7d	South Ayrshire Lowlands	SA
H. Broad Valley Lowland	8a	Broad Valley Lowland	NA
	8b	Rolling Hill Slopes	NA
	8c	South-western Rolling Hill Slopes	NA
I. Lowland River Valley	9	Lowland River Valley	NA/SA/EA
J. Upland River Valley	10	Upland River Valley	EA
K. Lower Dale	11	Lower Dale	SA
L. Middle Dale	12	Middle Dale	SA
M. Intimate Pastoral Valley	13	Intimate Pastoral Valley	SA
N. Upland Glen	14	Upland Glen	EA/SA
O. Upland Basin	15	Upland Basin	EA
P. Lowland Hills	16	Lowland Hills	SA
Q. Foothills	17a	Foothills with Forest and Opencast Mining	EA
	17b	Foothills with Forest west of Doon Valley	EA/SA
	17c	Foothills with Forest and wind farm	SA
	17d	Maybole Foothills	SA
	17e	Coastal Foothills	SA
R. Plateau Moorlands	18a	East Ayrshire Plateau Moorlands	EA
	18b	East Ayrshire Plateau Moorlands + Forestry + wind farms	EA
	18c	South Ayrshire Plateau Moorlands/Forestry/wind farms	SA
S. Rugged Moorland Hills+Valleys	19a	Loch Thom area	NA
	19b	Duchal Moor	NA
	19c	Upland Core	NA
	19d	Blaeloch and the Crosbie Hills	NA
	19e	Haupland Muir	NA
	19f	Arran Rugged Moorland Hills+Valleys	NA
T. Southern Uplands	20a	East Ayrshire Southern Uplands	EA
	20b	South Ayrshire Southern Uplands	SA
	20c	Southern Uplands + Forestry	EA[2]

[2] A small area of the 'Southern Uplands and Forestry' identified in South Ayrshire in the 1998 Ayrshire Landscape Assessment has been reclassified as the 'South Ayrshire Plateau Moorlands with Forestry' LCT.

U. Rugged Granitic Uplands	21	Rugged Uplands, Lochs and Forest[3]	EA/SA
	21a	Arran Rugged Granitic Uplands	NA
New character type	22	Glenapp Coastal Farmland and Policies[4]	SA

[3] This character type has been expanded to include an area of 'Southern Uplands', 'Southern Uplands with Forestry' and 'Foothills' identified in the 1998 Ayrshire Landscape Assessment and lying in the Loch Doon/Carrick Hills area

[4] This area was originally classified as 'Plateau Moorland' and 'Southern Uplands' in the 1998 Ayrshire Landscape Assessment

ANNEX C: SENSITIVITY CRITERIA

Sensitivity criteria	Factors considered and relevance of criteria to wind turbines
Context	• 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. • 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. • Landscape types that are more closely juxtaposed and contrast strongly with surrounding landscapes may be especially sensitive. Sensitivity is also likely to be increased where there is a complex interplay, for example, coastal peninulas, sea lochs and islands or where there is a high degree of inter-visibility between adjacent landscapes and/or seascapes. • Landscape types which are large in extent, or which have a similar scale or vegetation pattern to neighbouring landscapes may have more scope for larger typologies.
Scale	• 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. • 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. • Consideration of how the size of the development might impact on the understanding of scale of the landscape. • Assessment of how the development would relate to the scale of the landscape including whether they 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. • Consideration of how development would affect expansiveness and the sense of distance. • 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.
Landform	• Consideration of the overall topographical shape and the degree of complexity of landform including identification of any distinct 'landmark' features. • 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. • 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.
Land cover	• 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. • Assessment of the degree of diversity, and the importance of this in informing the distinctiveness of the landscape character. • 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. • Assessment of how development could relate to pattern; whether it would disrupt or dominate strong pattern or undermine well balanced diversity, interrupt or fragment integrity of pattern, fit with areas where pattern is simpler or increase visual confusion where pattern is very fragmented or ground disturbed by mining or other activities. • Consideration of potential effects on landmark features, such as hill top copses, designed landscapes and features, water bodies.
Built environment	• 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. • 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. • 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. • Historic and archaeological features which contribute to landscape character are assessed in terms of any potential effects on setting.
Perceptual qualities	• 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. • 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.
Visual amenity	• 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. • 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. • Consideration of the significance of skylines and visual horizons. • Key vistas or backdrops associated with historic landscapes or other features.
Cumulative effects	• Consideration of any conflicts which may occur between the established pattern and size of operational and consented wind farms and turbines in the LCT and surrounding area with any additional development. The established association of wind farm development with specific landscape characteristics and any divergence from this is also judged. • Identification of where visual confusion may result from congestion and overlap of turbines within different developments in key views. • Simultaneous views of multiple developments and potential effects on the appreciation of underlying landscape characteristics, potential cumulative effects on prominent skylines, on the setting of settlements and affecting views from hills popular with walkers. • Sequential cumulative effects on views from roads and other transport routes, including from the sea where relevant.

ANNEX D: REPOWERING BACKGROUND STUDY

Background

The size of wind turbines within new wind farm developments has significantly increased over the last 10 years. While one of the earliest wind farms in Ayrshire comprises turbines of 64m to blade tip, the majority of currently operational commercial wind turbines are between 100-140m high. Some recently consented and proposed wind farms comprise turbines of 176m high.

As well as new wind farm developments, proposals for much larger turbines can also be associated with 'repowering' of existing wind farms and turbines. Repowering involves the replacement of operational wind turbines coming to the end of 25-year planning permissions with more efficient, and usually larger, turbines. Other repowering options may be considered by operators on existing development sites including extending the blades of 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 two development typologies comprising turbines of around 150m and around 200m high to blade tip. The assessment has been informed by computer-generated visibility mapping and visualisations based on representative operational wind farms located in a variety of lower sensitivity upland landscapes across Ayrshire and showing replacement of existing turbines with larger turbines.

More detailed sensitivity assessment of turbines over 130m high has also be undertaken for landscape character types/areas where some scope for the Large typology (turbines 70m+) was identified in the 2013 Ayrshire Landscape Wind Capacity Studies and/or which already accommodate operational/consented wind farms. These landscapes are listed in Table 1 below and shown in Figure 3 of the report:

Table 1: List of landscape character types for more detailed review

East Ayrshire
Foothills with forest + opencast mining (17a)
Foothills with Forest west of Doon Valley (17b)
East Ayrshire Plateau Moorlands (18a)
East Ayrshire Plateau Moorlands with Forestry and Wind Farms (18b)
East Ayrshire Southern Uplands (20a)
Southern Uplands with Forestry (20c)
South Ayrshire
Foothills with Forest and Wind Farms (17c)
Foothills with Forest west of Doon Valley (17b)
South Ayrshire Plateau Moorlands with Forest and Wind Farms (18c)
North Ayrshire
Rugged Moorland Hills and Valleys – Blaeloch and Crosbie Hills (19d)
Rugged Moorland Hills and Valleys – Haupland Muir (19e)
Coastal Lowlands with Industry (2a)

Methodology

A series of Zone of Theoretical Visibility (ZTV) maps have been produced showing existing theoretical visibility of 12 operational and consented wind farms and the increased extent of visibility that could occur if the existing/consented turbines were replaced with larger turbines 150m and 200m high to blade tip. The 150m height was selected as recent applications for wind farm developments have been close to this height while the largest onshore wind turbines currently available are around 225m high. It has only been possible to consider a selection of wind farms across Ayrshire because of the constraints of the budget for the study. The aim has been to select wind farms occurring in different landscape character types to gauge effects on key characteristics such as scale, landform and context in the field assessment.

A cut-off of 20km is shown on the ZTV maps. While this does not accord with SNH guidance on producing ZTV for wind farms which usually extend to 35km and beyond, the aim has been to focus on identifying any significant landscape and visual effects that may be associated with much larger turbines within the constraints of the budget for the study.

The ZTV maps have been modelled using existing 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 10 representative viewpoints across Ayrshire showing operational/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. Visualisations from recent wind farm applications, comprising substantially larger wind turbines than those already operational, have also been reviewed.

Field assessment was undertaken by two landscape architects experienced in the landscape and visual impact assessment of wind energy developments.

Analysis of Zone of Theoretical Visibility mapping

The ZTV maps are based on operational and consented wind farms located in Ayrshire and show differences in the extent of visibility if turbines were increased to 150m (purple) and 200m (red) to blade tip. The ZTV maps are based on bare-ground data and do not take into account the potential screening effects of woodland and buildings. Hyper-link to be added to download ZTV maps Analysis of the ZTV maps is set out in 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***
Ardrossan	100m	There would be little increase in the extent of visibility associated with 150m and 200m high turbines. Principal areas of new visibility would occur beyond 15km of the wind farm, potentially affecting parts of the Firth of Clyde where operational wind farms such as Kelburn and the Hunterston turbines are already clearly visible. A greater extent of visibility may also be possible along the coastal edge between Ardrossan and West Kilbride. In terms of more populated areas, some additional visibility may be introduced on the northern fringes of Largs (where this development may be seen in conjunction with the Kelburn wind farm) and on the south-western edge of Dalry (where Kelburn and Dalry wind farms are already theoretically visible). Small increases in visibility are indicated within parts of the Muirshiel – Waterhead Moor Wild Land Area (WLA) although there are relatively close views of the Kelburn and Dalry wind farms already from a large part of this WLA.
Dalry	125m	Some increased visibility would occur on Great Cumbrae but in areas where there are already views of the Kelburn and Ardrossan wind farms and the 177/193m Hunterston turbines. Increases in visibility associated with turbines >150m high along the coast north of Largs would overlap with potential views of the existing Ardrossan wind farm.
Kelburn	100m	There would be some small new areas of visibility mainly in the Firth of Clyde at distances >15km. New visibility is indicated along the coast between Largs and Hunterston, an area where there is no visibility of other wind farms apart from the two (177/193m) demonstration turbines at Hunterston which have a short-term consent. Turbines >150m would extend visibility into the Ardrossan Harbour area, overlapping with visibility of the Ardrossan (and also Dalry and Sorbie) wind farms in views from this area.
Dersalloch	115/125m	Increasing turbines to 150m and 200m would extend close (<5km) visibility of the wind farm within the southern part of Straiton, the upper Girvan Valley and on Craigengower Hill which is popular with walkers. The lower SE facing slopes of the Girvan Valley would also be affected. Visibility would extend across floodplain meadows west of Dalmellington and Loch Doon, increasing effects on the Craigengillan designed landscape. Between 10-15km, there would be some increases in visibility within the Galloway Hills (and Merrick WLA). Beyond 15km, new visibility would occur across the settlements of Dalrymple and Drongan and the less populated Martyrs Moss area to the east.

Wind farm	*Existing height*	*Areas of theoretical new visibility associated with 150m and 200m turbines*
Whitelee II	140m	The ZTV map shows differences in increasing the height of turbines to 200m only. There would be little increase in visibility generally within the 20km cut-off shown on the map. New visibility is shown to the east of the wind farm across East Renfrewshire, although the original Whitelee I wind farm is already visible in this area. Within East Ayrshire, there may be additional visibility within 5km in the Darvel/Newmilns area and within 10km, in the Sorn and Catrine area. Beyond distances of 15km visibility would be extended into areas east of Auchinleck, Tarbolton and the southern slopes of the Ayr Valley.
South Kyle	146.5m	The ZTV map shows differences in increasing the height of turbines to 200m only. There would be very little new visibility with this mainly affecting less populated and/or sensitive areas. Some small pockets of increased visibility would be likely to occur along and near the A713 road south of Dalmellington. In general, impacts associated with increased visibility would be unlikely to be significant.
Arecleoch	135m	At distances of around 5km a wind farm in this location with turbines increased to 150m and 200m may be more visible within the Duisk valley (and potentially from Barrhill). Increased visibility may also occur in the lower Stinchar Valley potentially affecting properties on south-facing lower valley sides between Poundland and Knockdolian (see Viewpoint 6 in Table B). Around 10km distance there may be increased visibility from the A77 (but not from the sensitive coastal edge) with some overlap with the Glen App wind farm. Between 15-20km there would be intermittent new visibility from the A75 in the Glenluce area although this wind farm would be seen in a context where existing wind farms are significantly closer thus limiting effects. Visibility would also be increased on the northern tip of the Rhins in Galloway.
Kirkhill	110m	The most significant increases in visibility associated with 150m and 200m high turbines are likely to be experienced along the coast between Turnberry Point and Culzean where the wind farm would be seen at relatively close distances of around 5km. Small and less significant increases would occur between 5-10km and beyond 10km new theoretical visibility would largely occur within less settled forested areas to the south.
Mark Hill	110m	Increases in theoretical visibility within 5km is indicated on the more settled lower slopes of the Duisk Valley between Pinwherry and Barrhill although the well-wooded nature of the valley may limit views. Between 5-10km there could be increased visibility across northern slopes of the Stinchar Valley between Barr and the A76; existing wind

Wind farm	*Existing height*	*Areas of theoretical new visibility associated with 150m and 200m turbines*
		farms are already seen in very close proximity in this area. There would also be increased visibility within the lower Stinchar valley in the Colmonell area (which is likely to overlap with visibility of the Arecleoch wind farm). Minimal effects are likely to occur to the south and east beyond distances of 10km because the differences in extent of visibility would largely affect sparsely settled forested areas. Minimal new visibility would be introduced into the Merrick WLA (although larger turbines may exacerbate existing effects on wild land qualities).
Assel Valley	110m	Within 5km there would be increased visibility associated with turbines of 150m and 200m along sections of the A714 between Girvan and Pinwherry. The southern side of the Stinchar valley may be affected by increased visibility as would an area east of Girvan. Little increase in visibility is likely to occur between 5-10km from the wind farm although beyond distances of 10km some new visibility is indicated along the coast SW of Lendalfoot (potentially affecting areas where wind farms are currently not visible). In the Culzean area, more turbines and turbines above hub height (currently only a few turbines break the skyline) may be visible if increased in height.
Glen App	126.5m	Increasing the height of the Glen App turbines would principally extend visibility within parts of Galloway potentially affecting the Castle Kennedy/Luce Sands area. There could be increased visibility in close views from the A77 within the scenic Glen App area, potentially exacerbating present views of turbine blades seen on sensitive skylines. At distances of around 10km turbines of 150m and 200m would introduce new visibility along the South Ayrshire coast north of Ballantrae and along the eastern coast of Loch Ryan in Galloway.
Hadyard Hill	110m	There could be significant increases in visibility within 5km of the wind farm in the Dailly area. Parts of the upper Stinchar valley (including the B734) could have new visibility. Increased visibility could occur from Craigengower Hill and SW of Maybole around 10km distance. Between 10-15km new areas of visibility largely occur within less settled forested areas to the south and east. There would be some increases in visibility within the Merrick WLA but at distances of almost 20km from the wind farm.
Hare Hill	64m and 70-91m	This development is already extensively visible across the Lugar/Nith Valleys due to its prominent position. Increasing turbines >150m would result in some visibility in nearby Glen Afton and around Cumnock although in general new areas of visibility affect less settled uplands.

Analysis of sample visualisations

Visualisations from ten representative viewpoints across Ayrshire have been generated and reviewed in the field. The viewpoints have been selected following review of Environmental Statements of viewpoints commonly used in LVIA of recent wind farm applications. The visualisations generally show fewer and more widely spaced turbines as turbines increase in size. It is expected that detailed design of turbine layout would be undertaken if any of these sites were to be repowered and that some of the effects identified in this assessment could potentially be mitigated to some degree. Nonetheless, the visualisations and conclusions identify key landscape and visual issues which can inform strategic policy formulation and provide a tool in Development Management decision making.

The Civil Aviation Authority require steady red lights to be fixed to turbines >150m height (and also, in some situations, to turbines under 150m). Lighting of this nature has the potential to extend landscape and visual impacts of a wind energy development into periods of low light levels at dawn and dusk and overnight. Impacts will be different to those experienced during the day and will be influenced by the character of the landscape within which the development is located (and also its wider context) and the nature of views of the development (principally related to the number and extent of turbines visible, the apparent 'jumping' of lights caused by rotation of turbine blades which can exacerbate effects [5] and their location in relation to other sources of lighting).

This assessment provides some general commentary on potential landscape and visual issues associated with repowering existing wind farms. The detailed sensitivity assessments consider the effects of lighting where the very large typology (turbines >130m high) has been assessed.

The assessment from sample visualisations is set out in Table B which follows. The location of these viewpoints is shown on Figure 1. Figure 1 and the comparative visualisations can be accessed by the link hyper link to be added here

[5] This effect has been observed during dusk at the Hill of Glaschyle wind farm in Moray in 2017 (the lighting has since been removed).

Table B: Viewpoint analysis of increasing size of turbines within operational and consented wind farms

Viewpoint	Wind farm(s) seen in the view	Existing height of turbines	Effects of increasing height of turbines
1: Cumbrae, Glaid Stone viewpoint, North Ayrshire	Kelburn Ardrossan Hunterston test site	100m 100m 177m/193m	Both the Ardrossan and Kelburn wind farms occupy lower sections of the skyline of the Clyde Muirshiel uplands and, while still prominent features from this viewpoint, this reduces their impact to some degree. While increasing the size of the Ardrossan turbines to 150m would incur relatively few effects in this view (unlike Viewpoint 3 where nearby smaller scale coastal settlement is visible), 200m high turbines would appear to overwhelm the size of the lower hills to the south that this development is sited upon. Increased turbines to 150m high within the Kelburn site could be accommodated due to the partial containment of the turbines by the basin landform within which the wind farm is sited (which limits the vertical extent of development visible in this view). There would however be a more marked contrast between 200m high turbines within the Kelburn site and the scale of Kaim Hill (which is particularly pronounced) and other nearby hills and the more patterned lower western slopes of the Clyde Muirshiel uplands which feature fields, small woodlands and settlement around Largs. The Hunterston test turbines (seen in the middle ground to the right of the photograph/visualisation) are close to 200m high and have a short- term consent so have been excluded from this assessment.
2: Highfield, NW of Dalry, North Ayrshire	Kelburn Ardrossan Dalry/Millour Hill	100m 100m 125m	This viewpoint is located on National Cycle Route 7 in the Garnock Valley looking towards the Clyde Muirshiel Uplands and four operational wind farms. The Ardrossan wind farm is more distant and associated with the smaller hills at the southern end of these uplands. The Dalry, Millour Hill and Kelburn wind farms appear as a single development in this view. Increasing the Ardrossan turbines to 150m and above would overwhelm the relief of the smaller hills on which this development is sited (see also Viewpoint 3). 150m high turbines could potentially be accommodated within the Dalry/Millour and Kelburn grouping as

Viewpoint	Wind farm(s) seen in the view	Existing height of turbines	Effects of increasing height of turbines
			the hills here are larger although there would be some increase in the scale contrast that exists between wind turbines and the settled and farmed hill slopes seen in the middle view. Increasing turbines within this grouping to 200m would however have a dominant effect on the relief of these hills seen in this view and a more significant effect on landscape character and views from both the Garnock valley (and also on the western side of the Clyde Muirshiel uplands, as seen in Viewpoint 1). A significant increase in landscape and visual effects may also occur on the less developed core of these uplands which includes the Wild Land Area if much larger turbines were used in the Dalry, Millour Hill and Kelburn developments. Lighting of turbines >150m high could additionally impact on wild land attributes.
3: Ardrossan Harbour, North Ayrshire	Ardrossan Dalry	100m 125m	Increasing the Ardrossan turbines to 150m and especially to 200m high would overwhelm the relief of the low knolly hills they are sited in. There are many scale indicators in this view and turbines of this size would dominate nearby settlement. It is considered that the optimum height is around 100m as existing and substantially increasing the height of turbines would not be appropriate in landscape and visual terms. The introduction of much larger turbines on the Ardrossan site could also exacerbate cumulative effects likely to be associated with the 104m high consented Sorbie wind turbines which would be located nearby.
4: B741, NE of Dailly, South Ayrshire	Kirk Hill	110m	It was considered that turbines any larger than the 110m high turbines of the consented Kirkhill wind farm would dominate the scale of the relatively low relief of the *Maybole Foothills* (17d) LCT within which this development is sited. 150m high turbines, and especially 200m high turbines would appear to be approximately three times the height of Dalquharran Castle in this view, dominating the settlement, small woodlands and field pattern in the Girvan Valley. The narrowness of the *Maybole Foothills* would result in similar effects being experienced from settled coasts and lowlands to the north.
5: A77, Girvan Mains,	Hadyard Hill	110m	Two operational wind farms are seen in different sectors of this view and the

Viewpoint	Wind farm(s) seen in the view	Existing height of turbines	Effects of increasing height of turbines
South Ayrshire	Assel Valley	110m	consented wind farms of Tralorg and Kirkhill will also be visible. Views from the A77 tend to be fleeting although there are also more sustained views from settlement close to Girvan. Approximately 12 turbines within the operational Hadyard Hill wind farm are visible behind the Maxwellston and Hadyard Hills. Increasing the height of the Hadyard Hill turbines to 150m, and especially to 200m, would overwhelm the scale of these landmark hills and increase the visual intrusion. 200m high turbines would also be likely to dominate the more diverse and well-settled Girvan valley in views further NE (not readily visible in this viewpoint). Four blades are seen of the Assel Valley wind farm in this view (although there is greater visibility of this development from the southern end of Girvan). While increasing turbines to 150m would incur minimal change in this view, an increase to 200m would result in a greater number and extent of the turbines visible and a more dominant effect at this distance. Views from the A77, coast and settlement south of Girvan are likely to be significantly affected by increases in turbine height within the Assel Valley wind farm. The narrowness of the *Foothills with Forestry+ Wind Farms* (17c) LCT within which these wind farms are located would result in views from both the coast and the Girvan and Stinchar valleys either side of the uplands being adversely affected by increased turbine height.
6: B734, Stinchar Valley, Knockdolian, South Ayrshire	Arecleoch	135m	The operational Arecleoch wind farm is visible from parts of the lower Stinchar valley and from sections of the B734. Relatively few turbines (and mainly blade tips) are seen from the road and from settlement on the skyline of the uplands which contain the valley to the south-east. Arecleoch wind farm is located in the expansive *Plateau Moorlands with Forestry and wind farms* (18c) LCT (which extends into neighbouring Dumfries and Galloway) and visibility affecting principal areas of settlement is limited to intermittent and partial views in the lower Stinchar Valley, higher ground in the Glen App area and from the A714 east of Barrhill. Increasing turbine height to 150m would result in minimal change to existing views from this area (it would also achieve greater

Viewpoint	Wind farm(s) seen in the view	Existing height of turbines	Effects of increasing height of turbines
			compatibility with the operational turbines within the Killgallioch wind farm in views from the A714). Increasing turbine height to 200m could be more significant however as more turbines would be visible above hub height in this view resulting in a dominant effect on the smaller scale features within the Stinchar valley although the horizontal extent of the development would be relatively limited. Redesign of the wind farm could potentially reduce landscape and visual effects by omitting some of the more prominent turbines closer to the outer edges of the uplands. Lighting of turbines >150m high could contribute to adverse effects on the sense of seclusion associated with the sparsely settled Stinchar valley.
7: Duisk valley, Barrhill, South Ayrshire	Mark Hill (operational)	110m	This viewpoint is located just off the A714 on the minor road to the railway station at Barrhill. The Mark Hill wind farm is generally only seen intermittently from the A714. The wind farm is located within an extensive forested plateau (LCT 18c) which presents a simple skyline in this view. While increasing the size of turbines to 150m high would impact to some degree on the pattern of woodlands evident on upper slopes, the more diverse and settled lower slopes of the valley are less visible thus reducing sensitivity from this viewpoint. This size of turbine could potentially be accommodated assuming some redesign of the layout to avoid overlapping and setting back more dominant turbines lying closer to the Duisk Valley well into the upland area. 200m high turbines would however appear to overwhelm the depth of the valley and the broader pattern of woodlands on its upper slopes. Lighting of turbines >150m high could contribute to adverse effects on the Duisk Valley with cumulative effects additionally occurring if other wind farms sited on the southern side of the valley were repowered to include turbines >150m potentially creating an illuminated ‘corridor’ effect.
8: Loch Doon, East Ayrshire	Dersalloch (operational) South Kyle (consented)	115/125m 149.5m	The Dersalloch wind farm and the South Kyle wind farm are visible in different sectors of this view. Only six blades of the Dersalloch turbines are visible from this viewpoint and they are located on a low dip on the skyline, minimising their

Viewpoint	Wind farm(s) seen in the view	Existing height of turbines	Effects of increasing height of turbines
			impact. Increasing these turbines to 150m high would make them more noticeable, although turbines of 200m height would have a much more significant effect making them a prominent feature on the skyline seen from Loch Doon. Views of the Dersalloch wind farm are more critical from the northern end of Loch Doon where this development is seen in conjunction with Craigengillan Designed Landscape, from the Girvan Valley to the west and from the *Rugged Uplands, Lochs and Forest* LCT (21) where any increases in height are likely to severely exacerbate existing effects. Lighting of any turbines >150m on the Dersalloch site may also additionally impact on the sense of wildness associated with LCT 21 (and the Dark Skies Park). The turbines within the consented South Kyle wind farm are close to 150m high. The consented Benbrack wind farm, located in neighbouring Dumfries and Galloway and not shown in the visualisations, will be sited on Benbrack Hill (a bare hill seen with a cover of snow to the right of the South Kyle turbines in the visualisation VP8 – ii). The greater prominence of 200m high turbines within the consented South Kyle wind farm is likely to result in a significant exacerbation of the effects already likely to occur on views from this part of Loch Doon. There may also be significant cumulative effects arising with the consented 130m high turbines of the Benbrack wind farm in views from Loch Doon.
9: A713, Dalmellington, East Ayrshire	South Kyle Dersalloch	149.5m 115/125m	The consented South Kyle (also the Benbrack wind farm not shown on the visualisation) and the operational Dersalloch wind farm will be seen in different sectors of this view. The South Kyle wind farm comprises turbines close to 150m, forming a long array on the skyline of the *Southern Uplands + Forestry* (20c) LCT to the left of the settlement of Dalmellington. 200m high turbines within the South Kyle wind farm would significantly increase the vertical extent but less so the horizontal extent of turbines seen in this view. This is likely to substantially exacerbate effects on views from the Doon Valley and on the setting of Dalmellington – there would also be increased effects on Loch Doon (see Viewpoint 8). Only three turbines of the Dersalloch wind farm are visible to

m(s) seen in	Existing height of turbines	Effects of increasing height of turbines
		the west from this viewpoint. Increasing these turbines to 150m would result in a greater vertical extent visible although this would not be significant, given the limited visibility of this development in this view. 200m high turbines would however be more significant in terms of effects on the scale of settlement and farmland within the Doon Valley and could also exacerbate cumulative effects with the South Kyle wind farm. Views from the west in the Girvan valley area and lowlands of South Ayrshire and from the northern end of Loch Doon are more critical in terms of the height increase of turbines within the Dersalloch wind farm due to its location in an area of upland of relatively limited extent (the *Foothills with Forest west of Doon Valley*) and close proximity to more settled and sensitive valleys.
II	140m	The comparative visualisations illustrate the effect of increasing turbines to 200m high as the existing turbines are 140m high and therefore close to the 150m typology. This view is seen in the context of a busy A road with traffic travelling at reasonable speed although it allows consistent views of Whitelee I and II wind farms. The existing developments can appear cluttered with much overlapping due to the large number of turbines within the two schemes and the foreshortened nature of views. Whitelee II lies closer to the *East Ayrshire Lowlands* where farms, settlements and a strong pattern of small fields and woodlands provide nearby scale indicators. The contrast in scale between turbines and the Ayrshire Lowlands is particularly pronounced when seen from the many minor roads lying to the west of the A719 and A77/M77 as these tend to be slightly more elevated and reveal a greater extent of the more settled and smaller scale foreground. Increasing turbines to 200m high from this viewpoint would result in a more marked contrast between the agricultural and settled

Viewpoint	Wind farm(s) seen in the view	Existing height of turbines	Effects of increasing height of turbines
11: Lochside Hotel, New Cumnock	Hare Hill I and II and Afton[6]	64m/70-91m (Hare Hill) 100/125m (Afton)	The operational Hare Hill wind farm comprises relatively small turbines ranging between 64m and 91m. Although the integration of different height turbines within the two phases of the development is satisfactory, the older part of this development is located on a pronounced steep-sided hill which increases its visual prominence. Increasing turbine heights to 150m would significantly increase prominence and visual intrusion while turbines of 200m would additionally overwhelm the relief of the hill upon which this wind farm is located. The Afton wind farm is also prominently sited as it lies close to the notch cut by Glen Afton clearly visible from the *Upland Basin* (15) in the north. This recently constructed development appears 'perched' on the rim of the *Southern Uplands* (20a) above the glen. Although this wind farm is more distant from the viewpoint than Hare Hill, increasing turbines to 150m high and especially 200m high would similarly significantly exacerbate visual intrusion and dominate the relief of the landform.

[6] The data used to generate comparative visualisations for Afton wind farm comprises consented turbine locations and the as built locations (adjusted when micro-siting) vary slightly from these when seen in the field.

Summary and conclusions

The assessment has considered a selection of operational and consented wind farms and key views with the aim of identifying constraints and opportunities for accommodating much larger turbines in the less sensitive upland areas of Ayrshire.

Review of comparison height ZTVs

The study of ZTVs showing increases in turbine height demonstrates that the ***extent of increased visibility*** (within the 20km cut-off set for the study) is not dramatic in most cases. However, the following landscape and visual issues are likely to be associated with substantial increases in turbine size due to the potential introduction of new visibility into the following areas:

- The coastal area between Turnberry and Culzean where visibility associated with larger turbines within the consented Kirk Hill wind farm site may increase.
- Increasing turbine sizes within the Glen App wind farm could exacerbate existing effects, increasing the extent of development potentially visible on prominent skylines from the A77 within the sensitive Glen App and potentially also along the South Ayrshire coast north of Ballantrae. Larger turbines within this development could also adversely affect sensitive coastal locations in neighbouring Dumfries and Galloway.
- Increases in turbine size within the Mark Hill and Dersalloch wind farms could increase visibility of wind farms (and increase existing intrusion) within the Merrick WLA in neighbouring Dumfries and Galloway.
- New visibility of wind farms may be introduced into the well-settled Girvan valley if turbines within the Dersalloch and Hadyard Hill wind farms were increased in size. In addition, larger turbines within Dersalloch could also affect a greater extent of the Craigengillan Inventory listed Designed Landscape and popular visitor destinations such as Craigengower Hill.
- Larger turbines within the Mark Hill, Arecleoch and Hadyard Hill wind farm sites could increase visibility within the Stinchar valley. The Duisk valley could also be affected by additional visibility associated with larger turbines within the Arecleoch and Mark Hill wind farms.
- Increasing turbine sizes within the Assel Valley wind farm could introduce new visibility along the coast south of Girvan and affect views from the A714.

Review of height comparison visualisations from representative viewpoints

Our assessment from representative viewpoints in the field concluded that the degree of impact or intrusion associated with increased height of turbines would be principally influenced by the distance of the viewpoint from the wind farm, its siting

and the vertical and horizontal extent of turbines visible and the landscape context of the view.

The study identified the following key issues that are likely to be associated with increasing turbine size within operational and consented wind farm sites:

- Increasing turbine size within the Ardrossan and Kirk Hill wind farms would overwhelm the low relief of the hills within which both these developments are sited and would significantly affect the setting of settlements.
- While there may be some scope to increase the size of turbines within the Kelburn, Dalry and Millour Hill wind farms to around 150m, turbines closer to 200m would significantly exacerbate effects on more settled coasts and islands and the Garnock valley. Any increases in existing turbine size in the Clyde Muirshiel Uplands may also adversely affect the more remote core of these hills, part of which is defined as a WLA.
- The Hadyard Hill and Assel Valley wind farms lie in a relatively narrow band of hills and any increases in turbine height are likely to adversely affect character and views within the Girvan and/or Stinchar Valleys, and in the case of the Assel Valley wind farm, along the coast south of Girvan.
- It is not possible to increase the height of turbines within the consented Kirk Hilll wind farm due to effects on the scale of the *Maybole Foothills* (17d) LCT within which this development is sited and effects on the sensitive Girvan Valley which is well settled and accommodates a number of designed landscapes.
- The Dersalloch wind farm already affects the Craigengillen GDL and increasing turbine height would be likely to significantly exacerbate these effects as well as increasing visibility and intrusion on views within the upper Girvan valley area.
- There may be some scope to increase the height of turbines to 150m within the Arecleoch and Mark Hill wind farms due to their location within the more extensive *Plateau Moorland with Forestry* (20c) LCT. Larger turbines are likely to cause additional effects on the adjacent lower Stinchar Valley and the Duisk Valley NW of Barrhill although this could potentially be mitigated through redesign and reducing the number of turbines. The Arecleoch wind farm is set further back into this upland area and therefore potentially offers more scope for turbines up to 200m to be accommodated, although a significant exacerbation of effects on the highly sensitive Stinchar Valley and cumulative effects with the nearby Glen App, Stranoch and Kilgallioch wind farms are likely to form major constraints to repowering with turbines of this height.
- The Whitelee II wind farm turbines are already 140m high and increases to 150m are likely to have little discernible difference in terms of landscape and visual effect. Increasing turbines to 200m could exacerbate the scale contrast with the small field pattern and buildings within the East Ayrshire Lowlands although omission of already prominent turbines lying on the outer edges of the uplands may reduce effects.

- Hare Hill and Afton wind farms occupy prominent locations within the *Southern Uplands* (20a) and increasing turbine heights would significantly exacerbate visual intrusion and effects on landscape character particularly experienced from settlement and roads to the north.
- Increasing turbine height within the consented South Kyle wind farm would significantly extend the spread of development seen from the popular Loch Doon area and exacerbate likely effects on the setting of Dalmellington seen from the Doon Valley.

Lighting of wind turbines >150m high

The effects of lighting of wind turbines >150m high has been considered in more detail in the sensitivity assessments undertaken for much larger turbines in relevant upland areas. Key sensitivities are the Dark Skies Park in parts of South and East Ayrshire and effects on the Merrick Wild Land Area in Dumfries and Galloway and on more secluded and sparsely settled valleys.

Mitigation measures currently being investigated by wind farm developers include technical innovation to limit the extent of time when lighting is needed on turbines >150m (proximity activated lighting mitigation). However, in the areas noted above, even intermittently and relatively short periods of lighting would still be likely to incur landscape and visual effects and this would need to be carefully considered as part of the detailed impact assessment.

Conclusions

Some of the *Foothill* landscape character types which already accommodate wind farm development form relatively narrow bands between well-settled valleys, resulting in close views of turbines from either side of the upland area. Other wind farms lie within more extensive upland plateaux and this tends to reduce intrusion as turbines are often more distant from surrounding settled lowlands and valleys.

This assessment concludes that there are very few locations where turbines up to 200m high could be accommodated in Ayrshire with potential scope being limited to the Arecleoch and Whitelee wind farms. These wind farms lie within more expansive (and generally simpler) upland plateau landscapes. Some redesign would be necessary to omit more prominent turbines seen from adjacent valleys and lowlands.

There could be some limited scope to increase turbines to up to 150m within the Mark Hill wind farm and the Kelburn, Dalry and Millour Hill wind farm sites. Landscape and visual effects on the core of the Clyde Muirshiel Uplands and Wild Land Area and cumulative effects would however need to be considered in more detail for the closely located Kelburn, Dalry and Millour Hill developments.

Other wind farms in Ayrshire are considered to already comprise turbines at maximum height in relation to landscape and visual effects with no scope for substantially increasing size although other repowering measures such as variations in blade length, power storage etc may be appropriate.

Redesign of wind farm developments as part of the repowering process, including altering the layout/number of turbines, may offer some scope to minimise landscape and visual effects.

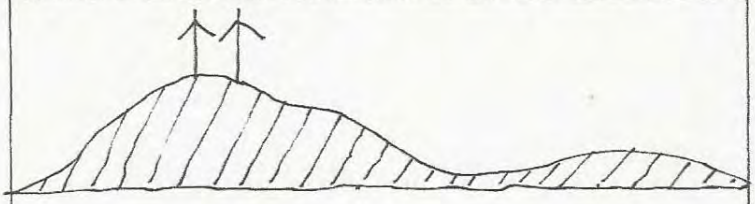
This assessment has been based on ZTV mapping and visualisations prepared from a very limited range of viewpoints within Ayrshire. Detailed assessment informed by a more comprehensive range of visualisations would be necessary to fully consider landscape and visual impacts for specific proposals.

ANNEX E: LANDMARK HILLS

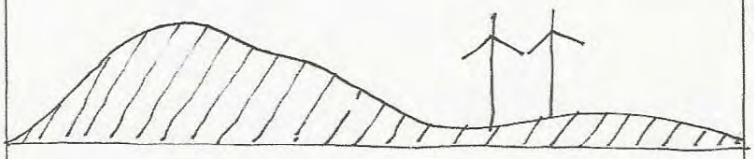
Downan Hill	A small but prominent peaked hill lying close to the coast south of Ballantrae – the site of a hill fort. Lies close to the Ayrshire Coastal Path and is distinctive in views towards the coast from the A77.
Finnarts, Penderry and Carlock Hills	These hills lie on the north-west side of Glen App. Their steep slopes contain this dramatic glen and provide a key part of the experience of travelling on the A77, forming a distinctive threshold between Dumfries and Galloway and South Ayrshire
Milljoan, Auchencrosh, Berneraird and Big Fell	Lying close to the Dumfries and Galloway boundary, these hills are important in screening views to the interior of the extensive plateau moorlands which accommodated the Stranoch, Arecleoch and Glen App wind farms. They also contribute to the dramatic setting of Glen App experienced in views from the A77.
Knockdolian	Igneous, craggy and peaked isolated hill near the coast. This hill reflects the form of Ailsa Craig in the Firth of Clyde.
Bargain Hill	Although not high, this hill is prominent being see at a pivotal point between the Duisk and Stinchar valleys.
Pinbain, Byne	A ridge of distinctly rugged and open small hills lying adjacent to the coast to the south-west of Girvan. Byne Hill in particular is a popular destination for walkers.
Barony and Maxwellston Hills	The steep slopes of these hills contain the southern edge of the Girvan valley. Maxwellston and the more subtle summit of Hadyard Hill screen views of the Hadyard Hill wind farm from the north. Barony Hill forms the backdrop and wider setting to the Kilkerran Inventory listed designed landscape.
Craig of Dalwhine	Craggy hill sited on the north side of the upper Stinchar valley. Very steep slopes strongly constrict the valley. This hill lies close to the dramatic Carrick Forest hills.
Glenalla Fell	An isolated hill within the forested upland plateau lying between the Stinchar and Girvan valleys. Dense coniferous forestry encircles the western and southern slopes of this hill. It is particularly prominent in views from the minor road
Kirkland and Auchensoul	Prominent steep-sided hills on the north side of the Stinchar valley – provide the setting to the settlement of Barr and are also important in screening views of the Hadyard Hill wind farm.
Kildoach, Big Hill of the Baing, Genoch Inner Hill	These hills, together with Craig Hill, dramatically contain the upper Girvan valley. Their rugged open grassy slopes scenically contrast with this farmed small-scale settled valley. The monument at Craigengower on the western slopes of Kildoach Hill is a popular destination for walkers.
Kirk Hill and Craigdow	Small but distinctly peaked hills seen on the north side of the Girvan valley. Landform is particularly complex and knolly around the base of these hills. Form a backdrop to the designed landscape of Dalquharran Castle.
Mochrum	The steep-sided and flat-topped Mochrum Hill is small but prominent in views from the A77. It also forms the wider setting to the designed landscape of Culzean Castle.
Brown Carrick Hill	A prominent hill located close to the coast and widely seen across Ayr Bay. The open heather-clad slopes and rounded summit of this hill contrasts with the more managed lowland farmland and the Doon Valley which surround it. The south-western slopes of this hill contain and backdrop the nationally important designed landscape of Culzean while north-western slopes contribute to the dramatic rugged coast around Heads of Ayr.
Kildoon	A small but pronounced hill featuring a hill fort and particularly prominent from Maybole and the A77. Popular with walkers.
Saugh Hill	Wind farms are now sited on this prominent hill near Girvan and this has adversely affected the setting these hills provide to Girvan, the Girvan valley and the South Ayrshire coast.

Carrick Forest Hills	These hills extend into East Ayrshire and Dumfries and Galloway. They are characterised by their rugged complex rocky form and strong sense of wildness (lying close to the Merrick Wild Land Area) and within the Dark Skies Park. Within South Ayrshire the long ridge of Shalloch on Minnoch lie in this area. This area is popular with walkers being listed in many guides. Cornish Hill provides a popular short walk and views to the higher hills of this craggy range. The smoother hills to the west also form part of this area with these being particularly dramatic where they form the deeply incised pass of the Nick o' the Balloch seen from the upper Stinchar valley.

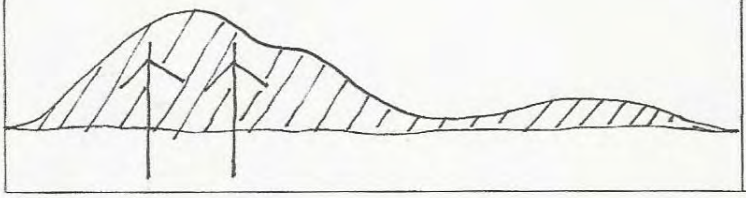
Potential adverse effects on the setting and character of Landmark Hills



Wind turbines sited on top of the Landmark Hill would appear very prominent and would significantly affect the character of the hill.



Large wind turbines sited close to the Landmark Hill would detract from its focus and diminish its scale and prominence



Large wind turbines set away from the Landmark Hill but in the foreground of a key view to the hill, detracting from its focus and diminishing its apparent size. These effects are particularly significant where the hill is not high but rises dramatically from low-lying ground

ANNEX F: GUIDANCE ON SITING OF SMALLER TURBINES

Introduction

The height of turbines relative to other structures in the landscape is a key consideration in terms of landscape 'fit'. With this in mind, three types of 'smaller' turbines are considered in the following guidance as follows:

- Micro-small wind turbine Below 15m to blade tip
- Small wind turbine 15m – 30m to blade tip
- Small-medium wind turbine 30m – 50m to blade tip

Guidance for micro-small wind developments (up to 15m to blade tip)

The 15m 'cut off' for turbine height was selected because of the small size of many of the farm buildings in Ayrshire. Turbines up to 12m in height relate well to the size of existing buildings in the landscape, including smaller farm buildings. 12m high turbines are just over twice the height of a single storey house, while a two-storey house is about 9m high to roof pitch. Some farm buildings are higher than this.

A well mature forest broadleaved or conifer tree will be about 15m in height. Turbines up to 15m in height will therefore generally relate well to the size of farm buildings and forest trees. They are also similar to small telephone masts and tall telegraph poles.

This size of turbine has not been considered in detail in the landscape sensitivity assessment although the appropriateness of this typology to some landscapes is noted, where relevant, in the guidance section of the assessments.

In Ayrshire, the following issues have been identified as being particularly influential in terms of detailed siting of this typology within character types identified as being appropriate for this typology:

- Turbine height in relation to the scale of the landscape
- Development pattern
- Visibility
- Potential cumulative issues

24.3.1 *Turbine height in relation to the scale of the landscape*

Understanding scale, and the relative proportions of features in the landscape, is important in siting this typology. Landscape scale is made up of two factors, the scale of the landform and the scale of the pattern of land use.

Assessing the scale of the landform involves assessing the perceived vertical height and horizontal expanse of the topography, as well as the degree of openness and containment created by topographical relief.

The pattern of land use creates an additional layer of possible enclosure, for example where woodland, hedges and field walls provide containment. Conversely, low-growing vegetation, such as moorland, can reinforce openness. In addition, while we often assess sense of scale relative to ourselves within the landscape, individual elements, from trees to pylons, can provide reference points against which the scale of the landscape or size of other elements is perceived and understood.

A single turbine of this height is most likely to be used to contribute to the energy needs of a residential house, farm or other rural based small business. The size means that it is relatively easy to accommodate in a settled landscape, if sited to be associated with such a building cluster. It is therefore likely that any assessment of landscape sensitivity will conclude that this size of turbine could be readily accommodated – perhaps, at the most, subject to siting considerations to encourage the turbines to be located where they can be visually seen to be part of a group of buildings, or clearly linked to an individual house, as shown in Image 1.

Image 1: *Scale in relation to buildings: A turbine illustrated at an indicative 2x the height of the house from this view. The turbine is well scaled in relation to the size of other individual features. It is also located on the side of the hill, rather than the hill top, where it can be 'read' in conjunction with the farm buildings. This forms a 'cluster' of development, which reduces landscape and visual impact.*

While generally, with careful siting, the landscapes of Ayrshire can accommodate this size of turbine, there are two key sensitivities to consider for siting this height of turbine:

- The first is that the tops of coastal features, such as raised beaches and headlands are as sensitive to this height of turbine as any other, due to the visual prominence of skylines of this type of landform.
- It is also recognised that turbines of up to 15m may have cumulative effects on the landscape, especially where farms are located close together.

Nevertheless, their general ability to be absorbed within the scale of the landscape means that they have been excluded from detailed assessment within the sensitivity assessments.

24.3.2 *Development pattern*

When siting turbines in a farmed landscape, such as the lowlands, valleys or the dales character types, it is desirable to support the existing pattern of built development. Turbines of a similar size are consistently associated with a commonly occurring detailed landform or built features associated with the farms or small settlements in an area. Note that proximity to 'regularly occupied' buildings will also need to be balanced with a noise buffer zone.

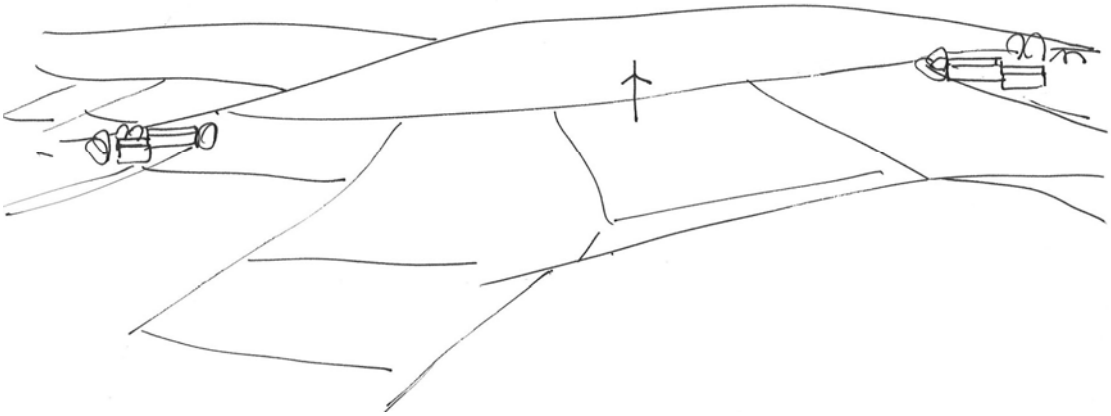


Image 2 *– Poor relationship with settlement pattern. Here a turbine is located in between two farms,and is not associated with either. It appears to 'drift' unattached in the landscape as it does not reflect the existing pattern of built development. Instead, the turbine is setting up a new pattern of development which conflicts with the existing well-established pattern.*

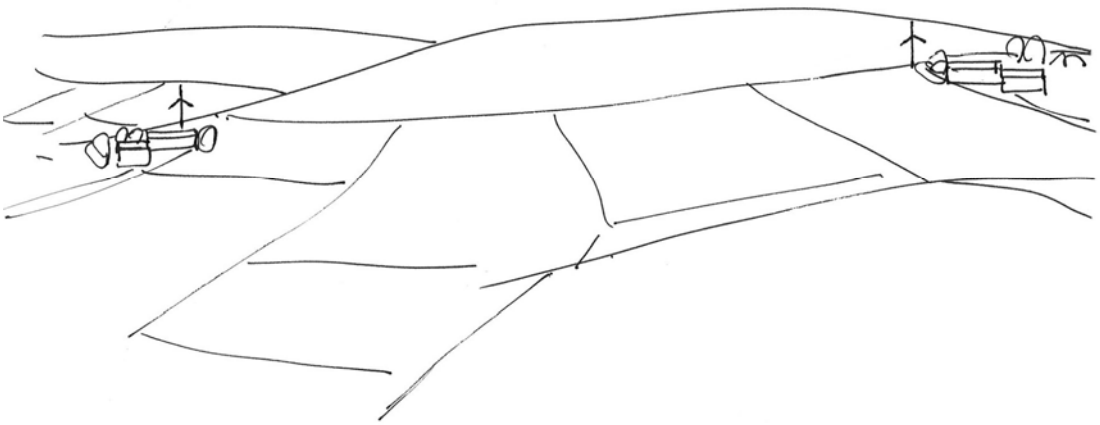


Image 3 *– Strong relationship with settlement pattern. The same landscape, with a turbine sited to each of the farms, close to the buildings, each of which now form 'building clusters'. Here the turbines reflect the existing pattern of settlement, emphasising this, rather than starting a new built pattern which conflicts with the existing pattern. Micro-siting will need to balance creating a development cluster with the need to apply a recommended 'noise buffer' zone.*

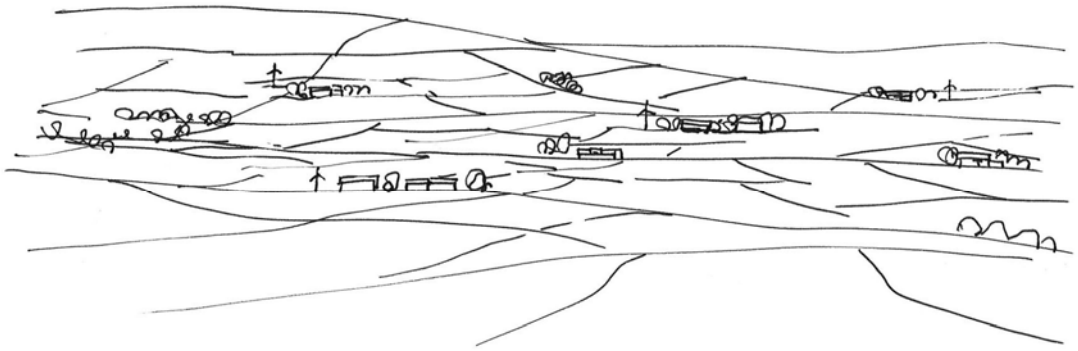


Image 4 *– Settlement pattern on extensive low-lying farmed landscapes: Micro-small turbines can be located relatively close to buildings, to form 'clusters of development' consistently placed across more expansive farmland areas. Consistent siting and association with existing farms will limit negative cumulative landscape effects. Micro-siting will need to balance creating a development cluster with the need to apply a recommended 'noise buffer' zone.*

24.3.3 *Visibility*

Unsurprisingly, these micro-small turbines are likely to be less visible than the larger ones over a wider area. Turbines which are 15m or less in height are more likely to be able to be screened or partially hidden by low ridges and more undulating landform. Tree cover, including sometimes extensive woodland, also limits visibility.

Hiding turbines per se is not more important than choosing a turbine of the right size in relation to landform or other landscape features, or than good micro-siting in relation to landform and settlement pattern. However, reducing sustained visibility of turbines helps limit potential cumulative visual impacts.

Siting turbines on the sides of ridges and low hills, rather than on their summits and high points overall reduces visual cumulative effects – turbines are partially screened from some viewpoints to the lee of the hill and slopes in these locations. If several turbines are visible in an area, broad consistency of turbine design, height and location can help mitigate potential visual impacts.

24.3.4 *Potential cumulative issues*

Given the current incentives, these micro-small turbines may become a frequent and common occurrence in farmed landscapes. Key cumulative issues for small turbines are likely to relate strongly to potential clutter in the landscape. Issues may include:

- Several individual, or small groups of turbines, could begin to dominate local character;

- The landscape could appear ‘cluttered’ if single or groups of turbines were associated with the majority of land holdings, especially where holdings are small and therefore closer together;
- Lack of a clear siting strategy could lead to fragmentation of an existing robust, recognisable, consistent and characteristic pattern of settlement, especially if turbines do not relate well to existing buildings and established pattern of built development;
- While one turbine breaching a skyline may be a focal point, a number of diverse structures, all spinning at different speeds – or even several of the same type of turbine – or appearing at irregular intervals along a prominent or important skyline will become a visual distraction from other landscape features or from perceived visual amenity, especially from key viewpoints;
- The variety of potential different types of wind turbines within the landscape could lead to clutter with different styles, sizes of structures and speeds of blade movement dotted across a landscape;
- There may be the added complication of increased visual clutter created by a wide range of different heights of turbine within a farmed landscape with micro-, small and small/medium sized turbines;
- Potential clutter may also be exacerbated if there are other masts, such as telecoms masts, overhead wires and pylons within the same vicinity.

Periodic review will need to be undertaken to assess the cumulative situation in areas where there is a concentration of operational, consented and proposed turbine developments. Adherence to the siting principles set out in this guidance will minimise potential cumulative landscape and visual effects.

24.4 Guidance for small turbines (15m – 30m to blade tip)

The sensitivity of the landscape to this development scenario has been included in all assessments carried out in settled and farmed lowland, valleys, foothills and coastal character types.

Less settled upland landscape character types were not assessed for this size of development, as applications are unlikely to come forward for this size of turbine in areas where there are no farms or other settlement.

24.4.1 *Background*

In Ayrshire, the following issues have been identified as being particularly influential in terms of detailed siting of this typology within character types identified as being appropriate for this typology:

- Turbine height in relation to the scale of the landscape
- Landform shape
- Settlement and land use pattern and features
- Visibility
- Potential cumulative issues

24.4.2 *Turbine height in relation to the scale of the landscape*

Turbines of between 15m and 30m are going to be one of the tallest structures in most Ayrshire landscapes. They are going to be taller than many buildings and most trees. They are still, however, similar in height to some taller pylons and communications masts.

Understanding scale, and the relative proportions of features in the landscape, is important in siting this typology. Landscape scale is made up of two factors, the scale of the landform and the scale of the pattern of land use.

Assessing the scale of the landform involves judging the perceived vertical height and horizontal expanse of the topography, as well as the degree of openness and containment created by topographical relief.

The pattern of land use creates an additional layer of possible enclosure, for example where woodland, hedges and field walls provide containment. Conversely, low-growing vegetation, such as moorland, can reinforce openness. In addition, while we often assess sense of scale relative to ourselves within the landscape, individual elements, from trees to pylons, can provide reference points against which the scale of the landscape or size of other elements is perceived and understood.

24.4.3 *Scale: Topography*

In Ayrshire, the scale of the landform is a significant factor in defining landscape character. More enclosed and wooded river valleys, glens and smaller dales, small scale hummocky

landforms and very low hills, raised beaches as well as more complex landform along some of the foothills and valley sides, create areas of relatively small-scale character.

More expansive slopes, medium sized hills, long undulating ridges and the foothills create a more medium scale landform, while sweeping plateaux and much higher relief create the larger scale of the upland areas.

Relatively expansive but undulating landscape, sometimes folded into more complex rounded landform of low relief, is more characteristic of the lowland farmed plains. These lowlands landscape types offer potential for this typology because of the overall expansiveness of the landscape, although some of the small rounded complex landforms may be sensitive even to this height of turbine.

Taller turbines within this typology are more likely to able to take advantage of the higher degree of relief along the broad slopes of foothills and lower fringes of upland areas, the lower side slopes of valleys or the sides of undulating ridges to be found in the dales character types. This is shown in Image 5 below.

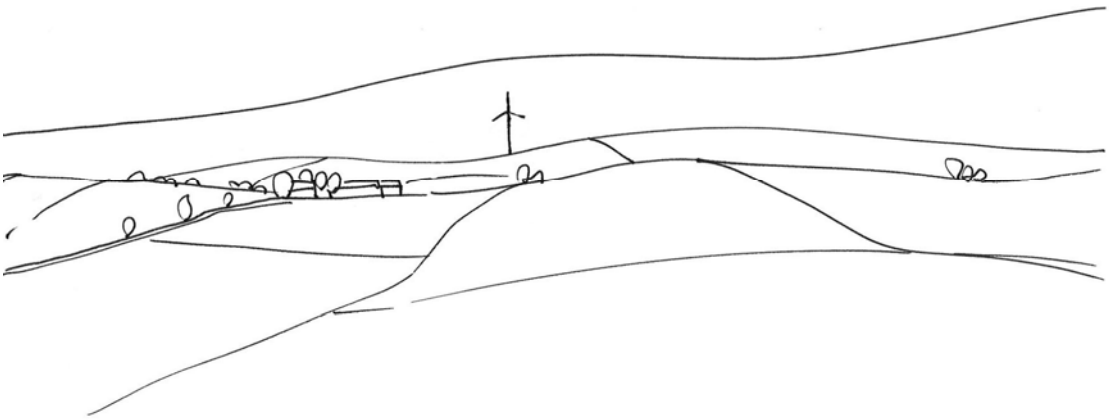


Image 5 *– Landscape scale and size of features: A taller turbine of the 'small typology' range located on a low-lying ridgeline set back from, but still associated with the pattern of settlement. In this location, the turbine is linked to the scale of the landform and there are no features in the immediate proximity against which to judge turbine height. It is sited at a slight dip in the ridge, and back-dropped in this view by higher ground. It is located away from the low farm buildings to avoid overwhelming the buildings in terms of scale*.

24.4.4 *Scale: Farmland*

Trees and woodland, field pattern, settlements and farms are located across the farmed lowlands and extend onto the lower fringes of the uplands. They are also a characteristic of the valleys and dales. The consistent and recurring presence of these elements creates a pattern that reduces the landscape scale in these areas, and the individual elements provide scale reference points against which height can be judged.

Care should be taken to site 15m – 30m high turbines where they do not dominate individual buildings, trees or other features, although some association with broad settlement pattern is still considered appropriate. Turbines in the lower range of this height (15m – 20m) are still likely to be small enough to be sited where they can be closely associated with larger buildings and trees to form the type of development cluster illustrated in Image 6 below.

Image 6*: Scale in relation to buildings: A turbine illustrated at an indicative 2x the height of the house from this view, or a taller turbine located behind the ridge to reduce overall height from this view. The turbine is well scaled in relation to the size of other individual features. It is also located on the side of the hill, rather than the hill top, where it can be 'read' in conjunction with the farm buildings. This forms a 'cluster' of development, which reduces landscape and visual impact.*

As shown in Image 6 above, although they may sometimes be bigger than these elements, a turbine of this size is unlikely to be more than three times the size of any building or tree, and within a wider landscape setting, this size relationship can usually be accommodated unless there are site-specific scale sensitivities.

Taller turbines (20m – 30m) may require to be located further away from smaller buildings and trees, so that they do not overwhelm them in terms of size, as shown in Image 6. This is a particular issue in Ayrshire as many of the farm buildings are low.

24.4.5 *Scale: Coast*

On the coast, landform relief tends to be low. A particular feature are the low but well defined raised beaches that frequently form a backdrop to level fields, or the convex slopes of foothills hills forming a containing skyline. Views from the sea are a particular consideration on this busy sea. Even where higher cliffs, headlands and more pronounced landform is present, the scale is sensitive, as a turbine of any height can easily diminish the perceived sense of height and drama.

As a result, the landscape sensitivity assessments for the coastal character types conclude that there is only very limited scope for turbines of less than 30m to blade tip in the coastal character types. No opportunities were found for even these small turbines on raised beaches and more complex landforms, or along the prominent skylines of headlands.

All turbines should be set well inland from raised beaches, promontories, cliffs, headlands or other key landform features. They should avoid being located close to, or directly on, the skyline. The visual drama of these topographical features often depends on their perceived scale, and this can easily be diminished by turbines sitting on top of these features.

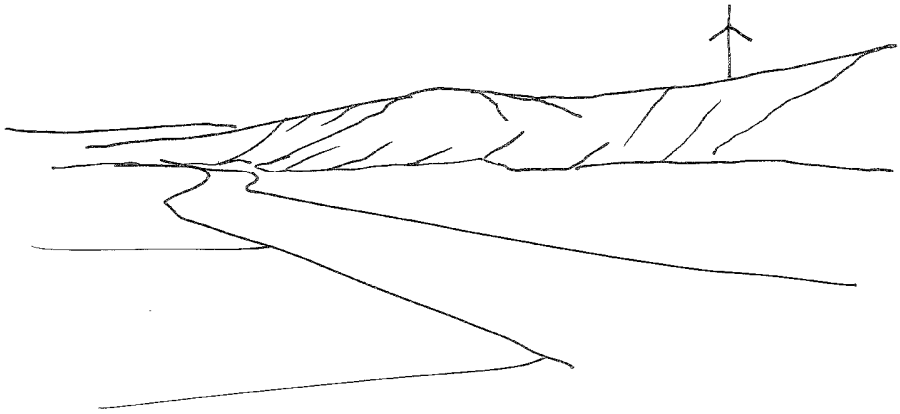


Image 7 *– Coastal landscapes: This turbine is poorly sited. It is perched on top of the raised beach and although it is quite small, instantly dominates the view and overlooks, or appears to 'hover above', the coast.*

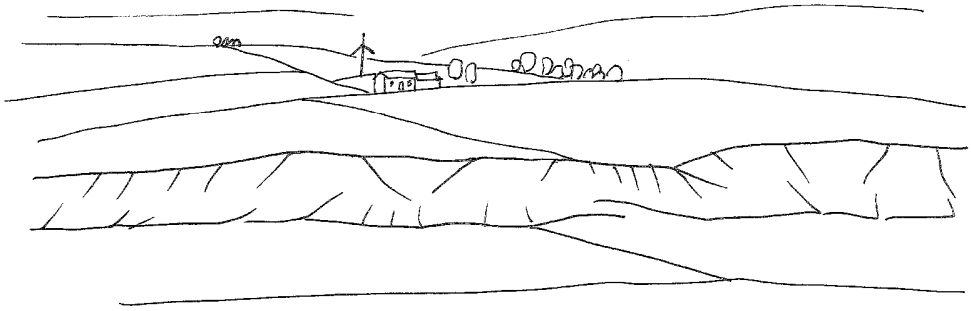


Image 8 *– Coastal landscapes: This turbine is better sited. It is set back from the immediate coastal edge, associated with buildings and has a less intrusive impact on the coast.*

To conclude, turbines of this height (15m – 30m to blade tip) are likely to be difficult to accommodate within very small scale and complex topography, areas of very low relief, or where there are small farm buildings or other small features.

The larger size of turbines in this range are better located where they can be accommodated by landform scale which is more evident in more open landscapes, or larger buildings.

For this typology, if there is doubt about the potential impact of a turbine on the scale of the landscape, a photomontage or wireline of the turbine taken from a key viewpoint will help the assessment of potential impacts.

24.4.6 *Landform shape*

Turbines of this height (15m – 30m) are most likely to be located within the farmed lowlands, lower hill slopes and valley floors. The narrow coastal plains are flat, while the more extensive lowlands are gently undulating, often with areas of more complex, interlocking rounded landform created by deposits which can also appear in the dales.

Turbines of this size are most easily accommodated on the more open side slopes of low hills or ridgelines and along the simple gradients along the sides of the dales or in the lowland hills and foothill types. Other opportunities include the rising ground which provides the transition between the uplands and the farmed lowland areas and river valleys, as the higher hills form a backdrop to the turbines.

Most landforms, including low hills, are gently rounded, and valley sides vary from convex slopes to more abrupt concave slopes along the coast. Valley sides can offer natural terraces and changes in gradient, often associated with deposits.

These terraces, narrow ledges, folds and subtle hollows and distinct changes in gradient associated with rising slopes or dips within undulations, have the potential to create natural platforms for siting turbines in this height range.

Turbines should not be located on the tops of low hills or knolls. Side slopes of low hill and ridges, and terraces or places where there is a marked change in gradient offer good opportunities.

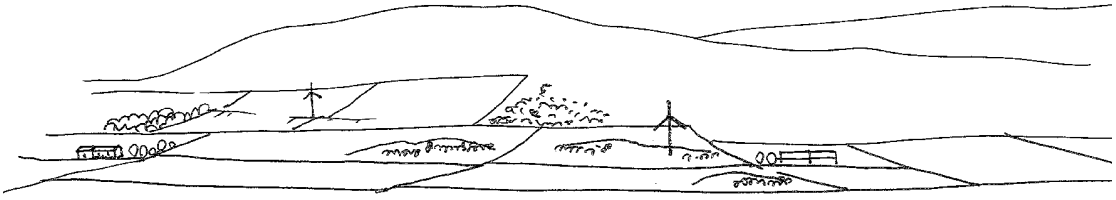


Image 9 *– Turbines associated with change in gradient: These turbines are located where there is a change in gradient or ridge of rocky land – a landform feature which already exists on the side slopes of the hills*

Distinct changes in gradient associated with rising slopes, well defined dips within undulations or more expansive concave landforms, long ridges and interim hills along the lower edges of the foothills, as well as the edges of more expansive plateaux all provide potential opportunities for micro-siting turbines of this size.

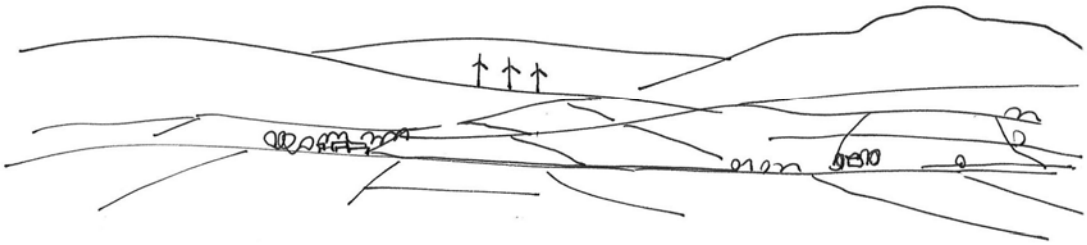


Image 10 *– Landform shape and scale: A cluster of turbines towards the larger height of the small typology turbine range located on the side of a hill. Here there is a distinct, relatively level ridge and at a low point in the landform. The turbines have been located where they are not likely to interrupt key views of the more rugged 'landmark hills' to the right. They are also in scale with the landform, although they are at the upper end of this typology in terms of size.*

24.4.7 *Settlement and land use pattern and features*

In Ayrshire, there is frequently a clear link between settlement and landform, for example, on the edges of the uplands, buildings may be located at a natural break in slope, the side slopes of the valleys and dales or associated with watercourses.

Across the farmed lowlands, farm buildings may be relatively evenly dispersed across the landscape. The farm acreage is often small, and the steadings can be close together, creating quite a dense pattern of dispersed settlement, but with small buildings. Along the coast, farms and smaller settlements are often set back from the shore, although larger towns are clustered around harbours. A frequent location for housing is tucked against the raised beaches, but farms are more often set further inland, in sheltered locations.

There are larger farm buildings and industrial buildings occasionally located in the lowlands and also on the fringes of larger towns or on the coast. These building groups can include tall stacks or other masts.

This height of turbine (15m – 30m height to blade tip) is larger than most buildings found in rural areas. They therefore should be sited where they can more readily be accommodated by landform scale, and avoid overshadowing or small fields and settlement, including the small farmsteads typical of some of the lowlands areas.

These small sized turbines are better accommodated if located on low ridges, the side slopes of hills and dales and set slightly apart from farms or settlements.

Developing a recognisable pattern of development – for example, locating turbines at a similar elevation, and/or on similar topographical features across a landscape type will help create a pattern of development which will appear less cluttered and will also develop a distinctive and consistent landscape characteristic over time. Proximity to 'regularly occupied' buildings will need to be balanced with a noise buffer zone.

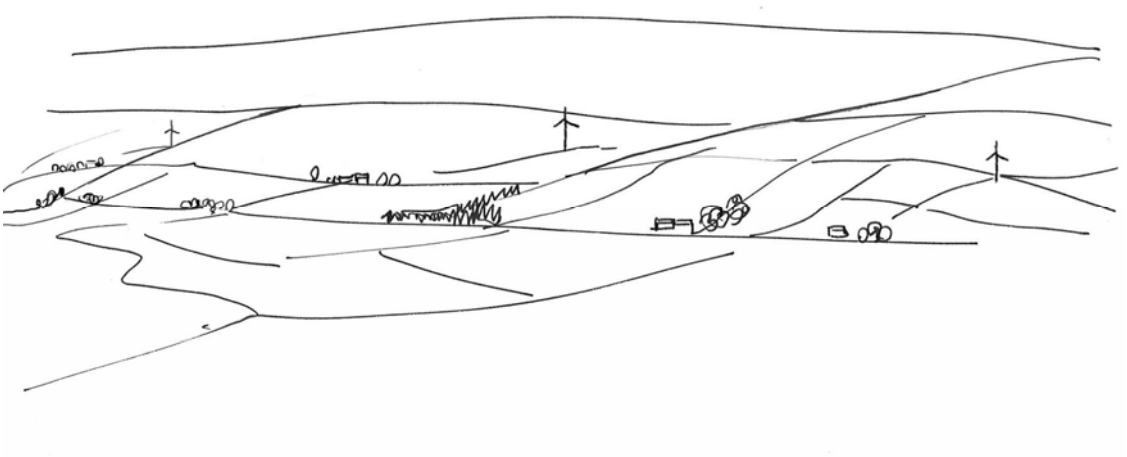


Image 11 *– Developing a landscape pattern: These turbines are located at a similar elevation on this hillside between lowlands and hills. This similarity in size, location and elevation helps to maintain the unity of the landscape pattern. Consistent association with watercourses, side slopes of similar gradient, breaks in slope, head dykes or other features will help increase unity in the landscape and reduce negative cumulative landscape effects.*

It is important to assess and understand the existing settlement pattern at the outset and consider how a number of turbines could be sited in a landscape. Careful and consistent siting will limit potential negative cumulative effects on landscape character.

24.4.8 *Visibility*

Small turbines, of between 15m and 30m in height, are likely to appear above trees and buildings. Clearly, the taller the turbine the more likely it is to be more widely visible.

Hiding turbines per se is not more important than choosing a turbine of the right size in relation to landform or other landscape features, or than good micro-siting in relation to landform and settlement pattern. However, reducing sustained visibility of turbines helps limit potential cumulative visual impacts.

Siting turbines on the sides of ridges and low hills, rather than on their summits and high points overall reduces visual cumulative effects – turbines are partially screened from some viewpoints to the lee of the hill and slopes in these locations. If several turbines are visible in an area, broad consistency of turbine design, height and location can help mitigate potential visual impacts.

24.4.9 *Potential cumulative issues*

Given the current incentives, these small sized turbines may become a frequent and common occurrence, especially in farmed landscapes. Key cumulative issues are likely to relate strongly to potential clutter in the landscape and the visual relationship with other wind turbines. Issues are similar to those identified in the analysis of micro-small wind turbines, but because of the larger size of these turbines the issues are likely to occur more quickly and may include:

- Several individual, or small groups of turbines, could begin to dominate local character;
- Lack of a clear siting strategy could lead to fragmentation of an existing robust and recognisable landscape pattern – where possible, it is important to site turbines on similar landforms, at similar elevations and with a similar relationship to the existing settlement pattern;
- Diverse designs of turbine, all spinning at different speeds – or even several turbines of the same type – strung along a prominent or important skyline could become a visual distraction from other landscape features or from perceived visual amenity, especially from key viewpoints;
- The larger the turbine, the harder it is likely to be to accommodate a number of them in a single view or recognisable tract of landscape without them becoming the dominant feature. It is also harder to accommodate the turbines in a sequence of views experienced, for example, when travelling along a road;
- The variety of potential different types of wind turbines within the landscape could lead to clutter with different styles, sizes of structures and speeds of blade movement dotted across a landscape;
- Potential clutter may also be easily created if there are other masts, such as telecoms masts, overhead wires and pylons within the same vicinity;
- There may be the added complication of increased visual clutter created by a wide range of different heights of turbine within a farmed landscape with micro-, small and small/medium sized turbines;
- An additional complication may be the visual interrelationship with larger wind farms of large and medium sized turbines, especially along the upper edge of farmland adjacent to upland character types.

Periodic review will need to be undertaken to assess the cumulative situation in areas where there is a concentration of operational, consented and proposed turbine developments. Adherence to the siting principles set out in this guidance will minimise potential cumulative landscape and visual effects.

24.4.10 *Other landscape issues associated with this typology*

Undergrounding electricity cables to a suitable off-site location to connect with the grid should also be undertaken in order to avoid a clutter of disparate built elements in the landscape.

24.5 Guidance for small-medium turbines (30m – 50m in height to blade tip)

The sensitivity of the landscape to this development scenario has been included in all assessments carried out in settled lowland landscape and coastal character types. Less settled upland landscape character types, however, were not assessed in detail for this size of development, as applications are unlikely to come forward in areas where there are no farms or other settlements.

24.5.1 *Background*

In Ayrshire, the following issues have been identified as being particularly influential in terms of detailed siting of this typology within character types identified as being appropriate for this typology:

- Turbine height in relation to the scale of the landscape
- Landform shape
- Settlement and land use pattern and features
- Visibility
- Cumulative issues

24.5.2 *Turbine height in relation to the scale of the landscape*

Turbines of between 30m and 50m are going to often be the tallest structures in any Ayrshire rural landscape. They are going to be taller than buildings and trees. They will also be taller than most communication masts and pylons, although there are some very tall structures associated with the coastal industrial developments at Hunterston and near Irvine.

Understanding scale, and the relative proportions of features in the landscape, is therefore important in siting this typology. Landscape scale is made up of two factors, the scale of the landform and the scale of the pattern of land use.

Assessing the scale of the landform involves assessing the perceived vertical height and horizontal expanse of the topography, as well as the degree of openness and containment created by topographical relief.

The pattern of land use creates an additional layer of possible enclosure, for example where woodland, hedges and field walls provide containment. Conversely, low-growing vegetation, such as moorland, can reinforce openness. In addition, while we often assess sense of scale relative to ourselves within the landscape, individual elements, from trees to pylons, can offer reference points against which the scale of the landscape or size of other elements is perceived and understood.

24.5.3 *Scale: Topography*

In Ayrshire, the scale of the landform is a significant factor in defining landscape character. More enclosed and wooded river valleys, glens and smaller dales, small scale hummocky landforms and very low hills, raised beaches as well as more complex landform along some of the foothills and valley sides, create areas of relatively small scale character.

More expansive slopes, medium sized hills, long undulating ridges and the foothills create a more medium scale landform, while sweeping plateaux and much higher relief create the larger scale of the upland areas.

Relatively expansive but undulating landscape, sometimes folded into more complex rounded landform of low relief, is more characteristic of the lowland farmed plains. These Lowlands types can accommodate some turbines of this height, but largely associated with the edge of the more level and open farmed areas and moor, avoiding more complex landform.

Low hills, and prominent landmark hills are sensitive to this typology, because their perceived scale can be diminished. The containment of the narrower glens, valleys and the dales is a further sensitivity for this typology, where only limited scope was identified.

Turbines of this height (30m – 50m) can therefore be accommodated most readily by relating the height of the turbines to the scale of the landform in those areas where landform is a more dominant feature than the landscape pattern.

If well sited, turbines of this size, even in small groups of up to three turbines, may be able to take advantage of the degree of relief created by medium scaled landforms. Examples include the broad slopes of larger scale foothills and fringes of extensive upland areas and plateaux or the transition between smaller scale farmed lowlands and the edge of larger scale upland landscapes of higher relief and simple vegetation pattern. This is shown in Image 12 below.

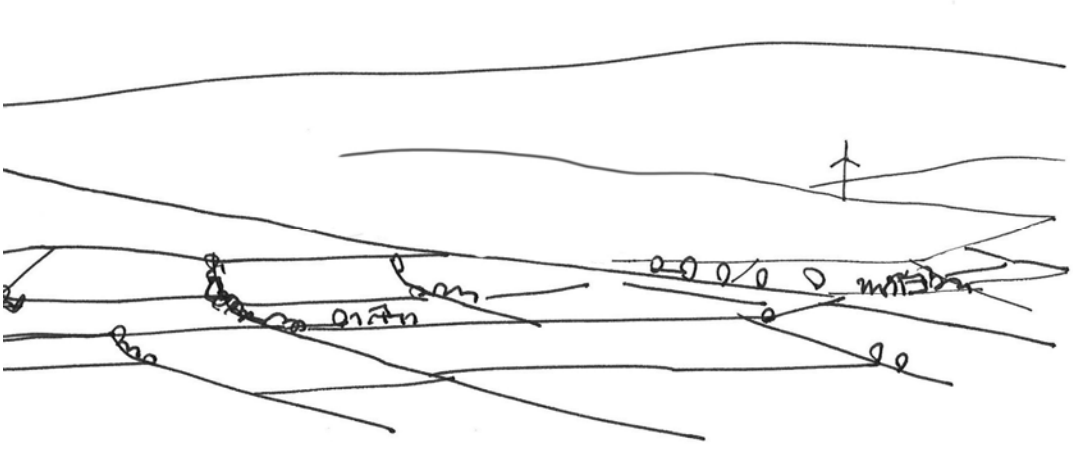


Image 12 *– Landscape scale and topography: A 'medium-small' turbine located where it is readily associated with the scale of the landform rather than individual features within the low-lying farmland. This size of turbine is more easily accommodated if it is not located close to farms and trees but can be seen in the context of landform and more simple vegetation pattern, such as moorland and larger woods, for example at the transition between upland and lowland landscapes. This turbine has also been placed where it avoids the hilltop, and at a break in slope along the ridgeline.*

24.5.4 *Scale: Farmland*

Trees and woodland, field pattern, settlements and farms are located on the lower fringes of the uplands, within the glens and across the farmed plains. The consistent and recurring presence of these elements creates a pattern which reduces the scale in these areas, and the individual elements provide scale reference points against which height can be judged.

On more marginal farmed landscapes, buildings and tree cover are likely to be sparse and often are smaller in size than more fertile lowland farmlands. Trees may also be limited in height by exposure or poor soils and buildings are often low, either due to exposure, or due to the poorer quality farmland. In some lowland areas, there is a dense pattern of small farms, with buildings which are often one and a half, or sometimes a single storey high.

In settled and farmed landscape types, the relationship between small-medium turbines (30m – 50m) and individual smaller scale elements is likely to be very sensitive, as this size of turbines could easily overwhelm the size of individual elements, such as farms, other buildings, trees, small woods and policy features which are key characteristics of these landscapes.

Turbines of this height (30m – 50m) can therefore be accommodated most readily by relating the height of the turbines to the scale of the landform on more open areas, where fields are larger, or where simpler vegetation such as moorland dominates, where settlement pattern is more dispersed, well away from the immediate setting of farms, other buildings, trees and woodland. This can be found at the edges of farmed areas, where farmland forms a transition with the hill land such as shown in Image 12 above and in more open lowland areas, with larger, more simple field patterns and associated with lowland moor, as shown in Image 13 below.

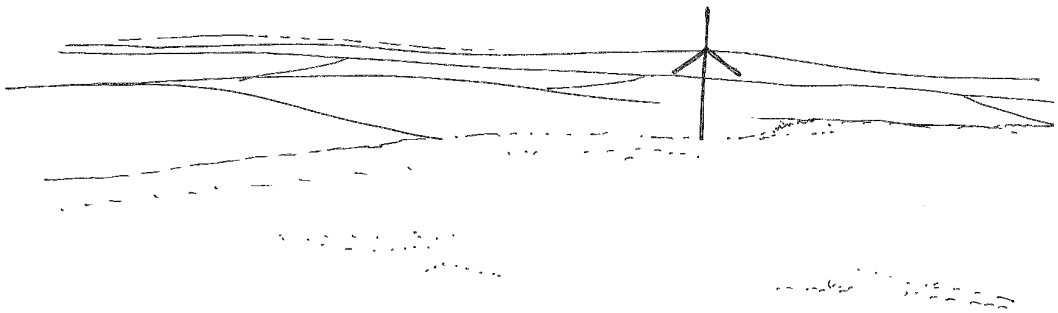


Image 13 *– Landscape scale in farmland: A 'medium-small' turbine located where it is readily associated with the scale of more simple land cover or vegetation pattern, such as large fields and the edge of moorland. There are fewer features, such as woodland, hedges and farms in this landscape.*

For this typology, if there is doubt about the potential impact of a turbine on the scale of the landscape, a photomontage, wireline or photowire taken from a key viewpoint will help the assessment of potential impacts.

24.5.5 *Scale: Coast*

On the coast, landform relief tends to be low. A particular feature are the low but well defined raised beaches that frequently form a backdrop to level fields, or the convex slopes of foothills hills forming a containing skyline. Views from the sea are a particular consideration on this busy sea way. Even where higher cliffs, headlands and more pronounced landform is present, the scale is sensitive, as a turbine of any height can easily diminish the perceived sense of height and drama. As a result, the landscape sensitivity assessments for the coastal character types conclude that there is no scope for turbines of more than 30m to blade tip in this area.

24.5.6 *Landform shape*

This size of turbine (30m - 50m to blade tip) is likely to be more readily accommodated in medium scaled landscapes or the transition between farmed or settled landscapes and the edge of larger scale upland landscapes. In these locations, they are more likely to fit with the landscape if they are sited to clearly relate to a specific landform. Turbines of this size could be accommodated on the side slopes of low hills or ridgelines which provide the immediate backdrop to the farmed lowland areas, especially if they, too, are back-dropped by larger hills or more sweeping plateaux.

Distinct changes in gradient associated with rising slopes, well defined dips within undulations, natural terraces or more expansive concave landforms, long ridges, the side slopes of interim hills and foothills, as well as the edges of more expansive plateaux all provide potential opportunities for micro-siting turbines of this size.

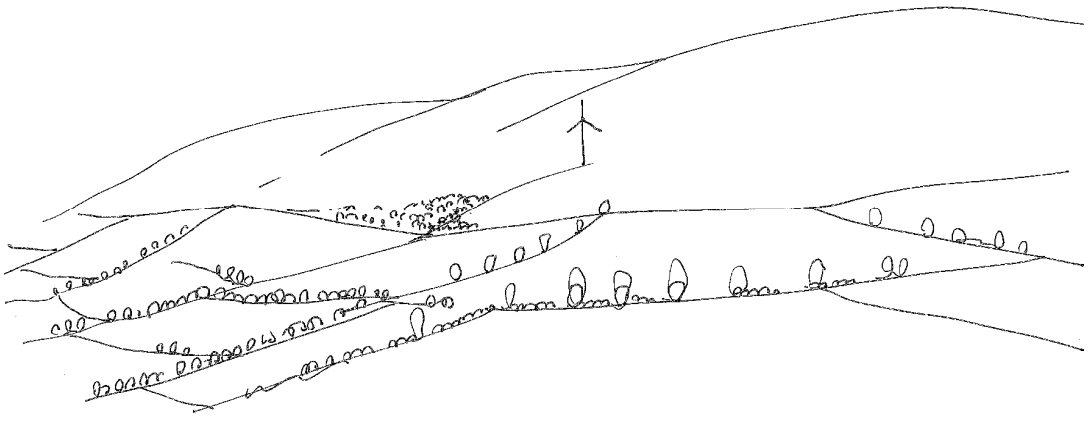


Image 14 *- Landform shape: An indicative medium-small turbine located on a natural ledge of land at the transition between farmed land and steeper hillsides. The natural breaks in slope along this transition can be exploited to site turbines in the landscape. The more strongly a turbine of this size is associated with*

hillsides and simple vegetation pattern, the easier it will be to site it where it minimises possible impacts on landscape scale

24.5.7 *Settlement and land use pattern and features*

Wherever possible, this size of turbine will 'fit' in the landscape more successfully if it is located away from small individual features such as small farms. This will mean locating this typology away from the immediate setting of individual farms and buildings and woodland features, although larger industrial buildings may offer a useful scale reference for the smaller size of this typology.

This size of turbine (30-50m) is most readily accommodated where the pattern of built development becomes sparse, for example in the upland fringe (see Image 14), or where farm holdings are large with very dispersed settlement pattern set within more open, large scale fields or lowland moors (see Image 13). Other opportunities include where the pattern of fields gives way to more extensive forestry, open hills and moorland, or in coastal foothills.

The alignment of tracks and location of other infrastructure, as well as the turbines themselves, are also more likely to be an issue than with smaller turbine sizes.

Developing a recognisable pattern of development – for example, locating turbines at a similar elevation, and/or on similar topographical features across a landscape type will help create a pattern of development which will appear less cluttered and will also develop a distinctive and consistent landscape characteristic over time.

24.5.8 *Visibility*

Turbines of this height are likely to be widely visible, as they are difficult to screen with smaller landform. Good siting is therefore very important, as the relationship with landform and wider landscape setting will be very visible.

24.5.9 *Cumulative issues*

Given the current incentives, these small-medium sized turbines may become a more common occurrence. Key cumulative issues are likely to relate strongly to potential clutter in the landscape and the visual relationship with wind farms of larger turbines or individual and small groups of small turbines. Cumulative issues may include:

- Several individual, or small groups of turbines, could begin to dominate local character;
- Diverse designs of turbine, all spinning at different speeds – or even several turbines of the same type – strung along a prominent or important skyline could become a visual distraction from other landscape features or from perceived visual amenity, especially from key viewpoints;
- Lack of a clear siting strategy could lead to fragmentation of an existing robust and recognisable landscape pattern – where possible, it is important to site turbines on similar landforms, at similar elevations and with a similar relationship to the existing settlement pattern;

- The larger the turbine, the harder it is likely to be to accommodate a number of them in a single view or recognisable tract of landscape without them becoming the dominant feature. It is also harder to accommodate the turbines in a sequence of views experienced, for example, when travelling along a road;
- The variety of potential different types of wind turbines within the landscape could lead to clutter with different styles, sizes of structures and speeds of blade movement dotted across a landscape;
- Potential clutter may also be easily created if there are other masts, such as telecoms masts, overhead wires and pylons within the same vicinity – this is likely to be a bigger problem with these small turbines than larger ones;
- There may be the added complication of increased visual clutter created by a wide range of different heights of turbine within a farmed landscape with micro-, small and small/medium sized turbines;
- Other complications may be the visual interrelationship with larger wind farms of large and medium sized turbines, especially along the upper edge of farmland adjacent to upland character types.

Periodic review will need to be undertaken to assess the cumulative situation in areas where there is a concentration of operational, consented and proposed turbine developments. Adherence to the siting principles set out in this guidance will minimise potential cumulative landscape and visual effects.

24.5.10 *Other landscape issues associated with this typology*

More complex landform, such as the areas of small-scale deposits and knolls will be particularly sensitive to the construction of access tracks for this size of wind turbine development. The construction of new access tracks should be minimised by careful siting of turbines to use existing tracks and to avoid more difficult or steep terrain. Care should also be taken in the alignment and design of any access tracks to ensure that sensitive landform and vegetation is not adversely affected and that intrusion on key views is avoided.

Undergrounding electricity cables to a suitable off-site location to connect with the grid should also be undertaken in order to avoid a clutter of disparate built elements in the landscape.

ANNEX G: SENSITIVITY SUMMARY TABLES

Landscape character type	Sensitivity				
	Very large (130m+)	Large (70-130m)	Medium (50-70m)	Small-medium (30-50m)	Small (15-30m)
Raised beach coast with Flat Fields and Headlands (1c)		High	High	High	High-medium
Raised Beach Coast with Rocky Shore (1d)		High	High	High	High-medium
Coastal Edge (2b)		High	High	High	High-medium
Brown Carrick Hills (4b)		High	High	High-medium	Medium
Coastal Valley with Policies (5)		High	High	High	High-medium
Ayrshire Lowlands (7d)		High	High	Medium	Medium-low
Lowland River Valleys (9)		High	High	High	Medium
Lower Dale (11)		High	High	High-medium	Medium
Middle Dale (12)		High	High	High-medium	Medium
Intimate Pastoral Valley (13)		High	High	High-medium	Medium
Upland Glen (14)		High	High	High	Medium
Lowland Hills (16)		High	High	High-medium	Medium
Foothills with Forest West of Doon Valley (17b)	High[7]	High-medium			
Foothills with Forest and Wind Farms (17c)	High	High-medium			
Maybole Foothills (17d)	High	High	High-medium	Medium	Medium-low
Coastal Foothills (17e)		High	High-medium	Medium	Medium-low
South Ayrshire Plateau Moorlands Forest and Wind Farms (18c)	High-medium	Medium			
South Ayrshire Southern Uplands (20b)		High	High		
Rugged Uplands, Lochs and Forest (21)		High	High		
Glenapp Coastal Farmland and Policies (22)		High	High	High-medium	Medium

[7] Sensitivity to very large turbines was assessed in LCTs where either operational or consented wind farms are present or where some scope for large turbines was identified in the 2013 SALWCS. A detailed assessment of sensitivity to smaller turbines was not undertaken in upland areas.