

**NORTH LANARKSHIRE LOCAL
DEVELOPMENT PLAN
MODIFIED PROPOSED PLAN**

**LANDSCAPE CAPACITY STUDY
FOR
WIND TURBINE DEVELOPMENT
BACKGROUND REPORT**

NOVEMBER 2018



CONTENTS

1. Introduction
2. LUC - Landscape Capacity Study for Wind Turbine Development in Glasgow & Clyde Valley (2014)
3. URS Review of North Lanarkshire Local Landscape Character (2015)
4. Kilsyth Hills Special Landscape Area (SLA)
5. Clyde Valley Special Landscape Area (SLA)

Appendices

- Appendix 1 - LUC - Landscape Capacity Study for Wind Turbine Development in Glasgow & Clyde Valley (2014)
Appendix 2 - URS Review of North Lanarkshire Local Landscape Character (2015)

1. Introduction

- 1.1 The current North Lanarkshire Local Plan was informed by the, Capacity of the North Lanarkshire Landscape to Accommodate Wind Turbine Development (ASH 2008). This Study did not define capacity in terms of a level of development to be achieved, nor did it comment on cumulative impact. In 2013, there was a further Study undertaken by Bayou Bluenvironment that examined, in detail, the Landscape and Visual Sensitivity and the Capacity for wind energy within Fortissat Ward. This Report was commissioned in response to increasing pressure for wind farm development in this part of North Lanarkshire based on the Landscape Character Types from the Glasgow & Clyde Valley Landscape Character Assessment (1999).
- 1.2 For the North Lanarkshire Local Development Plan Modified Proposed Plan it has been necessary to update the background information in relation to wind turbine potential in North Lanarkshire. This Background Report brings together the following documents:
- LUC – Landscape Capacity Study for Wind Turbine Development in Glasgow & Clyde Valley
 - Part 1 – Overview Report
 - Part 2 – North Lanarkshire
 - URS - Review of North Lanarkshire Local Landscape Character
 - Kilsyth Hills Special Landscape Area (SLA) – Draft Statement of Importance
 - Clyde Valley Special Landscape Area (SLA)

that were required to update the

- Strategic view of landscape sensitivity to wind energy development, and available capacity for further development, across the Clydeplan Strategic Development Plan area in an Onshore Wind Energy Spatial Strategy
- Capacity of the North Lanarkshire landscape to accommodate different scales and groupings of wind turbine development and cumulative impact

and should be taken cognisance of in relation to wind turbine proposals.

2. LUC - Landscape Capacity Study for Wind Turbine Development in Glasgow & Clyde Valley (2014)

- 2.1 This report comes in two parts; the first part is the strategic overview of capacity for wind energy development across the Clydeplan Strategic Development Plan area and is designed to be complemented by the more detailed; second part that is local analysis of sensitivity and capacity contained in the LUC Report specifically for North Lanarkshire.

Part 1 - Overview Report

- 2.2 The strategic view of landscape sensitivity to wind energy development and available capacity for further development, does not introduce a threshold beyond which development would be unacceptable. It does however set out guidelines in terms of constraints and opportunities, as to how any further development may be accommodated. The Report seeks to strike an informed balance, providing strategic information which will underpin detailed analysis of cumulative impact and landscape capacity at the local level.
- 2.3 This evidence has informed the preparation of a spatial framework of search areas for significant wind energy development (capacity of 20 MW or more), where there are no significant constraints on development. Although this Report will be used to inform development management decisions for wind turbine proposals, it should not be used on its own to determine the suitability of a specific site. Reliance on this Study is not a substitute for detailed examination of the potential effects of individual wind energy proposals on a case-by-case basis.
- 2.4 The Study is based on the Glasgow and Clyde Valley Landscape Character Assessment (1999), which defines broad Landscape Character Types (LCTs) and was undertaken at a scale of 1:50,000. These LCTs may not recognise local variation in landscape character, and their boundaries are generally zones of transition rather than firm lines. Reference should be made to more than one LCT assessment when considering locations close to LCT boundaries. Sensitivity and capacity assessments at this scale may overlook local detail and variation; therefore more detailed local landscape character studies may be required.
- 2.5 The underlying capacity of each landscape character type has been evaluated, based on the assessment of sensitivity and the indicators of landscape. Sensitivity evaluation criteria were developed based on SNH guidance on the siting and design of windfarms, and applied to the SDP area for wind turbine heights from 15m up to 150m. Alongside the sensitivity assessment, the relative value placed on the landscape was also taken into account based on the presence of regional and local designations. This underlying capacity is also affected (to a greater or lesser extent) by the presence of existing wind turbine development, consented and

proposed future development, with the remaining capacity defined as the “current residual “capacity, as it only represents a snapshot of a continually changing pattern of development.

- 2.6 The strategic cumulative assessment that was undertaken across the study area identified potential cumulative effects occurring beyond the LCT scale, and in some cases beyond the local authority scale as it examined regional patterns of development, including consideration of existing and emerging clusters. The assessment seeks to recommend where future development could be fitted into this pattern, either by building on existing clusters or by protecting important open areas. The assessment was informed by examination of cumulative zone of theoretical visibility (CZTV) maps, comparison with the assessed sensitivity of the landscape, and by examination of potential cumulative impacts on views from a number of representative viewpoints and routes across the study area.
- 2.7 This Study largely confirms the pattern of underlying sensitivity which has been established in previous studies. The examination of cumulative development within the landscape has provided a picture of current residual capacity in some of the lower sensitivity landscapes, but that the capacity threshold is being approached in other LCTs.
- 2.8 This Study also identified a distinct pattern of development emerging within the Clydeplan Strategic Development Plan area, and that there are few locations where the observed pressures are expanding wind farms beyond this pattern of development. Maintenance of this pattern of development was identified as a means of restricting the spread of cumulative impacts into new areas. The Campsie Fells, Tinto and western Pentlands areas are identified as strategic gaps in the wider pattern of development across the study area.
- 2.9 This Study notes that some landscapes, particularly areas of the Plateau Farmland and Southern Uplands LCTs, are reaching the point at which cumulative effects are likely to limit the potential for further development.

Part – 2 North Lanarkshire

- 2.10 There are 9 Landscape Character Types (LCT) within North Lanarkshire and Section 5 of the Report sets out the findings for each LCT, in terms of Sensitivity and Capacity.
- 2.11 The Sensitivity and Capacity Study for North Lanarkshire found that the areas with greatest capacity for future development are the Plateau Moorland and Plateau Farmland areas in the central and eastern parts of North Lanarkshire. These areas were judged to be of relatively lower sensitivity to wind turbine development in comparison to other areas. The Study highlights the need to develop discrete foci or clusters of development within the Plateau Moorland and Plateau Farmland rather than allow a scatter of single turbines and turbine groups across the whole area.
- 2.12 Higher sensitivity was identified in the Kilsyth Hills in the north, and the Clyde Valley in the south. The lack of existing and proposed development in or around the areas of higher sensitivity is notable, and it is recommended that these areas are maintained as landscapes relatively free of large-scale wind energy development.
- 2.13 Further development within the Plateau Moorland and Plateau Farmland may intensify cumulative effects at those locations, but this is considered preferable to dispersal of cumulative effects into currently unaffected areas of higher sensitivity, such as the Kilsyth Hills.
- 2.14 A copy of the LUC - Landscape Capacity Study for Wind Turbine Development in Glasgow & Clyde Valley (2014) is available in Appendix 1.

3. URS Review of North Lanarkshire Local Landscape Character (2015)

- 3.1 Landscape designations play an important role in Scottish Planning Policy protecting and enhancing areas of particular value. Scottish Planning Policy encourages local, non-statutory designations to protect and create an understanding of the role of locally important landscape have on communities.
- 3.2 In 2014 as part of preparation of the North Lanarkshire Local Development Plan Proposed Plan a review of local landscape designations was undertaken as part of wider action for landscape protection and management. The purpose of the Review was to identify and provide an awareness of the special character and qualities of the designated landscape in North Lanarkshire and to contribute to guiding appropriate future development to the most appropriate locations. The Review has identified a number of Local Landscape Units (LLU) that are of notable quality and value within which future development requires careful consideration to avoid potential significant impact on their landscape character.

- 3.3 There are two exemplar LLUs identified in this study, Kilsyth Hills and Clyde Valley, which are seen as very sensitive to development. Both of these areas warrant specific recognition and protection, as their high landscape quality would be threatened and adversely affected by unsympathetic development within their boundaries. The Report recommends that these two areas are identified as Special Landscape Areas within the North Lanarkshire Local Development Proposed Plan and supported by specific policy protection.
- 3.4 It is also noted in the Report that the Kelvin Valley Local Landscape Unit has a strong connection to the adjacent Kilsyth Hills. The relationship of any turbines with the scale and form of the valley and valley sides is a key consideration for this LLU. Within the upper Kelvin Valley around Kilsyth, the steeply rising slopes of the Kilsyth Hills are a landmark feature and present a particular constraint to medium or larger development. The Kelvin Valley LLU requires specific landscape protection measures but with a wider range of acceptable development types than the Kilsyth Hills.
- 3.5 North Lanarkshire Council has taken onboard the recommendations from this Report and has incorporated them into the Local Development Proposed Plan. It is therefore important that this report and the two Special Landscape Areas below are taken into consideration in relation to any wind turbine proposals.

3.6 A copy of the URS Review of North Lanarkshire Local Landscape Character (2015) is available in Appendix 2.

4. Kilsyth Hills Special Landscape Area (SLA)

- 4.1 Following the URS Review of North Lanarkshire Local Landscape Character, two exemplar LLUs identified, of which the Kilsyth Hills LLU was one, and should be designated as a Special Landscape Area (SLA). This SLA's Statement of Importance explains in detail why this proposal should be taken forward.
- 4.2 The value of the Kilsyth Hills LLU is a result of its largely undeveloped nature and importance as a contrasting feature and backdrop to other landscape types. The character of the local landscape is therefore considered to be "highly sensitive to development", as the introduction of artificial structures could adversely affect the key characteristics and value of the landscape.
- 4.3 The designation of the Kilsyth Hills SLA is considered particularly important given the prominent presence and perceived value of the landscape, both locally and in a regional context and the landscape's limited capacity to change without adverse impact. Additionally the landscape is valued both locally and regionally as an important setting for outdoor recreation and low-impact sustainable tourism.
- 4.4 A copy of the Statement of Landscape Importance for the Kilsyth Hills Special Landscape Area Background Report is available on the Council's Website.

5. Clyde Valley Special Landscape Area (SLA)

- 5.1 Following the URS Review of North Lanarkshire Local Landscape Character, two exemplar LLUs identified, of which the Clyde Valley LLU was one, and should be designated as a Special Landscape Area (SLA). This SLA's Statement of Importance explains in detail why this proposal should be taken forward.
- 5.2 The value and the key characteristics of the Clyde Valley LLU relates to the limited settlement and overall impression of a well-cared for agricultural landscape. The north side of the Clyde Valley in North Lanarkshire towards Garrion Bridge is more contained by slopes, with deeply incised valley spurs off the main broad valley, each of which have very limited and contained views into and out of the incisions. The valley provides a contrast to the adjacent large urban areas to the north. The landscape is highly sensitive to development which does not relate to its agricultural character.
- 5.3 The designation of the Clyde Valley SLA is considered particularly important given the relative uniqueness of this type of landscape within North Lanarkshire. It is the prominent presence and perceived value of the landscape, both locally and in a regional context, with the landscape's limited capacity to change without adverse impact on its character. The valley is an important visitor destination with a series of long-established garden centres as well as outdoor recreation in the form of the long distance Clyde Valley Walkway, a route of regional importance and the various local paths which link to the Walkway through the surrounding woodlands and the countryside.
- 5.4 A copy of the Statement of Landscape Importance for the Clyde Valley Special Landscape Area Background Report is available on the Council's Website.



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Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley

North Lanarkshire

Prepared by LUC for the Glasgow and the Clyde Valley Strategic Development Plan Authority
June 2014

Project Title: Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley

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- Scottish Natural Heritage
- North Lanarkshire Council

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Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley

North Lanarkshire

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June 2014

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Contents

Executive Summary	7
Approach and methodology	7
Findings relating to North Lanarkshire	8
Limitations	8
Use of this document	9
1 Introduction	10
Background to the study	10
Reporting	10
2 Background	11
Introduction	11
Landscape capacity and sensitivity studies	12
3 Methodology	14
Introduction	14
Summary of methodology	16
Study area	17
Potential effects of wind energy development on the landscape	18
Development typologies	20
Assessment of landscape sensitivity	21
Landscape value	25
Combining the judgements: landscape capacity	25
Strategic cumulative assessment	27
4 Landscape Baseline	29
Landscape Character Types	29
Landscape designations	29
Wildness	29
Visual baseline	30
Wind turbine development	30
5 Sensitivity and Capacity Assessment	32
4 Rolling Farmlands	33
5 Plateau Farmlands	37
7 Fragmented Farmlands	41
8 Incised River Valleys	45
10 Broad Valley Lowland	49
11 Broad Urban Valley	53
18 Plateau Moorlands	57
20 Rugged Moorland Hills	61
6 Summary and Conclusions	65
Summary of sensitivity and capacity	65
Summary of strategic cumulative assessment	67
Overall Conclusions	70
Appendix 1	71
Guidance for small-scale development	71

Tables

Table 3.1 Wind turbine development typologies	20
Table 3.2 Criteria for Assessing Landscape Sensitivity to Wind Farm Development	21
Table 3.3 Sensitivity definitions	24
Table 3.4 Indicators of higher or lower capacity	26
Table 4.1 Representative viewpoints	30
Table 4.2 Wind turbines in North Lanarkshire	31
Table 5.1 Assessment of LCT4 Rolling Farmlands	34
Table 5.2 Sensitivity of LCT4 Rolling Farmlands	35
Table 5.3 Assessment of LCT5 Plateau Farmlands	38
Table 5.4 Sensitivity of LCT5 Plateau Farmlands	39
Table 5.5 Assessment of LCT7 Fragmented Farmland	42
Table 5.6 Sensitivity of LCT7 Fragmented Farmland	43
Table 5.7 Assessment of LCT8 Incised River Valleys	46
Table 5.8 Sensitivity of LCT8 Incised River Valleys	47
Table 5.9 Assessment of LCT10 Broad Valley Lowland	50
Table 5.10 Sensitivity of LCT10 Broad Valley Lowland	51
Table 5.11 Assessment of LCT11 Broad Urban Valley	54
Table 5.12 Sensitivity of LCT11 Broad Urban Valley	55
Table 5.13 Assessment of LCT18 Plateau Moorlands	58
Table 5.14 Sensitivity of LCT18 Plateau Moorlands	59
Table 5.15 Assessment of LCT20 Rugged Moorland Hills	62
Table 5.16 Sensitivity of LCT20 Rugged Moorland Hills	63
Table 6.1 Summary of sensitivity and capacity in North Lanarkshire	65

Figures

Figure 2.1 Broad areas of search defined in the GCVSDP	11
Figure 5.1 Rolling Farmlands (refer to Figure 4.1 for more detail)	33
Figure 5.2 Plateau Farmlands (refer to Figure 4.1 for more detail)	37
Figure 5.3 Fragmented Farmland (refer to Figure 4.1 for more detail)	41
Figure 5.4 Incised River Valleys (refer to Figure 4.1 for more detail)	45
Figure 5.5 Broad Valley Lowland (refer to Figure 4.1 for more detail)	49
Figure 5.6 Broad Urban Valley (refer to Figure 4.1 for more detail)	53
Figure 5.7 Plateau Moorlands (refer to Figure 4.1 for more detail)	57
Figure 5.8 Rugged Moorland Hills (refer to Figure 4.1 for more detail)	61

A3 Figures

Figure 3.1	Study area
Figure 3.2	Intervisibility with the Core Area (ground level)
Figure 3.3	Intervisibility with the Core Area (80m)
Figure 3.4	Intervisibility with the Core Area (150m)
Figure 4.1	Landscape Character Assessment
Figure 4.2	Landscape Designations
Figure 4.3	Viewpoints
Figure 4.4	Wind Energy Development within North Lanarkshire
Figure 4.4a	Wind Energy Development and Landscape Character Types
Figure 5.21	Landscape Sensitivity to Small Turbines
Figure 5.22	Landscape Sensitivity to Small-medium Turbines
Figure 5.23	Landscape Sensitivity to Medium Turbines
Figure 5.24	Landscape Sensitivity to Large Turbines
Figure 5.25	Landscape Sensitivity to Very Large Turbines
Figure 5.26	Landscape Character Assessment: Sub-areas
Figure 6.1	Cumulative Zone of Theoretical visibility: operational and consented turbines
Figure 6.2	Cumulative Zone of Theoretical visibility: operational consented and proposed turbines

Executive Summary

Approach and methodology

The Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley was undertaken between September 2013 and May 2014. The aim was to provide a strategic view of landscape sensitivity to wind energy development, and available capacity for further development, across the Glasgow and the Clyde Valley Strategic Development Plan area. The project was overseen by a steering group comprising Glasgow and the Clyde Valley Strategic Development Plan Authority, Scottish Natural Heritage, and the eight constituent local authorities. The outputs of the study include an Overview Report and eight local authority reports.

The foundation of the study is the characterisation presented in the Glasgow and Clyde Valley Landscape Character Assessment (1999) which provides a regional-scale classification of the landscape. The relative sensitivity and capacity of each of the defined landscape character types was assessed.

Sensitivity was evaluated through application of a series of criteria, developed from guidance on the siting and designing of wind farms which has been published by Scottish Natural Heritage. These criteria were discussed and agreed with the steering group. Sensitivity was defined for a series of wind turbine heights, ranging from 15 m up to around 150 m to represent the spectrum of turbine sizes which are currently operating or in the planning system.

Alongside the sensitivity assessment, the relative value placed on the landscape was evaluated. For the purposes of this study, this has been based on the presence of regional and local landscape designations, including regional parks, special landscape areas, areas of great landscape value and similar. Note has also been taken of country parks and landscape-related heritage assets, particularly world heritage sites.

The underlying capacity of each landscape character type was evaluated based on the assessment of sensitivity and the indicators of landscape value. The underlying capacity of each character type is considered to be relatively continuous across each of the landscape character types.

The underlying capacity is affected to a greater or lesser extent by the presence of existing wind turbine development, and by consented and proposed future development. For the purposes of the study information was gathered on operational and consented development, and development within the planning system, in October/November 2013. This information was not updated during the project lifetime, and therefore represents a snapshot of a continually changing pattern of development. Developments at scoping stage were not considered.

Following analysis of the existing and proposed wind turbines within and around each character type, an evaluation was made of the remaining capacity for further development. This has been termed **current residual capacity**, since it is based on the examination of current patterns of development, which may change in the future. Current residual capacity is found to vary across landscape character types, depending on the local level of turbine development. Some landscape character types are therefore sub-divided and conclusions are presented in relation to smaller areas.

To examine the potential for cumulative effects at a wider scale, a strategic cumulative assessment was undertaken. This seeks to examine regional patterns of development, including consideration of existing and emerging clusters of development as well as currently undeveloped areas. The cumulative assessment compared patterns of development against the assessed capacity of the landscape. A number of representative viewpoints and routes were examined to identify the potential for cumulative impacts on views.

Findings relating to North Lanarkshire

The sensitivity and capacity study found that the areas with greatest capacity for future development are the Plateau Moorland and Plateau Farmland areas in the central and eastern parts of North Lanarkshire. These areas were judged to be of relatively lower sensitivity to wind turbine development in comparison to other areas. Higher sensitivity was identified in the Kilsyth Hills in the north, and the Clyde Valley in the south.

The lack of existing and proposed development in or around the areas of higher sensitivity, i.e. the Clyde and Kelvin Valleys and the Kilsyth Hills, is notable, and it is recommended that these areas are maintained as landscapes relatively free of large-scale wind energy development.

Further development within the Plateau Moorland and Plateau Farmland may intensify cumulative effects, but this is considered preferable to dispersal of cumulative effects into currently unaffected areas of higher sensitivity, such as the Kilsyth Hills. The study highlights the need to develop discrete foci or clusters of development within the Plateau Moorland and Plateau Farmland rather than allow a scatter of single turbines and turbine groups across the whole area.

Limitations

The study presents a strategic view of the sensitivity and capacity of the landscape of the study area. It was undertaken at **a regional scale, and a number of important caveats, or 'health warnings', are therefore set out below.**

- The study is based on the Glasgow and Clyde Valley Landscape Character Assessment, which defines broad landscape character types (LCTs) and was undertaken at a scale of 1:50,000. These LCTs may not recognise local variation in landscape character, and their boundaries are generally zones of transition rather than firm lines. Reference should be made to more than one LCT assessment in considering locations close to LCT boundaries.
- The sensitivity and capacity assessments were undertaken based on the regional-scale LCTs, and may therefore overlook local detail and variation. More detailed assessment of sensitivity and capacity may be appropriate, based on local landscape character studies, where these are available.
- Capacity is not solely an inherent characteristic of the landscape, but is partly defined by the demand or need for development which may change over time. The study does not seek to place defined limits on capacity, since the level of demand may increase or decrease in future depending on political and economic factors.
- The strategic cumulative assessment was undertaken at a regional scale, and does not attempt to report on every potential cumulative effect, focusing on broad patterns of development instead.
- The study aims to give a strategic overview of capacity for wind energy development across the Glasgow and Clyde Valley area, and is designed to be complemented by more detailed, local analysis of sensitivity or capacity in published or future studies at local authority level.
- The study is intended to be a tool to inform spatial planning and development management. It does not provide guidance on specific proposals or sites, and is not intended to be used on its own to determine the suitability of a specific site for development. Reliance on this study is not a substitute for detailed examination of the potential effects of individual wind energy proposals on a case-by-case basis.

Use of this document

The guidance presented in this document is based on consideration of wind energy developments which were operational, consented or the subject of live planning applications at the time of writing, based on data gathered in October/November 2013. Patterns of development have already moved on, and will continue to change in future. In referring to the conclusions of this study, it is essential to take note of changes which have taken place since it was written. When considering cumulative development within the area, the relevant local authorities should be contacted for up to date information on the planning status of proposed wind farms.

The study draws conclusions on:

- the underlying sensitivity and capacity of the landscape, regardless of current development; and
- the current residual capacity of the landscape, based on the current level of development.

While the underlying sensitivity and capacity will not change, the current residual capacity will be affected by incremental future development. As new projects enter the planning system, and further turbines are constructed, the current level of development will change with implications for the remaining capacity of the landscape.

For example, if the current residual capacity of a landscape is judged to be low to a particular type of development, and further development of this type has been consented since this report was written, then there may be no further capacity remaining. Alternatively, where higher capacity has been identified, additional development may have had limited effect, with some of the residual capacity still remaining.

The report does not introduce a threshold beyond which development would be unacceptable, but sets out guidelines, in terms of constraints and opportunities, as to how any further development may be accommodated. Consideration of this guidance will be the key factor in determining how much of the current residual capacity remains. Decisions must be made on a case-by-case basis, drawing on the detailed information presented within this report.

1 Introduction

Background to the study

- 1.1 LUC was appointed in September 2013 to carry out a study of landscape sensitivity and capacity in relation to wind turbine development within the Glasgow and the Clyde Valley Strategic Development Plan (GCVSDP) area. The study presents a strategic view of landscape sensitivity and capacity in relation to landscape character, and offers an overview of cumulative effects across the area, to inform judgements as to where these may limit further development.
- 1.2 The study is required to examine the sensitivity of the landscape to wind turbine development at a range of scales. It is intended that the study will provide evidence to underpin the preparation of spatial frameworks and supplementary planning guidance on wind energy. It will also inform development management decisions for wind turbine proposals, as well as providing assistance to developers in terms of site selection.
- 1.3 The project was overseen by a steering group led by the Glasgow and the Clyde Valley Strategic Development Plan Authority (GCVSDPA), together with Scottish Natural Heritage (SNH) and representatives of the eight constituent local authorities.

Reporting

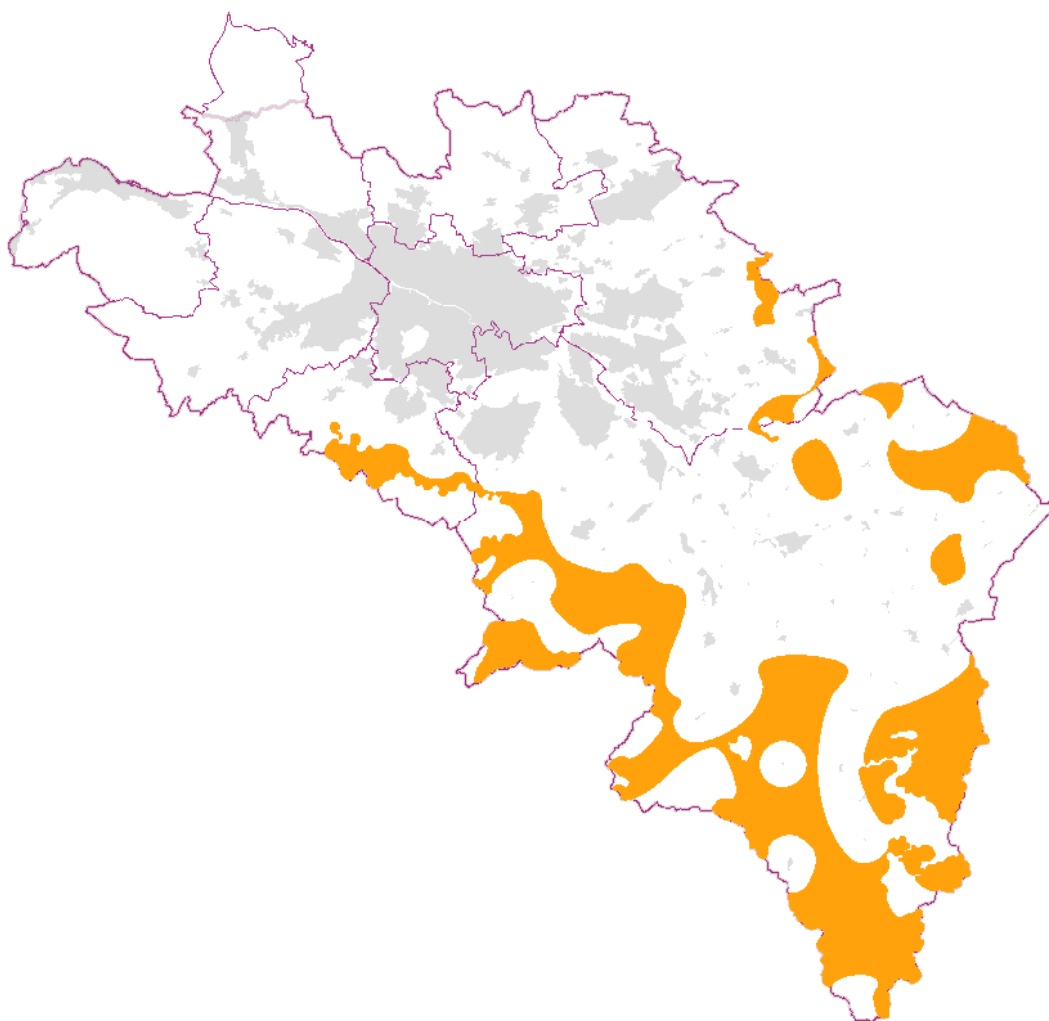
- 1.4 The study was undertaken as a single regional exercise, at a strategic scale covering the whole of the GCVSDP area. The findings are presented as a whole within a separate Overview Report.
- 1.5 This report details the specific findings in relation to the North Lanarkshire Council area. The findings do not vary from the Overview Report, but only the conclusions relevant to North Lanarkshire have been reported. Dedicated reports for the other seven local authorities are also available.

2 Background

Introduction

- 2.1 National and regional planning policy and guidance of relevance to the study are discussed in full within Section 2 of the Overview Report. This includes a review of Scottish Planning Policy and the GCVSDP documents and background reports.
- 2.2 At a strategic level, broad areas of search for wind farms of over 20 MW have been defined to inform the GCVSDP.¹ The broad areas of search within North Lanarkshire are located in the east and south-east of the area, as shown on **Figure 2.1**.

Figure 2.1 Broad areas of search defined in the GCVSDP



¹ GCVSDPA (2012) *Glasgow and the Clyde Valley Strategic Development Plan*.

Landscape capacity and sensitivity studies

- 2.3 Studies of direct relevance to the North Lanarkshire area are discussed below. Other capacity and sensitivity studies are considered in the Overview Report.

Ayrshire and Clyde Valley capacity study

- 2.4 The Ayrshire and Clyde Valley Windfarm Landscape Capacity Study (2004) presents a regional evaluation of landscape capacity across part of the present study area and the whole of Ayrshire.² The study included a criteria-based assessment of landscape **sensitivity based on 'scoring' and separated into 'character sensitivity' and 'value sensitivity'**. Development typologies are not described.
- 2.5 The second part of the study relied on **GIS-based visibility analysis of 115 'sample locations'** representing potential wind farm sites. The generated zones of theoretical visibility were then compared to the sensitivity assessment, and to population data, to provide indications of potential impact. The final stage modelled a number of scenarios illustrating potential strategies for delivering up to 800 wind turbines, to meet projected 2020 capacity requirements. The study did not draw a conclusion as to whether this or any other level of development would be acceptable across the study area.
- 2.6 While the report was **presented with a number of important 'health warnings', some of the** relevant conclusions are summarised below.
- The sensitivity assessment found that, of the GCVSDP area landscapes, those with the highest sensitivity were the Incised River Valleys and the Foothills character types, while the lowest sensitivity was applied to the Alluvial Plain and Fragmented Farmland types.
 - The study found greater capacity for development in areas including Whitelee Moor, the upper Clyde Valley, parts of the Renfrewshire Hills, and the plateau moorland above Airdrie – it is notable that large wind farms have since been developed in two of these areas.

North Lanarkshire capacity study

- 2.7 A 2008 study, undertaken as a strategic landscape and visual impact assessment, identified capacity for wind turbines in North Lanarkshire.³ The study does not define capacity in terms of a level of development to be achieved. Visual assessment was not considered useful, due to the high density of population across the area. A broad area of search was defined at the outset through analysis of landscape quality and value. Scenic and valued landscapes, as well as visually prominent landscapes, were thereby excluded from the study.
- 2.8 The remaining broad area of search was examined in terms of the sensitivity of each constituent landscape character type (as defined in the SNH Glasgow and Clyde Valley landscape assessment) to a range of development types. The study goes further, giving an indication of the potential effect on the landscape of each development type, and the likely significance of such an effect in the context of EIA Regulations. The study concluded that only the moorland in the south east of the area had capacity for larger wind farms, though there was some capacity elsewhere for single turbines or smaller machines.
- 2.9 **The findings of the study are formalised in North Lanarkshire Council's Technical Report TR/NLC/05.**⁴

² Land Use Consultants (2004) Ayrshire and Clyde Valley Windfarm Landscape Capacity Study. Scottish Natural Heritage, Ayrshire Joint Structure Plan Committee and Glasgow and the Clyde Valley Structure Plan Joint Committee.

³ ASH Design + Assessment (2008) The Capacity of the North Lanarkshire Landscape to Accommodate Wind Turbine Development. North Lanarkshire Council.

⁴ North Lanarkshire Council (2008) Strategic Planning Study Technical Report TR/NLC/05 - Wind Farm Search Area Review.

Fortissat Ward Wind Energy Landscape Capacity Study

- 2.10 This study examined in detail the landscape and visual sensitivity and capacity for wind energy within Fortissat, at the south-east corner of North Lanarkshire.⁵ The study was commissioned in response to increasing pressure for wind farm development in this part of North Lanarkshire, which already includes the Black Law wind farm, and numerous proposed developments at a range of scales.
- 2.11 The study **examined scenarios for 'community scale' (under 80 m blade tip) and 'commercial scale' (80-130 m+ blade tip)**. The study includes a detailed analysis of this small study area, leading to a local-scale classification of Fortissat Ward into ten landscape character areas. The classification remains grounded in the Glasgow and Clyde Valley Landscape Character Assessment (see **Section 4**).
- 2.12 The landscape sensitivity and visual sensitivity of each of these character areas is assessed in relation to community scale and commercial scale wind energy development. Generally, the study finds lower sensitivity to community scale development than to commercial scale development. The areas classified as Plateau Moorlands are generally found to have lower landscape sensitivity, though with important variations. Most of the area is considered to have higher visual sensitivity.
- 2.13 The report concludes that there is medium or higher capacity for commercial development within the eastern and northern parts of the ward, and for community development within the eastern areas. The South Calder Valley is identified as the area with most limited capacity for development.

⁵ Bayou Bluenvironment (2013) Fortissat Ward Wind Energy Landscape Capacity Study. North Lanarkshire Council.

3 Methodology

Introduction

- 3.1 The study was undertaken at a regional scale and considered the whole of the GCVSDP area. The following section presents the detailed methodology as applied to the regional study.
- 3.2 The approach to the study was developed by LUC based on the requirements set out in the study brief. A method statement was prepared and circulated to the steering group and comments received were incorporated into the methodology.
- 3.3 The key sources of guidance for undertaking sensitivity and capacity studies include the landscape character **assessment guidance published and its accompanying 'topic papers'**,^{6 7} and the more **recent capacity study 'toolkit' from SNH**.⁸ These documents discuss general approaches and issues, but do not offer detailed or prescriptive guidance on how capacity studies should be undertaken. It is necessary to develop a project-specific approach based on the demands of the brief, informed by available guidance. The review of earlier capacity studies (**Section 2**) has also informed the development of the methodology.

Definitions and principles

- 3.4 Landscape sensitivity is concerned with the inherent character of the landscape, and the likelihood that this character would be changed by the introduction of development. The sensitivity of a given landscape will vary according to the type of change which is proposed. Topic Paper 6 states that:

"Judging landscape character sensitivity requires professional judgement about the degree to which the landscape in question is robust, in that it is able to accommodate change without adverse impacts on character. This involves making decisions about whether or not significant characteristic elements of the landscape will be liable to loss... and whether important aesthetic aspects of character will be liable to change" (paragraph 4.2).
- 3.5 This indicates that the study must examine 'aspects' of landscape character, and how these could be affected by wind energy development. For the purposes of this study, we have defined 'sensitivity' as follows:

Sensitivity is the relative extent to which the character of the landscape is susceptible to change as a result of wind energy development at different scales.
- 3.6 Landscape capacity is related to landscape sensitivity, but the two are distinct. Capacity has been defined in the Landscape Character Assessment Guidance:

"Landscape capacity refers to 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" (page 53).
- 3.7 Capacity seeks to define the **level of change** in character which a landscape can accommodate, and beyond which the character of the landscape would change. From this it could be inferred that the level of change should be a distinct threshold or amount of development which can be accommodated.

⁶ Swanwick, C. and Land Use Consultants (2002) Landscape Character Assessment Guidance for England and Scotland. Countryside Agency and Scottish Natural Heritage

⁷ Swanwick, C. (2006) Landscape Character Assessment Topic Paper 6: Techniques and Criteria for Judging Sensitivity and Capacity. Countryside Agency and Scottish Natural Heritage.

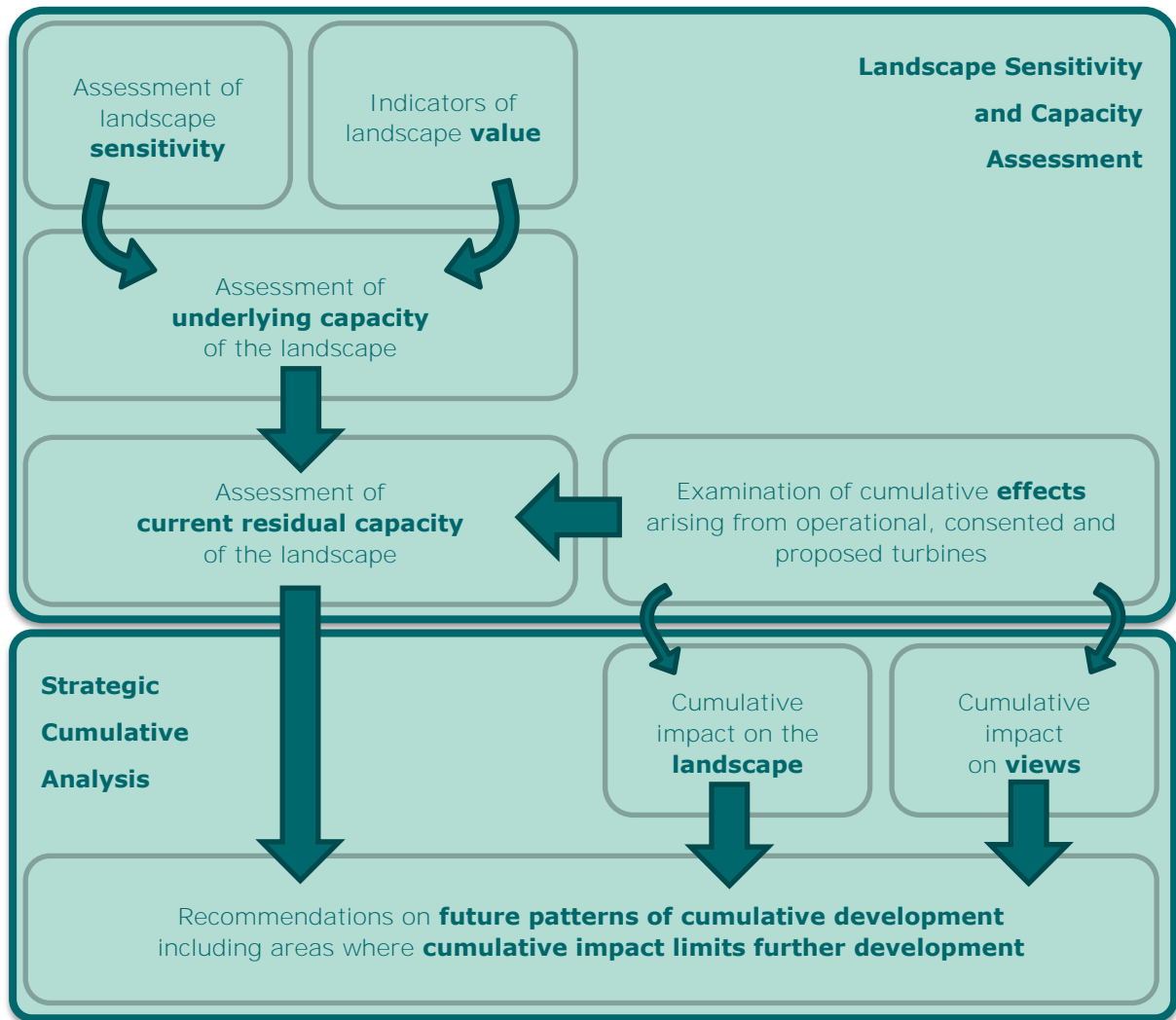
⁸ Scottish Natural Heritage (n.d.) A Guide to Commissioning a Landscape Capacity Study.

- 3.8 However, when considering wind energy developments there is no such threshold, since it is widely accepted that all commercial scale wind turbine developments will result in changes to landscape character. Any such threshold must therefore be dictated by need, i.e. an ultimate level of development which must be accommodated in the study area. This question, essentially **“how much change in the landscape are we prepared to accept?”** is outside the scope of the present study.
- 3.9 **The SNH ‘toolkit’ on landscape capacity studies notes the difficulties of quantifying capacity for wind energy development in terms of a threshold. Reasons for this include:**
- Changing technology;
 - High visibility of wind turbines;
 - Difficulty in predicting the nature, scale and type of future development; and
 - Changing cumulative picture.⁹
- 3.10 Topic Paper 6 suggests that the assessment of capacity must combine judgements of sensitivity and landscape value, informed by consideration of the specific type of change proposed. The present study therefore focuses on an assessment of landscape and visual sensitivity at a strategic scale, and combines this with indicators of landscape value. Based on consideration of these factors, a judgement about landscape capacity for wind turbine development can be made. **For the purposes of this study, we have defined ‘landscape capacity’ as follows:**
- Capacity is the inherent ability of a landscape to accommodate the types of change expected to arise from the introduction of wind energy development at different scales, without resulting in an overall change in character type.*
- 3.11 While noting the difficulty of defining a threshold, the study is required to indicate areas which are approaching the limit of cumulative capacity. Further judgements must therefore take into account development which is already present in the landscape, and to a lesser extent development which will potentially be present in the landscape in the near future.
- 3.12 The components of the methodology must therefore be:
- An understanding of the development type(s) proposed, and how they may affect landscape character;
 - A robust, criteria-based approach to the evaluation of landscape sensitivity;
 - An indication of landscape value;
 - A combination of these judgements to give an indication of capacity;
 - An examination of current and potential future levels and patterns of wind turbine development to determine residual capacity; and
 - An overall evaluation of cumulative impact at a strategic scale, to determine where the level of cumulative impact is likely to place a limit on further development in any areas.

⁹ Scottish Natural Heritage (n.d.) A Guide to Commissioning a Landscape Capacity Study. Pages 20-21.

Summary of methodology

3.13 The diagram below presents a summary of the stages in the methodology.



Study area

- 3.14 The focus of the study was on the landscapes and potential wind energy developments within the eight GCVSDP council areas, defined as the **core area**. The part of West Dunbartonshire which falls within the Loch Lomond and the Trossachs National Park does not form part of the core area.
- 3.15 It is important to bear in mind that landscape and visual issues continue uninterrupted across administrative boundaries, and the study must recognise the potential for cross-boundary effects beyond the GCVSDP area, particularly in relation to cumulative issues. A **buffer area** was therefore adopted. Following discussion with and feedback from the steering group, it was agreed that the simplest solution would be the adoption of a 15 km wide buffer around the core area.
- 3.16 Where the term **study area** is used, this refers to both the core area and the buffer area. **Figure 3.1** illustrates the extent of the core area and the buffer area.
- 3.17 Suggested distances at which potentially significant effects on views may arise from wind turbines are set out in Table 2 of the SNH guidance on Visual Representation of Wind Farms (2006). These distances, up to 35 km for the largest turbines, were considered as a means to define a buffer but in practice it is turbines which are closer to potential receptors which will have a bearing on the perception of cumulative effects. This has been borne out in other recent studies; for example the South Lanarkshire Spatial Framework and Landscape Capacity for Wind Farms also adopts a 15 km buffer.
- 3.18 The landscape of the GCVSDP area is relatively contained, with higher ground surrounding the Clyde basin. As such the landscapes of the core area and those in the buffer are often visually unrelated. Intervisibility mapping (see below) has been carried out to establish those areas within the buffer area which are most relevant to examination of the core area, and those which are not and need not be examined further.
- 3.19 Consideration of sequential effects, focusing in particular on the principal road corridors entering and leaving the core area, may require larger distances to be incorporated. For sequential assessment, the distance beyond the core area was determined on a case-by-case basis, informed by the intervisibility mapping.
- 3.20 The study does not draw conclusions or make recommendations in relation to the landscapes of the buffer area. However, these areas are used for the gathering of baseline data which may affect judgements as to the sensitivity and capacity of landscapes in the core area.

Intervisibility mapping

- 3.21 Computer-generated theoretical intervisibility mapping was used to determine the relative level of visibility of different turbine heights across the study area, assisting with the consideration of the potential landscape implications of different development types.
- 3.22 The analysis comprises a GIS-based calculation of the number of **'source points'** which are theoretically visible to viewers within the study area. The viewshed is calculated from a viewer height of 2 m above ground level. The **'source points'** are arranged in a 500 m grid covering the whole of the core area. **To examine the relative visibility of different turbines, the 'source points' are assigned different heights.** Visibility maps have been generated for three different heights, representing the range of turbines under consideration, as follows:
- **Figure 3.2** shows theoretical visibility of ground level (0 m), indicating the most 'visible' landscapes, and highlighting visual relationships between the core area and the buffer area;
 - **Figure 3.3** shows theoretical visibility of turbines of 80 m to tip, broadly in the middle of the range of heights being considered; and
 - **Figure 3.4** shows theoretical visibility of turbines of 150 m to tip, at the upper extent of the range of heights being considered.
- 3.23 The intervisibility mapping is based on a **'bare ground'** topographical model, which takes no account of the screening effect of buildings, vegetation and small localised variations in topography. The maps therefore indicate theoretical visibility only.

- 3.24 Areas of lower visibility are not necessarily of inherently lower sensitivity to development, nor vice-versa. The intervisibility mapping has informed the consideration of sensitivity to different development typologies as part of a wider analysis of landscape and visual characteristics.
- 3.25 The maps indicate where greatest theoretical visibility of turbines in the core area would occur, shaded in red, and areas where visibility would be more limited, shaded blue. Intervisibility mapping is discussed in relation to each LCT in **Section 5** of this report.

Potential effects of wind energy development on the landscape

- 3.26 In order to determine sensitivity, it is important to first understand the characteristics of wind energy development and how they may affect the landscape. The following sections describe the features of wind turbines and associated development, and consider potential impacts on the Glasgow and Clyde Valley landscape.

General features of wind energy development

- 3.27 The key components of wind energy development are the wind turbines, which may be grouped together into a wind farm. The majority of wind turbines consist of horizontal-axis three-bladed turbines, mounted on a steel tower. Other turbines, including two bladed turbines and vertical axis turbines, are available but less commonly deployed. Wind turbines are generally given planning permission for 25 years, although repowering¹⁰ may take place after this period has elapsed, subject to further permission.
- 3.28 The main visible components of a horizontal-axis wind turbine are:
- the tower, generally a tubular steel structure though lattice towers are occasionally used for smaller turbines;
 - the nacelle, which contains the generating equipment; and
 - the rotor blades, mounted on the hub at the front of the nacelle.
- 3.29 Depending on the scale and design of the turbine, the transformer may be located inside or outside the tower. If outside it will usually be contained in a small box-like structure adjacent to the tower base. The tower itself sits on a concrete foundation which is hidden from view underground.
- 3.30 Turbines are most commonly coloured light grey, which has been found to be less visually prominent when turbines are viewed against the sky. However, when turbines are seen against a land backdrop, which is common with smaller models, the light colour can make them appear more prominent. Smaller turbines may be darker grey or black.
- 3.31 Turbines are available in a wide range of sizes, from very small roof-mounted machines designed for domestic use, to large commercial structures. At 147 m to tip, the turbines at Calder Water wind farm in South Lanarkshire are among the tallest currently operating in the UK.
- 3.32 Besides overall size the proportions of a turbine can also vary, particularly the length of the blades in relation to the height of the tower, and the size and shape of the nacelle. Where particularly short blades are mounted on a tall tower, or where long blades are placed on a short tower, the turbine may appear unbalanced or top-heavy. Larger turbines with longer blades tend to have slower rotation speeds than smaller models.
- 3.33 Large, commercial-scale turbines are uniformly of three-bladed design, with a relatively standardised form and appearance. Smaller turbines are more varied in design, including two-bladed models which can appear less balanced, particularly when seen in conjunction with three-bladed turbines. Smaller turbines also show a greater variety of nacelle forms and colours, as well as occasional use of lattice towers in place of tubular towers.
- 3.34 In addition to the turbines themselves, developments involving large scale wind turbines typically require additional infrastructure as follows:

¹⁰ Repowering refers to the replacement of turbines at the end of their useful life, and often involves installation of larger machines on the same site.

- road access to the site and on-site tracks able to accommodate the specialised heavy goods vehicles (HGVs) which are needed to transport the long turbine components and heavy construction cranes;
 - a temporary construction compound and lay-down area for major components;
 - borrow pits, which may be opened on site to provide construction materials for the access tracks, avoiding the need for transportation of material to the site;
 - an area of hardstanding next to each turbine to act as a base for cranes during turbine erection;
 - underground cables connecting the turbines (buried in trenches, often alongside tracks);
 - one or more anemometer mast(s) to monitor wind direction and speed, usually a slender lattice tower of the same height as the turbine hubs; and
 - a control building to enable monitoring and operation, often combined with a small substation.
- 3.35 Lighting requirements depend on aviation and can be required on turbines. However, aircraft warning lights can be infra-red and therefore not visible to the unaided human eye. Lighting has not been considered as part of the landscape sensitivity study, although guidance advises that if lighting is required on turbines for aviation purposes, infra-red lighting should be adopted where possible to minimise visual impacts at night.
- 3.36 The District Network Operator (DNO) is responsible for establishing a connection between the substation and the national grid. For larger schemes this connection is usually routed via overhead cables on poles, but for smaller turbines may be routed underground. Since these are part of a separate consenting procedure these connections are not considered as part of the landscape sensitivity study.

Landscape effects of wind turbines

- 3.37 Wind turbines can be substantial vertical structures, and larger models will inevitably be highly visible within the landscape. The movement of the blades is a unique feature of wind energy developments, setting them apart from other tall structures in the landscape such as masts or pylons. Wind energy development may affect the landscape in the following ways:
- construction of large turbines and associated infrastructure may result in direct loss of landscape features, including forestry;
 - wind turbines are tall vertical features that may alter perception of a landscape, potentially affecting the apparent scale of landforms;
 - movement of rotor blades may affect characteristics of stillness, remoteness and solitude, as well as drawing the eye to turbines which may be a relatively small feature in the landscape;
 - the presence of turbines may increase the perceived human influence on the landscape, particularly in terms of overt modern development, and this can particularly affect landscapes which form a setting to heritage assets;
 - wind turbines, even at relatively small sizes, can appear large in the context of human-scale features such as domestic buildings and trees – at the largest scales turbines can be perceived as overbearing when they are sited very close to viewers, including residents;
 - turbines on skylines may compete with existing landmark features for prominence where prominent skylines or landmark features are characteristic of the landscape; and
 - in order to be as efficient as possible, turbines are often placed in elevated locations, where they may affect views from wide areas.
- 3.38 In undertaking any landscape sensitivity assessments it is necessary to acknowledge that varying attitudes to wind energy development are expressed by different individuals and constituencies. Aesthetic perceptions can be positive or negative depending on individual attitudes to the principle and presence of wind energy generation.

Cumulative issues

- 3.39 As larger numbers of wind farms are built, it is increasingly necessary to consider their cumulative effects. Guidance on the siting and design of wind farms and wind turbines suggests that a key consideration is understanding how different developments relate to each other, their frequency as one moves through the landscape, and their visual separation, with the aim of allowing experience of the character of the landscape in-between.¹¹ These issues were considered in the strategic evaluation of cumulative effects (**Section 6**).

Development typologies

- 3.40 There are several substantial wind farms in the study area, with continued demand for further large-scale sites. At the same time, the feed-in-tariff has driven an increase in smaller-scale developments and single turbines. The study must therefore consider a very wide range of potential development types and the interaction between them.
- 3.41 **Wind energy development 'typologies' therefore need to** be defined, to allow the sensitivity assessment to be flexible enough to consider the most appropriate scales of development in each area.
- 3.42 The brief suggests consideration of turbine heights from 15 m to 150 m, **although the 'size' of a** wind energy development can be defined in a number of ways, including turbine numbers and power output as well as height. Power output is less useful in landscape terms as there are many combinations of different turbines which could give the same output. Discussion with the steering group indicated greater concern in relation to turbine height than turbine numbers.
- 3.43 **Table 3.1** sets out the turbine height typologies which were agreed following these discussions. These five typologies cover the range of turbine heights currently operating and proposed within the core area, ranging from small turbines often associated with farms, to the largest commercial models currently proposed. Turbines over around 150 m are not specifically considered in the study since, while such turbines have been built in Europe, there are no confirmed plans to deploy machines of this scale in Scotland. Where proposals involve turbines of heights within 5 m of a cut-off between two typologies, it is recommended that the guidance provided for both typologies is taken into account. For example, a proposal for 78 m turbines will need to be considered against the conclusions for both medium and large typologies.

Table 3.1 Wind turbine development typologies

Turbine typology	Height range
Small turbine	15-30 m to tip
Small-medium turbine	31-50 m to tip
Medium turbine	51-80 m to tip
Large turbine	81-120 m to tip
Very large turbine	over 120 m to tip, up to around 150 m

- 3.44 In terms of turbine numbers, the study considers a range of development scales, though this is dealt with in a less formal way than for turbine height, since height is the key factor in determining the compatibility of a proposal with its landscape. The following scales of development have been considered:
- single turbines;
 - cluster of turbines (2-5 turbines); and

¹¹ Scottish Natural Heritage (2009) Siting and Designing Windfarms in the Landscape.

- wind farm (6+ turbines).

3.45 The study also requires consideration of extensions to and repowering of existing schemes. These are addressed more generally by reference to compatibility with existing developments, particularly in terms of turbine scale, rather than through the definition of additional development types. The appropriateness of repowering will depend primarily on the height and number of turbines proposed, rather than the prior existence of a wind farm, and as such these schemes can be considered as though they are 'new' developments.

Assessment of landscape sensitivity

- 3.46 The sensitivity of the landscape is assessed by examining the key characteristics of each landscape character type (LCT) with reference to a series of sensitivity criteria.
- 3.47 **Table 3.2** presents the criteria which have been adopted for this study, following discussion with the steering group. The criteria are informed by the review of the potential effects of wind energy development, and by the principles set out in a range of published guidance on landscape and visual assessment and wind energy.^{12 13 14 15} They have been developed from criteria employed by LUC in previous studies.
- 3.48 The criteria relate to the key aspects of landscape character and visual amenity which may be affected by wind energy development, and which can therefore be used as 'indicators' of sensitivity. **Table 3.2** includes examples of landscape characteristics which indicate higher or lower sensitivity in relation to each criterion, and a brief rationale for the inclusion of each.

Table 3.2 Criteria for Assessing Landscape Sensitivity to Wind Farm Development

Characteristic	Aspects indicating lower sensitivity to wind turbine development	↔	Aspects indicating higher sensitivity to wind turbine development
LANDSCAPE CRITERIA			
Landform and scale: patterns, complexity and consistency	Large scale landform Simple or featureless Absence of strong topographical variety Smooth, regular and convex or flat and uniform	↔	Small scale landform Distinctive and complex Recognisable scale indicators Strong topographical variety Irregular or rugged
Larger wind turbines will generally be less dominant in larger-scale landscapes, which are simpler in form and where there are fewer features of 'human scale'. In smaller-scale landscapes, larger turbines can appear overbearing and out of place. Buildings, trees and other features can act as 'scale indicators', potentially emphasising the size of wind turbines. Smaller turbines may relate better to smaller scale landscapes, where there may be potential to utilise topography for screening purposes.			
Land cover: patterns, complexity and consistency	Simple and consistent Predictable Large-scale and/or regular patterns	↔	Complex or varied Unpredictable Small scale and/or irregular patterns
Areas of simple land cover, such as open moorland, present fewer scale indicators against which turbine size may be judged. Distinctive patterns in the landscape, particularly where these are of smaller scale, are more susceptible to being interrupted by wind turbine development. There may be more opportunity to design smaller turbines so as to fit into landscape pattern without interrupting it, and sensitivity may be reduced.			

¹² Landscape Institute and Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment. 3rd edition. Routledge.

¹³ Scottish Natural Heritage (2009) Siting and Designing Windfarms in the Landscape.

¹⁴ Swanwick, C. (2006) Topic Paper 6: Techniques and criteria for judging capacity and sensitivity. Countryside Agency and Scottish Natural Heritage.

¹⁵ Scottish Natural Heritage (2012) Siting and Design of Small Scale Wind Turbines of between 15 and 50 metres in height.

Characteristic	Aspects indicating lower sensitivity to wind turbine development	↔	Aspects indicating higher sensitivity to wind turbine development
Settlement and man-made influence	Concentrated settlement pattern Presence of contemporary structures eg infrastructure or industrial elements	↔	Dispersed settlement pattern Absence of modern development, presence of small scale, historic or vernacular settlement
A settled, man-modified landscape is likely to be less sensitive to further human intervention than one which has little modern development and only scattered settlement. Industrial landscapes are likely to be least sensitive in this context. However, the presence of settlement indicates potentially sensitivity visual receptors, and will present scale indicators against which turbine size may be judged.			
Movement	Prominent movement, busy	↔	No evident movement, still
Due to the dynamic nature of wind turbines, landscapes where movement is a feature are likely to be less sensitive than those which are still. Examples of movement in the landscape include traffic on busy roads, airports and shipping lanes.			
VISUAL CRITERIA			
Skylines	Simple predictable skylines Presence of existing vertical features Obscured skylines	↔	Complex unpredictable skylines Uninterrupted horizons Prominent skylines
This criterion is related to landform and scale, with simple skylines generally having fewer scale indicators against which to judge wind turbine height. Turbines placed on more complex skylines are likely to give rise to a visually confusing appearance. Where man-made features such as masts or pylons are already present on the skyline there may be reduced sensitivity to further intervention, although there is a risk of creating 'clutter' where features of different sizes and forms are viewed together. Skylines which are prominent features in views are likely to be of higher sensitivity, regardless of form. Small turbines may interrupt skylines as well as larger turbines. Some open skylines may be more sensitive to multiple smaller interruptions than to a single larger development, particularly in larger-scale landscapes.			
Key views , vistas and landmark features	Obscured landmarks, views towards/ from landmarks, absence of vistas Indistinctive or industrial settings	↔	Prominent key landmarks, views towards/ from landmarks or key vistas Distinctive settings or public viewpoints
Where open views are an important characteristic within a landscape, wind turbines may have a detrimental impact. There may be particular views or viewpoints looking outward, or landmarks which are features in wider views. In either case the landscape may be susceptible to change as a result of turbines interrupting views. Landscapes in which there are few long views, such as wooded areas or undulating landscapes, are less sensitive in terms of this criterion.			
Receptors	Unpopulated areas Inaccessible with few recreational receptors	↔	More densely populated or many receptors Landscape focused recreation and/ or visitor attraction
The most sensitive visual receptors are generally considered to be residents at home and in their communities, and people accessing the landscape for recreational purposes, such as walkers and cyclists. Settled landscapes have higher numbers of residential receptors, although unpopulated areas may attract more recreational users. Sensitivity will depend on the balance of these types of receptors. Areas where opportunities for access are actively promoted, such as long-distance paths and country parks, are considered more sensitive.			
Inter-visibility with adjacent landscapes	Limited views into and out of landscape Weak connections, self-contained area and views Simple large scale backdrops	↔	Prospects into and out from high ground or open landscapes Contributes to wider landscape Complex or distinctive backdrops
In contrast with the key views criterion, which is concerned with views within an area, this criterion examines views in and out of a landscape, and its relationship with adjacent areas. Intervisibility maps have been generated (see Section 3.32) to illustrate the relative visibility of different parts of the study area. Of particular sensitivity are landscapes which form part of the setting of adjacent landscapes, for example a distinct ridge adjacent to a valley.			

Characteristic	Aspects indicating lower sensitivity to wind turbine development	↔	Aspects indicating higher sensitivity to wind turbine development
Importance of natural and cultural heritage features to the landscape	Limited association between landscape(s) and/or features	↔	Strong association between landscape(s) and/or features
Features of natural and cultural heritage importance are often designated in their own right, and the purpose of this study is not to give detailed guidance on the sensitivities of these features. However, in some cases the natural and cultural interest of an area is readily apparent in the landscape, and contributes to the sensitivity of the landscape itself. Examples include large-scale historic environment features, such as intact designed landscapes, or areas of apparent natural heritage interest, such as deciduous native woodland.			
Perceptual aspects: sense of remoteness, tranquillity, or wildness	Close to visible or audible signs of human activity and development Low levels of wildness, as indicated on SNH mapping	↔	Physically or perceptually remote, peaceful or tranquil High levels of wildness, as indicated on SNH mapping
The landscapes of the study area vary from densely built up areas to relatively remote moorlands. SNH have produced mapping to illustrate relative wildness across Scotland, based on a range of criteria (see Section 4). While there are very few genuinely remote areas of 'wild land' character in the study area, there are landscapes which are important for their relative tranquillity in comparison to the nearby settled areas. Landscapes which are more tranquil or wild are likely to be more sensitive to the introduction of man-made structures such as wind turbines.			

Application of the criteria

- 3.49 A description of each LCT in relation to each criterion is presented, leading to a determination of sensitivity in relation to each criterion. This informs an overall assessment of sensitivity to each development height typology for each LCT. In arriving at an overall assessment, the range of criteria must be carefully balanced. Several of the criteria overlap, and some recognise qualities which are essentially opposites. No consistent weighting of criteria is applied, rather the key characteristics of the LCT are used as a guide to the relative importance of criteria. Together with observations made in the field, this allows a judgement to be made on sensitivity to the range of development typologies.

3.50 The levels of sensitivity are defined in **Table 3.3**.

Table 3.3 Sensitivity definitions

Sensitivity Level	Definition
High	Key characteristics and qualities of the landscape are highly vulnerable to change from wind turbines. Such development is likely to result in a significant change in character.
High-medium	Key characteristics and qualities of the landscape are vulnerable to change from wind turbines. There may be some limited opportunity to accommodate wind turbines without significantly changing landscape character. Great care would be needed in locating turbines.
Medium	Some of the key characteristics and qualities of the landscape are vulnerable to change from wind turbines. Although the landscape may have some ability to absorb development, it is likely to cause a degree of change in character. Care would be needed in locating turbines.
Medium-low	Fewer of the key characteristics and qualities of the landscape are vulnerable to change from wind turbines. The landscape is likely to be able to accommodate turbines with limited change in character. Care is still needed when locating turbines to avoid adversely affecting key characteristics.
Low	Key characteristics and qualities of the landscape are robust in that they can withstand change from introduction of wind turbines. The landscape is likely to be able to accommodate wind turbines without a significant change in character. Care is still needed when locating wind turbines to ensure best fit with the landscape.

3.51 These levels of sensitivity enable immediate comparison of landscape types across the study area. The findings are relative to the landscapes of the core area. That is, the levels of sensitivity are not absolute, but illustrate a distribution between the most and least sensitive landscapes within the GCVSDP area.

3.52 The assessment has been undertaken at a strategic scale appropriate to the examination of this regional area, and the results do not take into account all local variations. Where appropriate the findings make reference to other more detailed landscape sensitivity assessments.

Field work

3.53 The sensitivity assessment was initially undertaken as a desk-based review, following which field work was undertaken to confirm understanding of landscape character and sensitivity. The purpose of the site visits was to:

- Confirm the landscape baseline, in terms of any updates to key characteristics required;
- Identify visibility and key views from and to each character type/area;
- Identify potentially sensitive landscape features;
- Confirm and supplement the findings of the sensitivity evaluations;
- View existing wind energy development in the landscape and gain an understanding of the type of effects which are already present, including cumulative effects; and
- Identify locations for the training field visit at the project close.

3.54 Following the field work the sensitivity assessments and findings were confirmed and finalised.

Landscape value

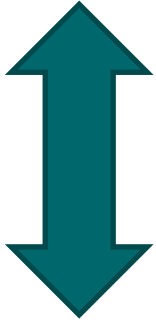
- 3.55 The European Landscape Convention,¹⁶ adopted in the UK in 2006, confirms that all landscapes are important, and are valued by different people for different reasons. Value, unlike sensitivity, is not an inherent property but is placed on a landscape by society. For the purposes of a capacity study, the aim is to determine how much change can be accommodated within a landscape without compromising the value placed upon it.
- 3.56 The present study, which is strategic in nature, uses existing landscape designations as an indicator of landscape value. There are no nationally designated landscapes in the study area, though there are a number of local designations defined by the local authorities. These have been selected at different times for different reasons and purposes, and as such are not directly comparable. Designations are reviewed in **Section 4**, and it is clear that not all have detailed **citations or defined 'special qualities'**. However, they do highlight parts of the core area which are known to be of value. The local designations are therefore referred to under the LCTs in which they occur, and the extent to which their reasons for designation would be affected by wind turbine development is briefly explored.
- 3.57 Value can also be represented by other types of designation, including those related to cultural heritage and biodiversity, although these considerations are outside the scope of the present study. Other potential indicators of value, including wildness and tranquillity, have been incorporated into the assessment of sensitivity and are not therefore included again, to avoid 'double counting'.

Combining the judgements: landscape capacity

- 3.58 The findings of the study in relation to landscape sensitivity and landscape value are not combined in a rigid matrix since the relationships between these aspects is not linear. Judgements of capacity are made through careful balancing of each of these factors, which are not consistently weighted. In each case detailed justification is given for the level of capacity which is assessed.
- 3.59 Generally, areas with higher sensitivity and higher value are assigned lower capacity for development. Conversely, areas with lower sensitivity and lower value are assigned higher **capacity**. The study does not seek to define a 'threshold', such as a level of sensitivity beyond which capacity would not be identified, since the relationship between sensitivity and capacity is not linear.
- 3.60 The capacity of each LCT is summarised as 'higher', 'moderate', or 'lower'. These terms do not correspond to strictly defined categories, but are stages on a continuum. Indicators which may lead to an assessment of higher or lower capacity are presented in **Table 3.4**.
- 3.61 The identification of lower capacity does not imply that no wind farms would be acceptable, nor does the identification of higher capacity imply that any given proposal could be accommodated. The assessment has examined capacity relative to the study area, rather than as an absolute measure.

¹⁶ Council of Europe (2000) European Landscape Convention. Council of Europe Treaty Series no. 176.

Table 3.4 Indicators of higher or lower capacity

Capacity	Indicators
Higher capacity	
Moderate capacity	
Lower capacity	

Underlying and residual capacity

- 3.62 The outcome of combining the judgements of landscape sensitivity and value is an assessment of the **underlying capacity** of the landscape. This underlying capacity is considered to be relatively consistent across each LCT, albeit that there will be local variations in levels of sensitivity and value. However, the underlying capacity is clearly affected by operational development, and may be further affected by development which is consented or proposed. This development may occupy some of the underlying capacity, reducing the capacity which is available for future development.
- 3.63 The term **current residual capacity** has been adopted for this study. Current residual capacity is the level of capacity which remains, once operational, consented and proposed development has been considered. This measure of capacity is more likely to vary within LCTs, since levels of development will differ across each area, with different effects on the underlying capacity. It is important to note that this is **current** residual capacity, based on the pattern of development which was current at the point when the study was undertaken, and which will continue to change.
- 3.64 The analysis of cumulative development is based on data provided by the local authorities. The data was mapped according to the planning status and tip height of the turbines, and this is discussed in **Section 4**. The study has sought to include all operational and consented wind turbines, and those with valid planning applications, which are over 15 m overall tip height. Proposals at scoping stage, i.e. prior to submission of a planning application, were not considered. Further data was gathered for operational, consented and proposed wind turbines in the buffer area.
- 3.65 The pattern of cumulative development within and adjacent to each LCT was examined, and the level of development compared to the underlying capacity, to arrive at an evaluation of current residual capacity for each LCT. Where there are significant variations in levels of development, LCTs have been subdivided into areas and current residual capacity is assessed for each area. Where there are no, or very few, operational, consented or proposed turbines, only the underlying capacity is reported.

Siting and design guidance: opportunities and constraints

- 3.66 The assessment of current residual capacity informs siting and design guidance, including identification of opportunities and constraints drawing on the sensitivity and capacity analysis. If residual capacity is identified, the guidance seeks to indicate where and how additional renewable

energy development could be accommodated in terms of siting, layout and design. Guidance aimed at minimising cumulative effects is also provided. The guidance is strategic and broad-brush in nature, and must be supplemented by more detailed analysis to identify potentially suitable sites.

Strategic cumulative assessment

- 3.67 To give a wider perspective on potential cumulative effects across the core area, a strategic analysis of wind energy development was undertaken. This analysis relies on the same data referred to above, and described in **Section 4**. The wind turbines are sorted into operational, consented and proposed development.
- 3.68 Operational wind turbines are part of the existing landscape. The impacts of developments which have received planning consent, whether built or unbuilt, have been considered in the planning system and found to be acceptable. As such the combination of operational and consented **development presents a 'baseline' level.**
- 3.69 The study then looks ahead to developments in the planning system, and how they may affect the landscape if built, in order to reach conclusions about how much further change could be acceptable. The pattern of proposed development is compared to the assessed capacity across the core area, and against a series of representative viewpoints. The study draws a distinction between cumulative *effect*, which occurs where more than one development is visible, and cumulative *impact*, which takes account of landscape and visual sensitivities.

Cumulative zones of theoretical visibility

- 3.70 Cumulative zone of theoretical visibility (CZTV) analysis was applied to determine areas which are already experiencing high levels of cumulative visibility, based on operational schemes, and areas which are likely to experience high levels of cumulative visibility based on proposed schemes. CZTVs are computer-generated and depict maximum visibility, since they are based on **'bare earth' terrain modelling which does not consider screening** by vegetation, buildings, and local topographical variation.
- 3.71 CZTVs provide a preliminary means of identifying potential areas of cumulative visibility, but do not represent the intensity or nature of the impact. There may be areas of high cumulative visibility where cumulative impacts do not occur, for example, because the turbines theoretically visible are in fact viewed across a great distance. Further analysis of cumulative patterns of visibility is therefore carried out in order to take account of size, proximity and visibility of wind energy developments.
- 3.72 The patterns of visibility identified by the CZTVs were compared against the findings of the landscape capacity assessment to provide an indication of where potential cumulative impacts are occurring, and where they may occur in future given current trends. This analysis seeks to identify which LCTs are experiencing, or are likely to experience, the greatest or least cumulative impacts.
- 3.73 The CZTVs were also compared against a visual baseline, defined as a series of key routes and viewpoints. A list of key viewpoints was selected as a representative sample of locations where people may appreciate the landscape, for example hills, public viewpoints and country parks. Due to the strategic scale of the study, the number of viewpoints was limited to a sample of approximately equal geographical distribution. Settlements and major roads were also considered. Further detail on the CZTV analysis is given in **Section 6**.
- 3.74 The following criteria are considered in coming to a judgement on cumulative impacts:
- The number of wind farms visible;
 - Distance and direction to the wind farm(s);
 - The extent of each wind farm likely to be viewed;
 - The visual separation of the wind farms from one another; and
 - The relative turbine size and extent of each proposal.

Limits of cumulative capacity

- 3.75 It is necessary to determine where in the core area the limits of capacity are being reached. That is:
- where the level of cumulative effect from operational and consented development is of such a level that there is no additional capacity for further development; and
 - where the level of cumulative effect from proposed development, in addition to operational and consented development, may be of such a level that there is no additional capacity for further development.
- 3.76 These issues are examined by comparing the assessed capacity of the landscape with the level of cumulative **effect**, as described above. By carrying out this comparison, an impression can be gained not only of how much development is present or visible, but how much this matters to the landscape in question. This provides the information on cumulative **impact**.
- 3.77 As noted above, there is no firm threshold. However, where high levels of cumulative effect are occurring in landscapes with lower capacity, it is likely that cumulative impacts will be higher, and that this will potentially limit further development in these areas.

4 Landscape Baseline

Landscape Character Types

- 4.1 The sensitivity and capacity study presented in **Section 5** is based on the Glasgow and Clyde Valley Landscape Character Assessment (GCVLCA)¹⁷, which defines 21 broad landscape character types (LCTs). Of these LCTs, nine are found within the North Lanarkshire area, as listed below and shown on **Figure 4.1**:
- 4 Rolling Farmland;
 - 5 Plateau Farmland;
 - 7 Fragmented Farmlands;
 - 8 Incised River Valleys;
 - 9 Green Corridors¹⁸;
 - 10 Broad Valley Lowland;
 - 11 Broad Urban Valley;
 - 18 Plateau Moorlands; and
 - 20 Rugged Moorland Hills.

Landscape designations

- 4.2 The North Lanarkshire Local Plan (2012) identifies both Regional Scenic Areas and Areas of Great Landscape Value. The Proposals Maps show one Regional Scenic Area covering the Kilsyth Hills, and one Areas of Great Landscape Value along the River Clyde south of Motherwell. Special qualities are not stated.
- 4.3 **In relation to the Kilsyth Hills, reference is made to Stirling Council's proposed supplementary guidance on local landscape areas, which describes special qualities for the adjacent area of hills within Stirling.**¹⁹
- 4.4 Landscape designations within and adjacent to North Lanarkshire are shown on **Figure 4.2**.
- 4.5 Country Parks are also referred to in **Section 5** where relevant, and sites listed on Historic Scotland's Inventory of Gardens and Designed Landscapes have also been referenced where they contribute to the wider character of the landscapes in which they occur.

Wildness

- 4.6 SNH has produced nationwide mapping of wildness, based on an analysis of four aspects: absence of modern artefacts; perceived naturalness; remoteness from roads and ferries; and rugged or challenging terrain.²⁰ This mapping indicates very limited wildness within North Lanarkshire, with the only area of relatively higher wildness occurring on the summits of the Kilsyth Hills. Within the plateau landscape in the east and south-east of North Lanarkshire there are moderate levels of wildness, though these represent some of the highest levels of wildness within the Central Belt.

¹⁷ Land Use Consultants (1999) Glasgow and the Clyde Valley landscape assessment. Scottish Natural Heritage Review no. 116.

¹⁸ Not included in the sensitivity assessment due to small scale and urban context.

¹⁹ Stirling Council (2012) Proposed Supplementary Guidance SG27: Protecting Special Landscapes.

²⁰ <http://www.snh.gov.uk/docs/A810729.pdf>

Visual baseline

- 4.7 The visual baseline for the strategic cumulative assessment (**Section 6**) comprises locations where people view the landscape. Groups of people who are most sensitive to their visual environment are usually considered to be residents in their homes and communities, and people accessing the countryside for recreation, e.g. hill walkers.
- 4.8 A series of key viewpoints was selected to represent recreational users of the landscape, including locations where potentially sensitive viewers have views of the landscape of the core area which may be affected by present or future wind energy development. Viewpoints were discussed with the steering group, including North Lanarkshire Council, and a list of 21 locations was agreed. Five of the representative viewpoints are of relevance to the examination of cumulative effects within North Lanarkshire. These viewpoints are listed in **Table 4.1** and are located on **Figure 4.3**.

Table 4.1 Representative viewpoints

	Location	Local authority	Grid reference	Reason for selection
7	Tak Ma Doon Road, Kilsyth Hills	North Lanarkshire	273389 681266	Accessible viewpoint with open views to the south
12	Bedlay Cemetery, Moodiesburn	North Lanarkshire	269763 670003	Located on an open ridge close to settlements
13	Blawhorn Moss	West Lothian	287479 667648	Nature reserve in an elevated location on the plateau at the edge of the study area
14	A706, Gladsmuir Hills	West Lothian	295514 658457	Elevated location on the Pentland fringe looking across North Lanarkshire
15	Chatelherault Country Park	South Lanarkshire	273623 653967	Country park with views over Hamilton and areas to the north

Wind turbine development

- 4.9 To inform the assessment of cumulative effects, data has been gathered on existing and proposed wind energy development across the study area, as discussed in the Overview Report. Data on wind energy applications was requested from the local authorities; this was received in October **2013, and has not been updated. It therefore represents a 'snapshot' of a constantly changing situation.** This snapshot is considered to provide a reasonable representation of the patterns of development and development pressure, at a strategic scale across the region.
- 4.10 The total numbers of wind turbines in North Lanarkshire only are summarised in **Table 4.2**.

Table 4.2 Wind turbines in North Lanarkshire

Typology	Operational and under construction	Consented	Proposed (valid planning application or appeal)	Total
Small (15-30 m)	5	5	1	11
Small-medium (31-50 m)	4	0	4	8
Medium (51-80 m)	2	1	5	8
Large (81-120 m)	4	4	3	11
Very large (over 120 m)	12	18	41	71
Total	27	28	54	109

- 4.11 Development within 15 km of North Lanarkshire, located in both the core area and the buffer area, has also been considered in the study. Existing and proposed development in and around North Lanarkshire is shown in **Figure 4.4**, and **Figure 4.4a** overlays wind energy development onto the landscape character types. Patterns of development are discussed in detail in the strategic cumulative assessment (**Section 6**).

5 Sensitivity and Capacity Assessment

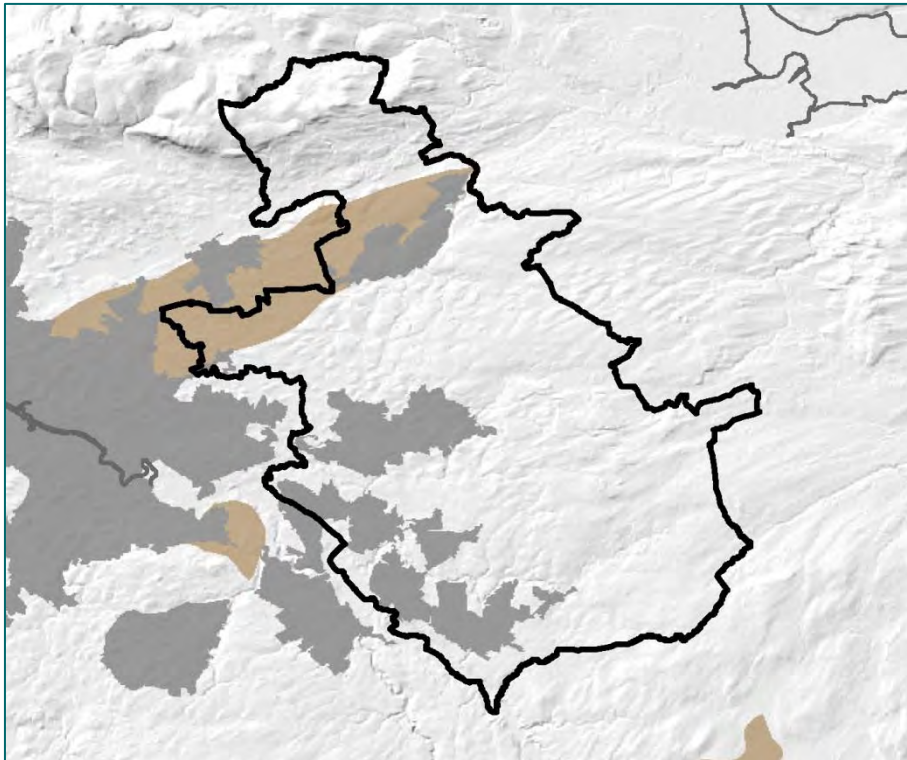
- 5.1 The following sections report the findings of the sensitivity and capacity assessment in relation to the LCTs which occur within North Lanarkshire. The sensitivity and capacity assessment was undertaken at a regional scale, and the following sections are therefore tailored to report on issues related to North Lanarkshire only. The findings in relation to sensitivity are general across the GCVSDP area, while the conclusions on capacity are specific to the North Lanarkshire landscape.
- 5.2 As noted in **Section 4**, the following LCTs are discussed in this report:
- 4 Rolling Farmland;
 - 5 Plateau Farmland;
 - 7 Fragmented Farmlands;
 - 8 Incised River Valleys;
 - 10 Broad Valley Lowland;
 - 11 Broad Urban Valley;
 - 18 Plateau Moorlands; and
 - 20 Rugged Moorland Hills.

4 Rolling Farmlands

Location and Extent

- 5.3 This LCT comprises undulating, generally pastoral, farmland overlying post-glacial landforms. These landforms, including drumlins and kettle-holes, are of medium-small scale.
- 5.4 Within North Lanarkshire, this LCT occurs in one area, which lies to the north of the A80 and Cumbernauld, and extends to the edge of the Kelvin Valley. This area of the LCT extends into East Dunbartonshire to the north-east and into Glasgow to the east.

Figure 5.1 Rolling Farmlands (refer to Figure 4.1 for more detail)



Key Characteristics

- 5.5 The key characteristics, features and qualities of this LCT, as defined in the GCVLCA, are:
- distinctive undulating landform created by fluvio-glacial action;
 - dominance of pastoral farming, varying in productivity according to elevation and exposure; and
 - importance of woodland in structuring the landscape and providing shelter for agriculture and rural settlement.
- 5.6 Since 1999, the upgraded M80 has been constructed to the north of Moodiesburn. Some further urban expansion has occurred around Cumbernauld and other settlements. There is a single operating turbine at Orchardton Road on the edge of Cumbernauld (medium).

Table 5.1 Assessment of LCT4 Rolling FarmlandsRefer to **Table 3.2** for full details of the evaluation criteria.

	Lower sensitivity		↔	Higher sensitivity	
Landform and Scale					
	A landscape of medium-scale landforms, this LCT is gently undulating. The variety in elevation results in changes to the degree of scale and enclosure, from medium scale and enclosed, to open and exposed on hilltops. There are distinctive fluvio-glacial features such as drumlins, kettleholes and eskers, which give rise to a topography of long hills and ridges.				
Land Cover					
	The landscape is mainly pastoral, with occasional arable fields. There are small farm woodlands and field boundary trees, though the majority of tree cover is coniferous plantations and shelterbelts. Stands of pine and beech are occasional but distinctive features.				
Settlement and Man-made Influence					
	Several towns are located in and around this landscape, including extensive suburban development in the area between Glasgow and Cumbernauld. This area includes other settlement fringe land uses and coal bings. There are current and former mineral workings in the area.				
Movement					
	The M80 and numerous large feeder roads pass through this LCT, as well as the Edinburgh-Glasgow railway, and these have a strong influence, lending a degree of movement to this landscape.				
Skylines					
	Open skylines, formed by gently convex drumlins and low ridge lines, without strongly distinctive features. Deciduous trees are often seen on skylines, and forestry occasionally obscures the horizon line.				
Key Views, Vistas, Landmarks					
	There are relatively few landmarks within this landscape, though church steeples act as local foci. Key views tend to be outward looking (see Intervisibility below). Views into East Dunbartonshire and the Campsie Fells.				
Receptors					
	Receptors in this area include the many road users who travel the routes through this area on a daily basis, including commuters. There are residential areas within and on the fringes of this landscape.				
Inter-visibility with Adjacent Landscapes					
	This LCT has a strong relationship to the north with key views overlooking the Kelvin Valley to the Campsie Fells and Kilsyth Hills. This landscape has a transitional relationship with the Fragmented Farmland (LCT7) to the south.				
Natural and Cultural Heritage Features					
	The northern edge of this landscape represents the line of the Antonine Wall, built along the rim of the Kelvin Valley. The landscape in this area allows the strategic importance of the site to be appreciated. Elsewhere there are fewer features of natural and/or cultural heritage importance which are closely related to this landscape.				
Perceptual Aspects					
	This landscape is not remote, being associated with settlements and transport corridors, although there are occasional pockets of quieter rural landscape.				

Sensitivity

- 5.7 The larger scale of this landscape, and the opportunities for screening offered by woodlands and plantations within this LCT, indicate relatively reduced sensitivity to small and small-medium turbines. These lower height turbines could be accommodated within this landscape. There may be locally reduced sensitivity to medium and potentially large turbines within the more developed areas, where they could relate to industrial and commercial land uses. Due to the medium scale of this landscape very large turbines, and those at the upper end of the large typology, are less likely to be compatible with this LCT.

Table 5.2 Sensitivity of LCT4 Rolling Farmlands

Turbine typology	Sensitivity
Small turbine (15-30 m to tip)	Medium-low
Small-medium turbine (31-50 m to tip)	Medium-low
Medium turbine (51-80 m to tip)	Medium
Large turbine (81-120 m to tip)	High-medium
Very large turbine (over 120 m to tip)	High

Landscape value

- 5.8 There are no landscape-specific designations within the part of this LCT which lies within North Lanarkshire. The Antonine Wall, which runs along the northern edge of this LCT from Croy to Castlecary, is a World Heritage Site. The designated area is narrow, though there is a buffer zone which extends south into this LCT.

Underlying capacity

- 5.9 The sensitivity of this landscape, together with indications of value, suggest that there is moderate capacity for wind turbine development, particularly at small or small-medium scales. Capacity for medium turbines is likely to be more restricted, with little or no capacity for large or very large turbines.

Cumulative development and current residual capacity

- 5.10 There are no consented turbines in the North Lanarkshire part of this LCT, and only one proposal for a 67 m single turbine near Bridgend. The operating 67 m turbine at Orchardton Road indicates that this scale of development, in the middle of the medium typology, would in general be acceptable in this landscape, though key sensitivities include residential receptors and the presence of the Antonine Wall World Heritage Site. A moderate level of capacity for turbines of smaller typologies remains, with some limited capacity for medium turbines and little or no capacity for large or very large turbines.

Constraints

- 5.11 Any development within this area must avoid significant effects on the landscape setting of the Antonine Wall. Developments should have regard to the presence of the World Heritage Site and the extent of its defined buffer area. The Antonine Wall runs along the northern edge of this LCT, following the ridge on the south side of the Kelvin Valley. Turbines placed on this ridge could also have adverse effects on the landscape of the valley (LCT10), which also includes the Forth and Clyde Canal. Within the northern area of this LCT, views northward to the Kilsyth Hills are an important aspect of the landscape. Large or very large turbines may adversely affect the northern outlook from the Rolling Farmland, as well as longer views towards the Kilsyth Hills from the south.
- 5.12 The density of settlement is likely to be a limiting factor on wind turbine development, due to the potential for high numbers of sensitive residential receptors. Areas of industrial and commercial land use may be of locally reduced sensitivity to small, small-medium or medium development.

Opportunities

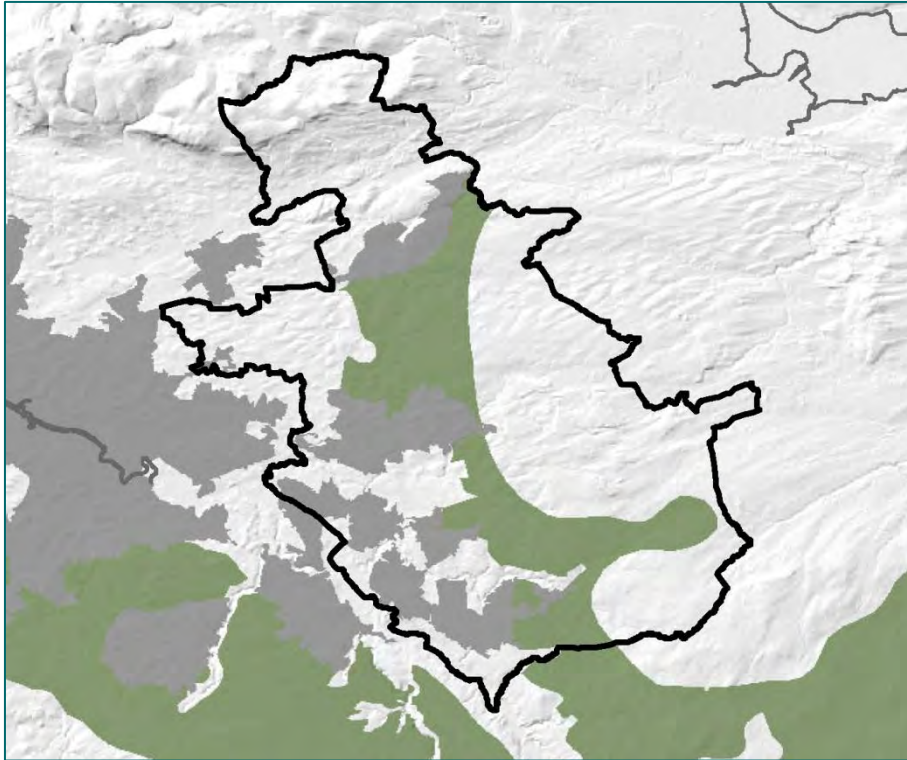
- 5.13 Turbines in this LCT should be sited to reflect underlying topography which varies between relatively open hills, enclosed shallow valleys, and flatter areas. Placement of medium turbines in particular should avoid sites where perception of topography would be adversely affected. Medium turbines may be better suited to flatter areas, while there may be more opportunities to site smaller turbines tucked in between the hills, where they may be partially screened from key views.
- 5.14 This landscape does not contain larger open areas that could accommodate large or very large wind farms. The changing pattern of the landcover and the variations in elevation would limit the potential extent of wind energy developments. There are opportunities for the siting of single turbines and small clusters, of up to medium typology, though avoiding the more sensitive landscapes inset within the wider LCT.

5 Plateau Farmlands

Location and Extent

- 5.15 Broken up by incised river valleys and urban areas, this LCT occurs on the lower slopes around the Clyde Valley, and represents a transitional landscape between the more sheltered valley and the open moors and uplands to east, south and west.
- 5.16 Within North Lanarkshire, this LCT occurs in two areas: between Cumbernauld and Airdrie; and south of Airdrie extending east to Shotts and south to Wishaw. This latter area continues south into South Lanarkshire.

Figure 5.2 Plateau Farmlands (refer to Figure 4.1 for more detail)



Key Characteristics

- 5.17 The key characteristics, features and qualities of this LCT, as defined in the GCVLCA, are:
- extensive, gently undulating landform;
 - dominance of pastoral farming, but with some mosses surviving;
 - limited and declining tree cover;
 - visually prominent settlements and activities such as mineral working; and
 - the rural character of the Plateau Farmland has suffered as tree cover has declined and the visual influence of settlements, transport infrastructure and mineral working has increased.
- 5.18 Since 1999, localised changes have occurred within this LCT, including settlement expansion and ongoing mineral extraction.
- 5.19 There are several operational turbines in this LCT, including four single turbines (small to medium) between Airdrie and Cumbernauld, and a single small-medium turbine south of Shotts.

Table 5.3 Assessment of LCT5 Plateau Farmlands5.20 Refer to **Table 3.2** for full details of the evaluation criteria.

	Lower sensitivity		↔	Higher sensitivity	
Landform and Scale					
	This LCT is large in scale, and exposed, with a simple, generally smooth topography. It is a predominantly flat or gently undulating landscape, cut by streams in shallow valleys.				
Land Cover					
	Landcover is uniformly pastoral, with large, even fields divided by post and wire fencing. Pasture includes both improved and unimproved areas, with remnant mosses in places. Coniferous plantations occur, as well as patterns of deciduous and coniferous shelterbelts. The few field trees are wind-blown, though localised areas have some larger groups of trees, for example occasional remnant policy woodlands. There are areas of current and former mineral extraction, and settlement fringes.				
Settlement and Man-made Influence					
	There are some large urban areas inset within this landscape, which are widely visible due to the open nature of the terrain. Also widely visible are the transport and infrastructure routes which traverse the plateaux. There are extensive mineral workings, mainly for coal, within the LCT.				
Movement					
	Traffic on the infrastructure routes has some impact on landscape character, particularly the A73, as well as other major roads and rail lines. Other areas are less affected by man-made influence where they are located away from busy main roads, and urban areas.				
Skylines					
	Skylines in this landscape are open and simple, with occasional pylons and turbines interrupting the horizon in places. Skylines within this landscape are not generally a prominent feature.				
Key Views, Vistas, Landmarks					
	There are wide views across this LCT, but few visual foci within the landscape. Views are focused beyond the LCT, for example to key hills or to urban landmarks. The open nature of the landscape allows broad prospects, increasing its sensitivity.				
Receptors					
	There are a number of settlements within this landscape, and densely populated areas at its fringes. There are some opportunities for outdoor recreation, often at settlement edges. Other receptors include those travelling on main and minor roads.				
Inter-visibility with Adjacent Landscapes					
	An open transitional landscape, this LCT appears in the foreground when seen in views from or views towards the adjacent moorland and hills. The edges of this landscape are visible from within the Clyde basin to the west, forming part of the wider backdrop to the valley lowlands.				
Natural and Cultural Heritage Features					
	There are few features of natural heritage significance within this landscape of pasture and coniferous forest, aside from the surviving mosses. Cultural heritage is represented by designed landscape influences associated with valleys and valley fringes, and industrial heritage.				
Perceptual					

	Lower sensitivity	↔	Higher sensitivity
Aspects	This landscape is not especially tranquil, though in parts it does offer some tranquillity associated with more rural areas.		

Sensitivity

- 5.21 Overall, the visual sensitivity of the Plateau Farmlands LCT is higher than the landscape sensitivity, due to relatively high numbers of receptors and high levels of inter-visibility with adjacent landscapes. The larger scale of the smooth and simple landform, the regular and even land cover, and the existing presence of man-made features and associated levels of movement, suggest that there is likely to be relatively lower sensitivity to wind turbines within the LCT.
- 5.22 This is an extensive LCT, and sensitivity will vary locally, dependent on proximity to receptors, levels of inter-visibility, and on the sensitivity of adjacent landscapes.

Table 5.4 Sensitivity of LCT5 Plateau Farmlands

Turbine typology	Sensitivity
Small turbine (15-30 m to tip)	Low
Small-medium turbine (31-50 m to tip)	Medium-low
Medium turbine (51-80 m to tip)	Medium
Large turbine (81-120 m to tip)	High-medium
Very large turbine (over 120 m to tip)	High-medium

Landscape value

- 5.23 There are no designated landscapes within the North Lanarkshire areas of the Plateau Farmlands LCT. There is a country park at Palacerigg by Cumbernauld.

Underlying capacity

- 5.24 The sensitivity of this landscape, combined with the indicators of landscape value, suggest that across this area there is moderate to higher overall capacity for wind turbine development at a range of scales, up to large typology. This is affected by the level of operational and consented development in different areas of the LCT. As with sensitivity, noted above, there are significant local variations in capacity, with more limited scope for development in areas which are close to adjacent sensitive landscapes.
- 5.25 When considering proposals located within the Plateau Farmlands around Shotts and Newmains, reference should be made to the 2013 Fortissat Ward Wind Energy Landscape Capacity Study,²¹ which presents more detailed analysis of this specific area, and its local sensitivity and capacity.

Cumulative development and current residual capacity

Cumbernauld to Airdrie area

- 5.26 There are three consented single turbines between Airdrie and Cumbernauld, including one very large turbine at Stirling Road. The consented Greengairs wind farm lies on the eastern edge of this area. There are fewer indicators of landscape value applying to this area, and sensitivity is locally reduced due to industrial areas and former mineral workings. The consenting of Greengairs and the single turbine north of Airdrie indicate some very large turbines are

²¹ Bayou Bluenvironment (2013) Fortissat Ward Wind Energy Landscape Capacity Study. North Lanarkshire Council.

acceptable, though there is limited scope for further development at this scale, associated with areas of locally reduced sensitivity. Elsewhere moderate capacity remains for medium or smaller development. Cumulative considerations will include the visual relationship of turbines at different heights, as perceived in views from settlements.

Airdrie to Shotts area

- 5.27 South of Airdrie the pattern of proposed development is more dispersed. A large single turbine has been consented at Gartness, and a small turbine at Shotts. The proposed Starryshaw wind farm extends into this area north-east of Shotts, and together with the adjacent Shotts and West Benhar proposals would form a large turbine cluster on the edge of this LCT, opposite Black Law wind farm to the south. Based on the current pattern of development, there would be potential for cumulative effects on views from the Shotts area which would limit further capacity in the eastern end of the area. Elsewhere moderate capacity would remain for small, small-medium or medium development. There would be lower capacity for large or very large turbines.

Constraints

- 5.28 As noted above, capacity varies across this LCT, with more limited capacity in locations visible to high numbers of sensitive receptors, particularly residential viewers, or to receptors in adjacent LCTs of higher sensitivity. It is unlikely that there are opportunities to develop large wind farms in this LCT, as there are few large open areas.
- 5.29 Effects on prominent skylines should be considered, where this LCT forms the horizon as viewed from within or across the Clyde basin. Views from within this landscape to the prominent skyline of the Kilsyth Hills in the north will also be sensitive to development.
- 5.30 Cumulative effects may occur where several individual developments (including single turbines) are present along a skyline landform. Sequential effects could occur along the major routes through this LCT.

Opportunities

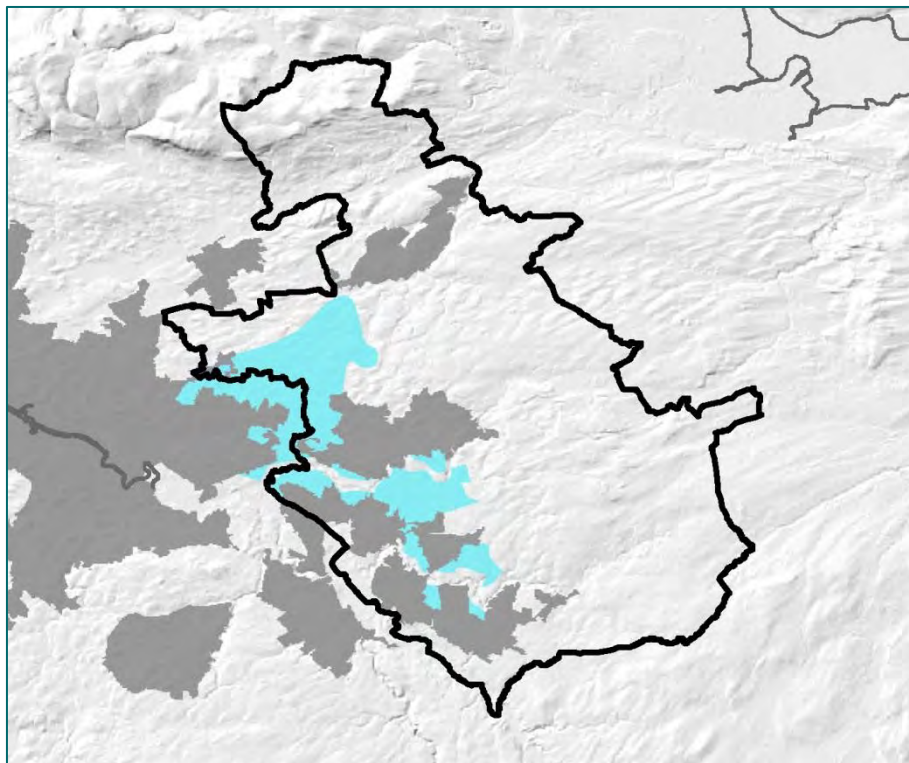
- 5.31 Turbines of small to medium typology will be most suited to agricultural or industrial settings, as would large or very large turbines, though capacity for the latter is more likely to be restricted.
- 5.32 Single turbines and clusters (2-5 turbines) will be most appropriate given the settlement pattern and inter-visibility of this landscape. Regard should be had to the level of nearby cumulative development in siting and designing proposals which would be compatible.

7 Fragmented Farmlands

Location and Extent

- 5.33 The LCT occurs on the urban fringe to the east of Glasgow, in a broad triangle between the city, Cumbernauld and Wishaw, and is partly defined by its fragmented settlement fringe character. The Fragmented Farmlands are divided by urban areas and by Incised River Valleys (LCT8).
- 5.34 Within North Lanarkshire, this LCT can be subdivided into three main areas. The most northern area lies between Coatbridge and Moodiesburn, around the M73 corridor, and extends south-west into Glasgow. Further south there are areas of this LCT along the North Calder valley between Broomhall and Chapelhall; and smaller areas around the South Calder near Ravenscraig and Cleland.

Figure 5.3 Fragmented Farmland (refer to Figure 4.1 for more detail)



Key Characteristics

- 5.35 The key characteristics, features and qualities of this LCT, as defined in the GCVLCA, are:
- a landform which ranges from gently undulating topography associated with the plateau farmlands to more hummocky patterns where fluvio-glacial action has created drumlins and eskers;
 - pockets of remnant pastoral farming, in some areas retaining a strong structure of hedges and trees, but in others suffering serious decline;
 - visual influence of the urban edge, of former and current industrial sites and transport infrastructure; and
 - urban fringe issues including blight, management decline and anti-social behaviour such as flytipping.
- 5.36 Since 1999 further commercial and residential development has taken place, such as at Ravenscraig and Eurocentral, with the result that some areas are more fragmented. On the other hand, large areas of derelict land have been restored, as at Gartcosh. There are no wind turbines currently operating in the Fragmented Farmland LCT.

Table 5.5 Assessment of LCT7 Fragmented FarmlandRefer to **Table 3.2** for full details of the evaluation criteria.

	Lower sensitivity		↔	Higher sensitivity	
Landform and Scale					
	This LCT is small-medium in scale and contained by the surrounding urban areas. The landform varies but is predominantly undulating farmland, except around Gartcosh where there is a low lying tract of ground characterised by a series of lochs and wetlands. In many parts of the landscape, the landform has been visibly altered by mining and quarrying.				
Land Cover					
	Land cover is varied, with tracts of both farmed and unfarmed land, areas of semi-natural vegetation in the undeveloped river valleys, the remains of older estate landscapes and a large amount of industrial or ex-industrial land.				
Settlement and Man-made Influence					
	Typical settlement patterns include scattered farmsteads, often enclosed by urban or industrial development. While there are older villages it is areas of more recent suburban housing which predominate. There are also major transport routes within the LCT including the A8/M8 and M73, and elements such as pylons and masts. The decline of industry in the area has left a legacy of derelict works, bings, tips, quarries and disused railways, some of which are now undergoing major redevelopment (e.g. at Ravenscraig).				
Movement					
	Traffic movement on the major infrastructure routes, which include the A8/M8, M73 and railway lines, has an impact on landscape character. A number of wind turbines are also visible, from some parts.				
Skylines					
	Former and current industrial sites and transport infrastructure on the edge of the Glasgow conurbation have a strong visual influence on the skyline, often interrupted by pylons. Skylines in this landscape are not prominent or characteristic features, often being screened by buildings and trees.				
Key Views, Vistas, Landmarks					
	The landscape has an urban and industrial setting, with trees and woodlands associated with field boundaries screening and filtering views between these areas, reinforcing the partially agricultural identity of the landscape. The few landmarks within the LCT are mainly built features, with some visual clutter associated with electrical infrastructure. There are views across some of the Seven Lochs.				
Receptors					
	Within the LCT there are scattered farmsteads, villages, towns and areas of new housing, including settlement expansion on the fringes of the LCT. The Monklands Canal and Drumpellier Country Park are important recreational resources.				
Inter-visibility with Adjacent Landscapes					
	The LCT is visible from some areas of higher ground. Inter-visibility with Plateau Moorland (LCT 18) to the east is generally limited. Peripheral parts of neighbouring lowland areas, such as the Incised River Valleys (LCT 8) of the North and South Calder have some visibility and are more closely integrated				

	Lower sensitivity		↔	Higher sensitivity	
	with this LCT.				
Natural and Cultural Heritage Features					
	There is some evidence of archaeological and industrial heritage, from remnants of crannogs and old coal workings to the site of the 20th century steelworks at Ravenscraig. There are also remains of older estate landscapes. The Seven Lochs area is being promoted as a wetland park, recognising features of nature conservation importance.				
Perceptual Aspects					
	This landscape is contained by settlement and is associated with major transport corridors, therefore levels of remoteness and tranquillity are low. Industrial features are prevalent throughout the area. There are some areas of relative tranquillity in the Seven Lochs area.				

Sensitivity

- 5.37 The presence of existing industrial features, relatively low levels of inter-visibility, and the generally developed nature of the landscape, suggests that there is reduced sensitivity to small and small-medium turbine typologies within this LCT. The scale of the LCT and the high number of receptors within and around the LCT are the key aspects that are most vulnerable to change from wind turbines. The LCT is therefore of much higher sensitivity to turbines of the large or very large typology.

Table 5.6 Sensitivity of LCT7 Fragmented Farmland

Turbine typology	Sensitivity
Small turbine (15-30 m to tip)	Low
Small-medium turbine (31-50 m to tip)	Low
Medium turbine (51-80 m to tip)	Medium-low
Large turbine (81-120 m to tip)	High-medium
Very large turbine (over 120 m to tip)	High

Landscape value

- 5.38 The Fragmented Farmlands are not designated for landscape reasons. However, due to their proximity to settlement they are often valued as recreational resources. Well-visited locations include Drumpellier Country Park as well as numerous areas with more informal access. The Seven Lochs area is being promoted as a wetland park with a focus on community access to this relatively undeveloped section of the Fragmented Farmlands.

Underlying capacity

- 5.39 The sensitivity of this landscape, combined with the indicators of value, suggest that there is higher capacity for small and small-medium turbines, moderate capacity for medium turbines, and lower capacity for large and very large wind turbines.

Cumulative development and current residual capacity

- 5.40 One small turbine has been consented in this area, close to Glenboig. There are proposed turbines at Glenboig (medium) and Cleland (small-medium). There are also proposed turbines within the Plateau Farmlands adjacent to this area. Based on current patterns of development, cumulative effects are unlikely to be a limiting factor on development capacity in this area, and the underlying capacity will not be affected.

Constraints

- 5.41 Sensitive receptors in this area include the residential areas within and adjacent to this settled landscape, as well as recreational locations and country parks. It is a settled landscape, with frequent human-scale references, in which the largest turbines would appear out of place.
- 5.42 There are numerous overhead power lines and other vertical features in this landscape, other than wind turbines. Proposals for turbines should be sited to avoid visual confusion with these **existing features, and perceptions of 'clutter' particularly on skylines.**

Opportunities

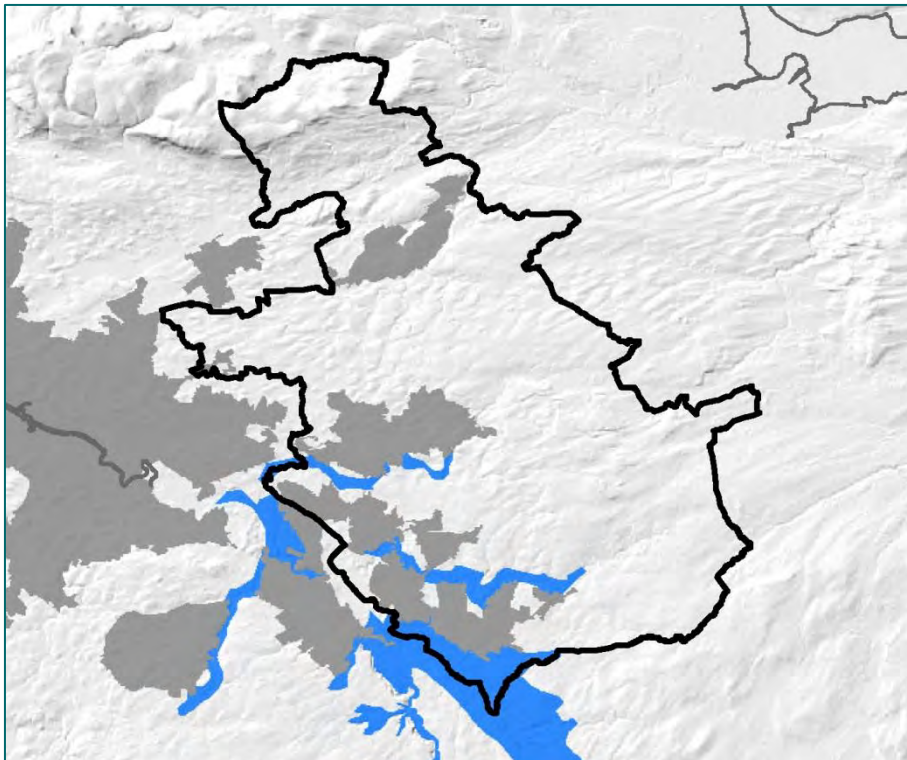
- 5.43 There will be opportunities in this LCT to site single turbines or clusters (2-5 turbines) at small to medium scales, in association with existing industrial features, making the link between generation and consumption. Larger scale commercial buildings may present less scale contrast with medium turbines, than domestic buildings. Restoration of derelict former industrial land may be enabled through development of wind energy schemes.
- 5.44 There is scope for turbines of a medium scale where located with greater distance from sensitive receptors, and considered carefully in relation to the small-medium scale of the landform and land cover.

8 Incised River Valleys

Location and Extent

- 5.45 This LCT follows the incised valleys of the River Clyde and its tributaries, as they flows north-eastwards to Glasgow. The tributary valleys tend to be narrow and steep sided, with the lower Clyde Valley being broader.
- 5.46 Within North Lanarkshire this LCT includes the North Calder and South Calder valleys, and parts of the Clyde Valley south of Motherwell and Wishaw. The latter area continues upstream into South Lanarkshire

Figure 5.4 Incised River Valleys (refer to Figure 4.1 for more detail)



Key Characteristics

- 5.47 The key characteristics, features and qualities of this LCT, as defined in the GCVLCA, are:
- narrow, steep sided valleys cut deeply into the plateau farmlands;
 - rich broadleaf woodlands on steep valley sides;
 - agriculture where valleys are wide enough with a mixture of pastures, arable, market gardens and orchards;
 - series of policy landscapes, castles and other historic sites;
 - linear villages and winding roads;
 - focal role of rivers and tributaries; and
 - rich, sheltered and settled areas, often hidden within the wider landscape.
- 5.48 Although development has occurred within this LCT, this has not substantially altered these key characteristics. There are no operational wind turbines within this LCT.

Table 5.7 Assessment of LCT8 Incised River ValleysRefer to **Table 3.2** for full details of the evaluation criteria.

	Lower sensitivity		↔	Higher sensitivity	
Landform and Scale					
	This LCT is generally small in scale, with narrow, steep valley sides, and gorges where the burns and rivers have cut through harder rocks to create vertical cliffs. The riversides are broader where they join adjacent valley landscapes, and narrow sections are occasionally interrupted by broad sections. The broader sections of the LCT tend to comprise wide, flat floodplains.				
Land Cover					
	The land cover in the Clyde Valley comprises a mixture of pastoral farming, arable cultivation and market gardening, contained by beech or hawthorn hedges and remnants of field boundary trees. In the narrower tributary river valleys, deciduous woodland is the prevalent land cover, including some ancient woodland.				
Settlement and Man-made Influence					
	The valleys lie at the fringes of large settlements including Coatbridge, Bellshill, Motherwell and Wishaw, often very visible from within the valleys. Within the Calder valleys, transport routes tend to cross the valleys on numerous road and rail bridges, though the A8/M8 follows part of the North Calder.				
Movement					
	There is some movement in the river valleys where transport routes are visible. Away from these routes the LCT is comparatively still, particularly in more wooded areas.				
Skylines					
	Skylines are formed by the valley edge and valley sides, often wooded. There are few existing vertical features within the LCT, though pylons and tower blocks are a feature on the north side of the Clyde valley.				
Key Views, Vistas, Landmarks					
	There are views across and along the valleys, largely contained by valley sides and, within the Calder valleys, urban development. Views are sometimes screened by woodland. There are built landmarks in adjacent urban areas				
Receptors					
	There are a number of farmsteads and small villages within the LCT, with local traffic. The valleys also provide an important recreational resource, e.g. the North Calder Heritage Trail and Dalzell Estate/Baron's Haugh.				
Inter-visibility with Adjacent Landscapes					
	There is a visual relationship between the river valleys and the surrounding Plateau Farmland (LCT 5) and Fragmented Farmland (LCT7), where it locally overlooks the valley. Overall, the LCT is relatively enclosed or self-contained.				
Natural and Cultural Heritage Features					
	The LCT contains remnants of policy landscapes such as castles, country houses, woodlands, walls, and bridges. There is an inventory-listed designed landscape at Dalzell House, and the neighbouring Baron's Haugh is an RSPB reserve. The older valley woodlands have considerable conservation value.				
Perceptual Aspects					
	This landscape has pockets of tranquillity, away from the major population centres and transport corridors, largely influenced by the presence of water and				

	Lower sensitivity	↔	Higher sensitivity
	woodland.		

Sensitivity

- 5.49 Overall this is a landscape of relatively high landscape and visual sensitivity, as a result of its scale, landform, varied land cover, relatively high numbers of residential and recreational receptors, presence of natural and culture heritage features, and sense of tranquillity. The variation within the LCT is reflected in variations in sensitivity, with enclosed tranquil riverside locations being of higher sensitivity than broader sections of floodplain.
- 5.50 Sensitivity to the small typology is slightly lower where turbines of this scale can be associated with farms and take advantage of the potential for woodland screening. The larger the typology, the greater the likelihood of incompatibility with the small landscape scale, and the greater the visual influence. Therefore the LCT is considered to have high sensitivity to turbines of the large and very large typology. The sensitivity of this LCT to small-medium and medium typologies is high-medium, again chiefly due to the scale of the landscape, and higher number of receptors.

Table 5.8 Sensitivity of LCT8 Incised River Valleys

Turbine typology	Sensitivity
Small turbine (15-30 m to tip)	Medium
Small-medium turbine (31-50 m to tip)	High-medium
Medium turbine (51-80 m to tip)	High-medium
Large turbine (81-120 m to tip)	High
Very large turbine (over 120 m to tip)	High

Landscape value

- 5.51 Within North Lanarkshire, the part of the Clyde Valley within this LCT is designated as an Area of Great Landscape Value. No special qualities have been published, but as with the adjacent Middle Clyde SLA in South Lanarkshire it is an accessible landscape with attractive scenery. Features include the Clyde Walkway, Dalzell Estate, **Baron's Haugh Nature Reserve**, and **Cambusnethan Priory**.

Underlying capacity

- 5.52 The high sensitivity of this landscape, and the value placed upon it, suggests that there is lower capacity for wind turbine development at small to medium scales, and no capacity for large or very large turbines.
- 5.53 When considering proposals located within the upper South Calder Valley, reference should be made to the 2013 Fortissat Ward Wind Energy Landscape Capacity Study,²² which presents more detailed analysis of this specific area, and its local sensitivity and capacity.

Cumulative development and current residual capacity

- 5.54 There are no consented or proposed turbines within the North Lanarkshire Incised River Valleys which would affect underlying capacity.

²² Bayou Bluenvironment (2013) Fortissat Ward Wind Energy Landscape Capacity Study. North Lanarkshire Council.

Constraints

- 5.55 Siting of wind turbines will be largely directed by the scale and form of this landscape. Enclosed valleys and small-scale wooded landscapes do not generally form suitable sites for turbines, and would be highly sensitive to development.
- 5.56 The apparent scale of turbines in views from within the valleys should not be excessive in relation to the scale of the valley itself. The presence of multiple turbines along valley skylines may lead to cumulative impacts on views from within the valley.
- 5.57 Siting of turbines should minimise adverse impacts on characteristic woodlands, designed landscapes and other important cultural and natural heritage features. Proposals must give due consideration to the qualities of local landscape designations in this LCT.

Opportunities

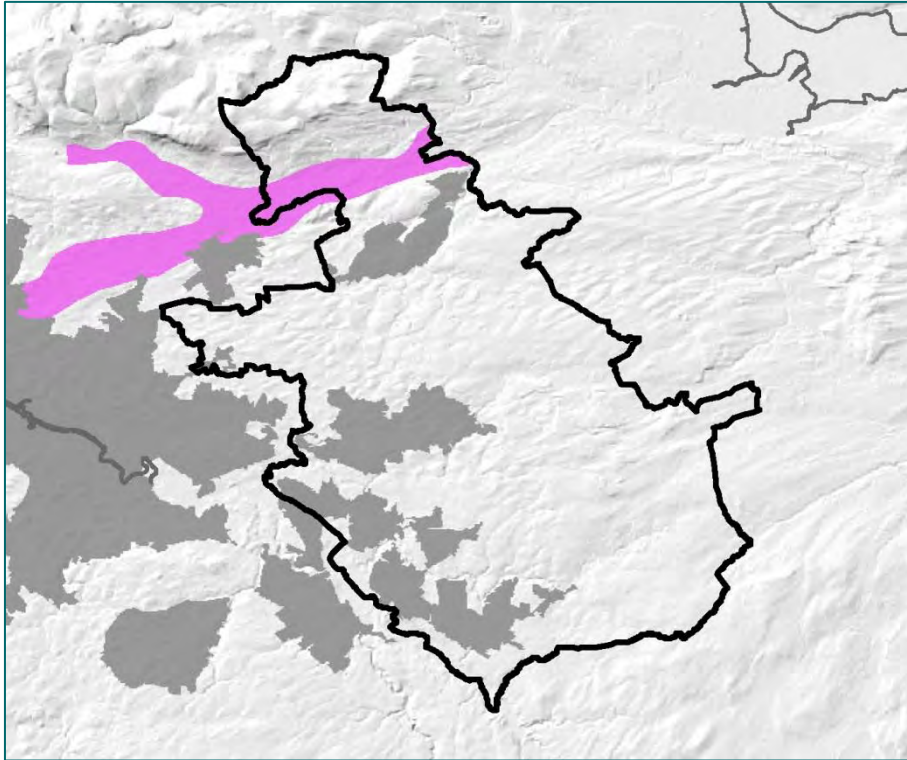
- 5.58 More open areas at valley fringes may offer more opportunity for siting turbines, but consideration must be given to views from within the valleys of turbines seen on the skyline.
- 5.59 Turbines in the valley landscape should be sited in association with more open farmed landscapes, and be located close to farms and other buildings to make the link between generation and consumption.

10 Broad Valley Lowland

Location and Extent

- 5.60 This broad, open valley landscape occurs in North Lanarkshire in the Kelvin Valley, between Auchenreoch and Banknock. The Kelvin Valley forms part of a lowland route between the Clyde and the Forth, and continues westward into East Dunbartonshire.

Figure 5.5 Broad Valley Lowland (refer to Figure 4.1 for more detail)



Key Characteristics

- 5.61 The key characteristics, features and qualities of this LCT, as defined in the GCVLCA, are:
- wide flat bottomed valley;
 - presence of water bodies, wetlands and rivers;
 - transport routes and settlements along the valley sides;
 - transition from arable to rough grazing from the valley floor to the high valley sides;
 - historic sites and communication routes along the valley sides; and
 - presence of farm and policy woodland.
- 5.62 Although development has occurred within this LCT, this has not substantially altered these key characteristics. There are no wind turbines operating in the Kelvin Valley within North Lanarkshire.

Table 5.9 Assessment of LCT10 Broad Valley LowlandRefer to **Table 3.2** for full details of the evaluation criteria.

	Lower sensitivity		↔	Higher sensitivity	
Landform and Scale					
	The LCT is a medium scale landscape comprising a broad, low-lying valley. The relatively flat valley floor is often wet, containing lochs and drainage channels, with occasional undulations. To north and south the valley sides are steep and occasionally craggy.				
Land Cover					
	Agricultural land use is dominated by improved grassland with some arable cultivation on the valley floors and rougher grassland on the valley slopes. Hedgerows and hedgerow trees are features of lower and middle valley slopes. There are small areas of policy woodland, e.g. Colzium Estate, and narrow broadleaf woods along the short, steep burns which drain the valley sides.				
Settlement and Man-made Influence					
	Kilsyth is the main settlement. Farmsteads are usually located on knolls within the valley floor or higher on valley slopes. The valley also provides a lowland route for railways (both existing and disused) and road corridors. The Forth and Clyde Canal runs along the southern side of the Kelvin Valley, and there is some evidence of past mineral extraction.				
Movement					
	There is movement along the A803 which follows the valley floor. Away from this route the valley can be relatively still.				
Skylines					
	The skyline lies outside the LCT, and is formed by the ridges to north and south. In views north skylines are formed by the recognisable Kilsyth Hills. To the south the ridge is less distinctive but still prominent. The broadness of the valley generally results in a wide, open skyline, particularly in views along the length of the valley.				
Key Views, Vistas, Landmarks					
	Views are focused along the valley. Some views are screened by woodland, while other more open areas offer views across and along the valleys, from the valley floor and sides. The Rugged Moorland Hills (LCT20) to the north form a distinct backdrop to the LCT.				
Receptors					
	Residential receptors include people living in Kilsyth and smaller settlements on the valley sides. The Forth and Clyde Canal in the Kelvin Valley is of recreational importance, and the area is overlooked by walkers on the Kilsyth Hills and locations on the Antonine Wall e.g. Croy Hill.				
Inter-visibility with Adjacent Landscapes					
	Long outward views are relatively limited, as the valley is relatively contained. However, it is overlooked by adjacent LCTs, such as the Rugged Moorland Hills (LCT20), and Rugged Upland Farmland (LCT6), creating important relationships between the valley and the higher ground which frames it to both north and south.				
Natural and Cultural Heritage Features					
	The Kelvin Valley is an historically important communication route, containing the Forth and Clyde Canal. The Roman Antonine Wall, a World Heritage Site, runs along the southern side of the valley. Colzium Estate and the site of the Battle of Kilsyth (1645) are also within this LCT.				

	Lower sensitivity		↔	Higher sensitivity	
Perceptual Aspects					
	This is a quiet, settled landscape, with low levels of wildness due to settlement and other development, but with some pockets of tranquillity. There are busy transport routes through the valleys. Settled valley floors have a different local character to the less populated valley sides, which form a transition with the adjacent hills. The adjacent rugged hills have a key influence over parts of the LCT.				

Sensitivity

- 5.63 This medium-scale valley landscape has moderate sensitivity to development of turbines of a small or small-medium scale, where they could be associated with existing agricultural or commercial elements, and would likely have some screening by woodland, and back-clothing by valley sides or hills in adjacent LCTs. Carefully selected areas may be less sensitive to medium turbines, although they are likely to be visible to relatively high numbers of receptors.
- 5.64 Large and very large turbine typologies are likely to be incompatible with the landscape character of the LCT, as a medium scale valley landscape, and would be highly visible both with this LCT and in close proximity to sensitive neighbouring LCTs such as Rugged Moorland Hills (LCT20).

Table 5.10 Sensitivity of LCT10 Broad Valley Lowland

Turbine typology	Sensitivity
Small turbine (15-30 m to tip)	Medium-low
Small-medium turbine (31-50 m to tip)	Medium
Medium turbine (51-80 m to tip)	High-medium
Large turbine (81-120 m to tip)	High
Very large turbine (over 120 m to tip)	High

Landscape value

- 5.65 There are no designated landscapes within the North Lanarkshire area of the Broad Valley Lowland LCT. The adjacent Kilsyth Hills are designated as a Regional Scenic Area, which extends south into the fringes of the Broad Valley Lowland, to the east and west of Kilsyth.
- 5.66 The Antonine Wall follows the southern boundary of this LCT. Although the World Heritage Site is outside the Broad Valley Lowland, the designated buffer zone extends north to the A803 and the southern edge of Kilsyth, and taking in large areas of the valley floor.

Underlying capacity

- 5.67 The sensitivity of this landscape, and the value indicated by designations, suggests that there is moderate to lower capacity for small or small-medium turbine sizes, little capacity for medium turbines, and no capacity for large or very large turbines.

Cumulative development and current residual capacity

- 5.68 There is presently no consented or proposed development within this LCT which would alter the conclusions on underlying capacity. Capacity is most likely to vary due to the context of the valley landscape: where the adjacent hills are particularly prominent, as in the Kelvin Valley around Kilsyth, capacity will be locally reduced.

- 5.69 As with other valley landscapes, this LCT could be affected by development in immediately adjacent landscapes that would be visible on the skyline. Based on current patterns of development this type of effect is unlikely to occur.

Constraints

- 5.70 Poorly sited turbines have the potential to diminish the presence of surrounding hills from within the valleys, and in wider views. Throughout this landscape, turbines should be of a size appropriate to the local scale of the valley landscape.
- 5.71 This landscape is important as a communication corridor, for road, rail and water transport, as well as walking and cycling. There is potential for sequential impacts to affect these routes, though based on the current pattern of development such impacts are not likely to occur, but may if additional development is proposed.
- 5.72 The relationship of any turbines with the scale and form of the valley and valley sides is a key consideration for this landscape. In the upper Kelvin Valley around Kilsyth the steeply rising slopes of the Kilsyth Hills are a landmark feature and present a particular constraint to medium or larger development in these areas. The hills to the south of the Kelvin are also locally significant to the valley setting.
- 5.73 Siting of turbines should seek to minimise adverse impacts on cultural heritage features such as designed landscapes. In the Kelvin Valley area particular consideration should be given to the presence of the Antonine Wall World Heritage Site and its defined buffer zone.
- 5.74 Locations within this LCT are valued for recreation, including the Forth and Clyde Canal. Consideration should be given to effects on recreational receptors accessing these areas. Proposals must give due consideration to the qualities of local landscape designations in and adjacent to this LCT.

Opportunities

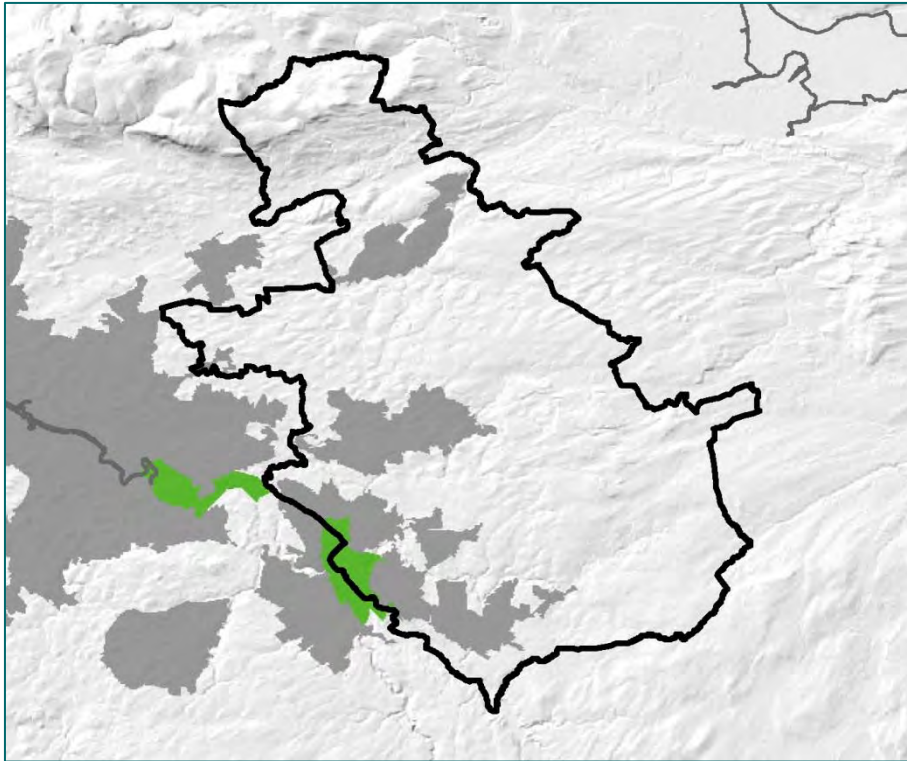
- 5.75 There are developed areas within the valleys where single turbines or small clusters of small or small-medium turbines could be sited in conjunction with commercial buildings, or with large-scale agricultural buildings.
- 5.76 Away from the more prominent hills, such as the scarp of the Kilsyth Hills, or individual hills such as Croy Hill, the lower slopes at the edges of the valley landscapes may offer opportunities for small and small-medium single turbines to be sited where they will not impede long views along the valleys, and can be back-clothed by the less distinctive areas of higher ground.

11 Broad Urban Valley

Location and Extent

- 5.77 This LCT occurs in more urbanised sections of the Clyde Valley. It is dominated by road infrastructure, including the M74, and forms gateway transport corridors into the Glasgow conurbation.
- 5.78 Within North Lanarkshire, this LCT occurs in one area to the west of Bellshill and Motherwell, including Strathclyde Park. This area extends west into South Lanarkshire.

Figure 5.6 Broad Urban Valley (refer to Figure 4.1 for more detail)



Key Characteristics

- 5.79 The key characteristics, features and qualities of this LCT, as defined in the GCVLCA, are:
- broad sections of main river valley with well-defined floodplain;
 - past developments have resulted in significant modifications to landscape character; and
 - between Bothwell and Motherwell, a large part of the valley is occupied by Strathclyde Country Park, comprising a large water body, woodland, grassland and a limited amount of recreation-related development. However, neighbouring urban areas and the M74 have a significant visual influence also.
- 5.80 No significant changes have occurred since 1999. There are no operational wind turbines in this LCT.

Table 5.11 Assessment of LCT11 Broad Urban ValleyRefer to **Table 3.2** for full details of the evaluation criteria.

	Lower sensitivity		↔	Higher sensitivity	
Landform and Scale					
	The LCT is a small scale, fragmented landscape, characterised by the Clyde floodplain, here occupied by Strathclyde Loch, bordered by valley slopes, above which are neighbouring urban areas. The lower South Calder flows through a narrow gorge as it approaches the loch.				
Land Cover					
	To the south the LCT is characterised by Strathclyde Loch, surrounded by woodland and grassland. Beyond the country park are areas of pastoral farmland some of which is unmaintained.				
Settlement and Man-made Influence					
	The LCT contains major components of transport infrastructure, including the M74, A725 and railway lines. The main urban influence is from the settlements on higher ground, visible from the valley slopes. There is recreational/leisure development within and around Strathclyde Park.				
Movement					
	There are high levels of movement along a number of major transport corridors, including the M74, A-roads and railway lines. Strathclyde Park represents an area of comparative stillness in relation to other parts of the LCT.				
Skylines					
	Settlements including Motherwell and Bellshill have a strong visual relationship with the valley, particularly where tall buildings are present, being located above the valley slopes. These adjacent areas provide prominent skylines for the lower-lying urban valley.				
Key Views, Vistas, Landmarks					
	Neighbouring urban areas have a strong visual influence. Visual effects of settlement fringe land uses and transport corridors. Within Strathclyde Country Park there are views available across to loch, and from the M74 Hamilton Mausoleum is a landmark feature.				
Receptors					
	Residential receptors are mainly above the valley slopes, in the neighbouring urban areas. Recreational receptors include users of Strathclyde Country Park. There are also high numbers of travelling receptors on the roads and railways which pass through the LCT.				
Inter-visibility with Adjacent Landscapes					
	Inter-visibility is generally low, as the valleys are relatively contained, although there are views in from neighbouring urban areas above the valley slopes. There are occasional channelled views along the River Clyde. Views from Hamilton look across the valley to this area.				
Natural and Cultural Heritage Features					
	Historic patterns of farm and policy woodlands have been fragmented in this landscape, though there are remnants around Strathclyde Park, including the Roman fort and bath house.				
Perceptual					

	Lower sensitivity	↔	Higher sensitivity
Aspects	Major transport corridors have a strong visual, aural and severance effect, with low levels of wildness as indicated by SNH mapping. The lower South Calder is a small pocket of relative tranquillity in this context.		

Sensitivity

- 5.81 This small scale fragmented landscape is set within and overlooked by adjacent urban areas. While it already contains and has views of modern development, the scale of the area and its inter-visibility with well-settled areas suggests higher sensitivity to medium, large or very large turbines, which could significantly alter its character. The more developed parts of the landscape, away from residential areas, are of relatively lower sensitivity to small or small-medium turbine types. Strathclyde Park as a comparatively open, quieter recreational area will be of locally higher sensitivity to all turbine types.

Table 5.12 Sensitivity of LCT11 Broad Urban Valley

Turbine typology	Sensitivity
Small turbine (15-30 m to tip)	Low
Small-medium turbine (31-50 m to tip)	Medium-low
Medium turbine (51-80 m to tip)	High-medium
Large turbine (81-120 m to tip)	High
Very large turbine (over 120 m to tip)	High

Landscape value

- 5.82 There are no designated landscapes within the North Lanarkshire area of the Broad Urban Valley LCT, although the Clyde Valley Area of Great Landscape Value does incorporate a narrow section of the riverside south of the A723. Strathclyde Country Park occupies most of the southern part of the area, and is an important and well-used recreational resource.

Underlying capacity

- 5.83 The sensitivity of this landscape, and the value indicated by designations, suggests that there is moderate capacity for small or small-medium turbines, lower capacity for medium turbines, and little or no capacity for large or very large turbines. Capacity will be reduced in locations close to residential areas, and also in Strathclyde Country Park.

Cumulative development and current residual capacity

- 5.84 There are no consented or proposed wind turbines in this LCT. Based on current patterns of development, it is unlikely that cumulative impacts will be an issue affecting capacity in this area.

Constraints

- 5.85 These landscapes are surrounded by residential areas, and views from these areas will be a primary consideration. The M74 is the main route through the LCT. Other sensitive receptors include users of Strathclyde Park, a key recreational centre, and the River Clyde Walkway.
- 5.86 Proposals must give due consideration to the special qualities of local landscape designations in this LCT.

Opportunities

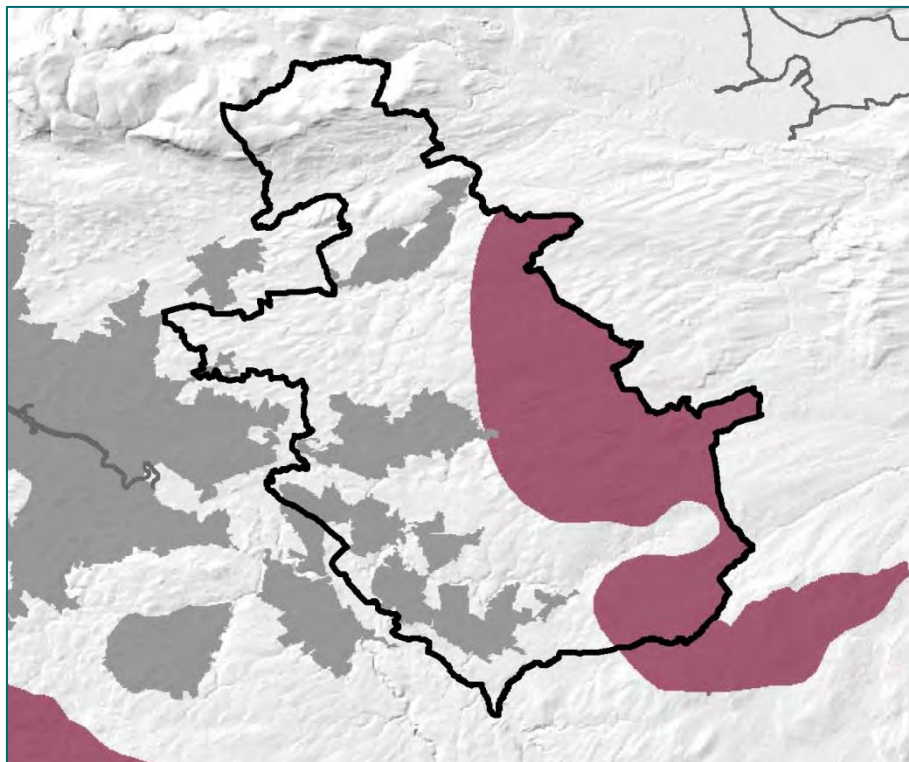
- 5.87 It is likely that opportunities for small and small-medium turbine typologies will exist alongside large scale industrial or commercial buildings. Large industrial estates are of locally lower sensitivity due to the lack of receptors, and tend not to be near valued landscapes.
- 5.88 While there are limited opportunities for topographical screening, there is some potential for screening small turbines around the small areas of woodland.

18 Plateau Moorlands

Location and Extent

- 5.89 This LCT forms part of the Central Plateau, which extends eastward into West Lothian. The topography of the plateau landscape varies in height between around 200-350m.
- 5.90 Within North Lanarkshire the LCT is divided into two areas. The larger northern area extends from Abronhill in the north to Shotts in the south, including Caldercruix and Plains. The smaller southern area lies to the south of Shotts and is centred around Forth in South Lanarkshire.

Figure 5.7 Plateau Moorlands (refer to Figure 4.1 for more detail)



Key Characteristics

- 5.91 The key characteristics, features and qualities of this LCT, as defined in the GCVLCA, are:
- distinctive upland character created by the combination of elevation, exposure, smooth, plateau landform, moorland vegetation and the predominant lack of modern development; and
 - these areas share a sense of apparent naturalness and remoteness which contrasts with the farmed and settled lowlands.
- 5.92 This LCT contains a number of wind energy developments which have some effect on characteristics such as lack of modern development and remoteness.
- 5.93 Within the southern area is the Black Law wind farm. Further north are several single turbines: two large turbines at Greendykeside; one medium at Hassockrigg; and five small or small-medium turbines. Torrance wind farm is operational at the eastern edge of the core area. These are in two loose clusters, one to the north of Caldercruix including Greensykeside, and one to the west of Harthill.

Table 5.13 Assessment of LCT18 Plateau MoorlandsRefer to **Table 3.2** for full details of the evaluation criteria.

	Lower sensitivity		↔	Higher sensitivity	
Landform and Scale					
	The Central Plateau is underlain by coal measures, igneous intrusions and dykes. The large scale landform is comparatively level and regular, with some variation, and is not particularly elevated.				
Land Cover					
	The land cover of the landscape comprises blanket bog, heather and grass moorland, with some areas of farmland on lower slopes. There are also areas of coniferous plantation and reservoirs.				
Settlement and Man-made Influence					
	Settlement is historically relatively sparse, though the Central Plateau contains a number of villages. The Central Plateau is influenced by open cast coal mining, both historic and ongoing. Black Law wind farm has an influence in the southern part of the area.				
Movement					
	There are several east-west transport corridors in this area, including the M8, A89, A71 and railway lines, which contribute to movement. In the south there is mining activity and wind turbines in the landscape.				
Skylines					
	Skylines in this landscape tend to be relatively simple, formed by relatively even, slightly undulating topography. The open nature of these skylines is characteristic and prominent in certain views. Turbines and electrical infrastructure occasionally break the skylines, which are elsewhere obscured by forestry.				
Key Views, Vistas, Landmarks					
	Where coniferous plantation permits, views tend to be relatively open across the surrounding valleys, and to adjacent hill groups. There are a number of man-made features visible, particularly road corridors and electrical infrastructure, though few visual foci. The Kirk of Shotts and the nearby television masts are the most prominent features.				
Receptors					
	Receptor numbers are relatively low within this landscape, although they include residents of the plateau villages, and those travelling by road or rail. There are likely to be relatively few recreational receptors in this area.				
Inter-visibility with Adjacent Landscapes					
	The landscape has inter-visibility with neighbouring LCTs, particularly Plateau Farmland (LCT5). These areas are also visible within wider views along and across the Clyde Valley and the Glasgow conurbation.				
Natural and Cultural Heritage Features					
	Overall, there are relatively low levels of natural or cultural heritage features of landscape importance within these areas. There is industrial heritage and localised estate landscapes				
Perceptual Aspects					
	Wildness levels in this area are among the highest in the Central Belt. There are no extensive areas of wildness, but pockets of relative tranquillity associated with higher, exposed areas of moorland.				

Sensitivity

- 5.94 The Central Plateau is relatively settled, and the landscape is large in scale, including a number of man-made features, including wind turbines, masts and coal mines. Overall, the LCT is of lower landscape sensitivity than visual sensitivity.
- 5.95 There are some areas of relative wildness, and inter-visibility with adjacent landscapes within the study area is high, particularly for outward-facing slopes, though to a lesser degree where the LCT meets the edges of the study area. This is an extensive LCT with important variations which affect the local level of sensitivity.

Table 5.14 Sensitivity of LCT18 Plateau Moorlands

Turbine typology	Sensitivity
Small turbine (15-30 m to tip)	Medium-low
Small-medium turbine (31-50 m to tip)	Medium-low
Medium turbine (51-80 m to tip)	Medium
Large turbine (81-120 m to tip)	High-medium
Very large turbine (over 120 m to tip)	High-medium

Landscape value

- 5.96 There are no designated landscapes within the North Lanarkshire area of the Plateau Moorlands LCT. Palacerigg Country Park occupies a small area in the north, close to Cumbernauld.

Underlying capacity

- 5.97 The sensitivity of this landscape, combined with the indicators of value, suggest that there is moderate to higher capacity for small, small-medium or medium scale wind turbine development, and moderate capacity at large or very large scales.
- 5.98 There is reduced sensitivity to smaller scale typologies, particularly where associated with agricultural settings, mainly in peripheral areas. Larger scale, more open and elevated areas are of reduced sensitivity to medium and larger typologies, particularly where associated with landscapes disturbed by mineral extraction or coniferous plantation. There are relatively extensive open areas within this landscape, which may be able to accommodate wind farm development as well as smaller clusters.
- 5.99 When considering proposals located within the Plateau Moorlands around Salsburgh, Harthill and Shotts, reference should be made to the 2013 Fortissat Ward Wind Energy Landscape Capacity Study,²³ which presents more detailed analysis of this specific area, and its local sensitivity and capacity.

Cumulative development and current residual capacity

Cumbernauld to Shotts area

- 5.100 The northern part of the Central Plateau includes a greater variety of consented and proposed development. The nine-turbine Greengairs wind farm is consented, and an eight turbine extension to the east is proposed. Two large single turbines have been consented, and a cluster of three proposed at Bracco. To the south, a group of three proposed wind farms (Shotts, West

²³ Bayou Bluenvironment (2013) Fortissat Ward Wind Energy Landscape Capacity Study. North Lanarkshire Council.

Benhar and Starryshaw) form a single cluster near Shotts. To the east is the consented Burnhead wind farm, in Falkirk.

- 5.101 The greater diversity of existing and proposed development in this part of the LCT creates a more complex cumulative picture. The scattered pattern of individual developments tends to disperse cumulative effects, as opposed to a pattern of distinct wind farms, which focuses such effects in more limited areas. There remains moderate capacity for further development at a range of scales, though the challenge for this area will be to prevent the dispersed cumulative effects coalescing to create a landscape defined by single turbines. Development must be carefully sited and designed to avoid such coalescence, either by building on existing foci or establishing new discrete clusters.

Forth area

- 5.102 In the southern part of the Central Plateau, the Black Law Phase II awaits determination. This area is also affected by a large open cast mine. Given the scale of Black Law and proposed development, there is limited further capacity for large-scale development within this part of the LCT. Any future development would require careful consideration of cumulative impacts, particularly in relation to the settlements in the South Calder valley to the north, as well as potential cumulative effects with the open cast mine.

Constraints

- 5.103 To maintain the distinction between this LCT and the adjacent Plateau Farmland (LCT5), recognised in the key characteristics, siting should be carefully considered. Developments which straddle the transition from farmland to moorland may blur this distinction, leading to a lack of definition. At present larger wind farms of large or very large turbines are located in the moorlands, while single turbines are more common in the farmland LCT. The maintenance of this distribution of development will assist in maintaining the distinction between the areas, emphasising the larger scale of the moorlands.
- 5.104 Given the quantity of existing and proposed development, the current pattern of wind turbines will be a key determinant of future siting and design. There are few substantial areas of this LCT which do not host existing or consented development.

Opportunities

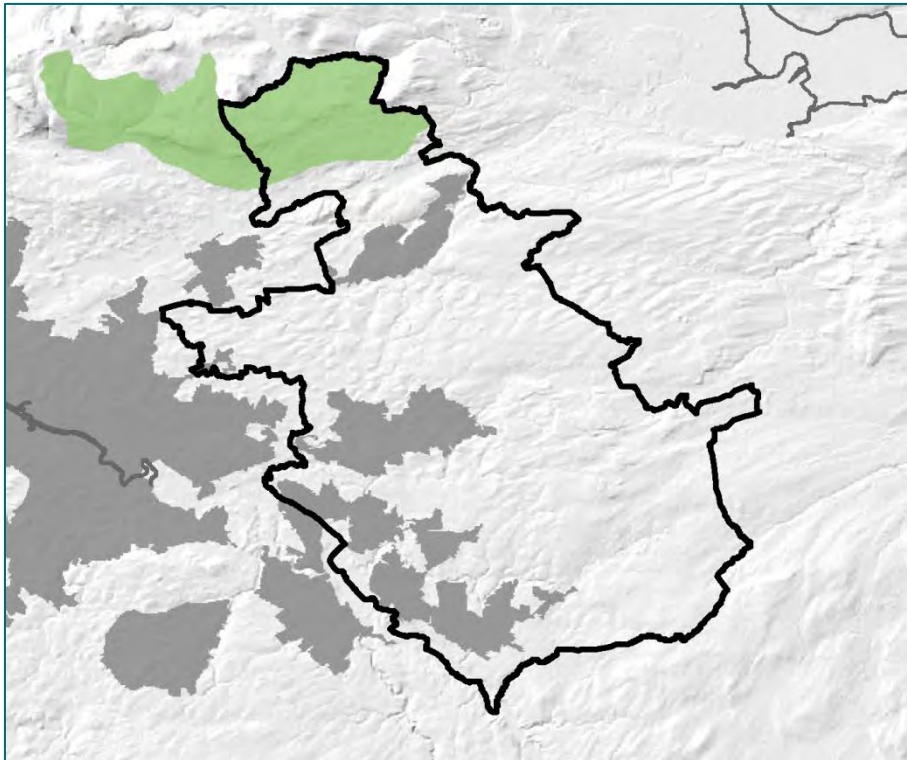
- 5.105 Larger-scale areas of moorland may be less sensitive to a single large development than to a number of individual turbines spaced across the area, which would interrupt a greater part of the skyline and disperse cumulative effects.
- 5.106 Extensions to existing developments, or establishment of new, discrete clusters, may assist in concentrating cumulative effects, as opposed to dispersing development across the area.

20 Rugged Moorland Hills

Location and Extent

- 5.107 This LCT extends across large upland areas underlain by resistant basalt geology, leaving rugged moors with summits between 400 m and 600 m. Within North Lanarkshire, this LCT occurs on the Kilsyth Hills, and extends west into East Dunbartonshire, north into Stirling, and east into Falkirk.

Figure 5.8 Rugged Moorland Hills (refer to Figure 4.1 for more detail)



Key Characteristics

- 5.108 The key characteristics, features and qualities of this LCT, as defined in the GCVLCA, are:
- distinctive upland character created by the combination of elevation, exposure, rugged landform, moorland vegetation and the predominant lack of modern development;
 - these areas share a sense of apparent naturalness and remoteness which contrasts strongly with the farmed and developed lowland areas; and
 - presence of archaeological sites on hilltops and sides.
- 5.109 No significant changes to these key characteristics have been identified. There are no operating wind turbines in this LCT within North Lanarkshire, though the Earlsburn and Craigengelt wind farms are located in Stirling, 2-5 km to the north across the Carron valley.

Table 5.15 Assessment of LCT20 Rugged Moorland HillsRefer to **Table 3.2** for full details of the evaluation criteria.

	Lower sensitivity		↔	Higher sensitivity	
Landform and Scale					
	This is a large scale landscape. Relatively high summits for the study area, and emphasised by proximity to low-lying valleys. Often a simple landscape of moorland hills, there are occasional strong features within the hills, and distinctive scarp slopes along edges particularly along the Kelvin Valley.				
Land Cover					
	Open land cover of grass and heather moorland, without enclosure except remnant historic field boundaries, and at its farmed edges. Extensive areas of coniferous plantation in the Carron Valley, but generally an open landscape to the south. Small areas of woodland are associated with gullies and at the fringes of the Kelvin Valley.				
Settlement and Man-made Influence					
	Very limited settlement except at its fringes, where there are farmsteads and the northern edge of Kilsyth. Human influence is limited to coniferous plantations, the Carron Valley Reservoir, and a power line north of Kilsyth. The settled Kelvin Valley lies close to this landscape, though this serves to highlight its relative lack of human influence.				
Movement					
	Movement is not a feature of this landscape, which is still and traversed by only one minor road. From the edges of these areas there are views down into and across more settled areas, including roads, railways, and movement in the Kelvin Valley and beyond.				
Skylines					
	Skylines are generally simple, open and uninterrupted. However, more rugged features within the hills introduce complexity to the skyline in some areas. The skyline of the southern ridge is an important feature in wider views (see Intervisibility). From the north coniferous woodland obscures the skyline.				
Key Views, Vistas, Landmarks					
	This landscape is open and offers wide outward views. Within the hills are landmark features including distinctive scarps and hilltops. It is a landscape with accessible viewpoints, such as at Tak ma Doon Road.				
Receptors					
	Though unpopulated, this area has high levels of recreational use and many opportunities for outdoor access from north and south. Well used due to their proximity to large population centres.				
Inter-visibility with Adjacent Landscapes					
	The southern scarp of the Kilsyth Hills provides an essential backdrop to Kilsyth and the Kelvin Valley. There are broad prospects out from the high points within this landscape, overlooking the Clyde basin to the south and looking north over the Carron Valley to the Gargunnock Hills.				
Natural and Cultural Heritage Features					
	There is extensive moorland habitat and a number of significant archaeological features within this landscape. On lower slopes there are designed landscape influences and part of the site of the Battle of Kilsyth (1645). There are small but important areas of native woodland.				

	Lower sensitivity		↔	Higher sensitivity	
Perceptual Aspects					
	Wildness mapping indicates that the upland parts of this LCT have the strongest wildness character in North Lanarkshire. Contrast with adjacent densely populated urban areas increases their apparent naturalness.				

Sensitivity

- 5.110 Although the underlying landform and simple landcover of this LCT suggests lower sensitivity, the majority of characteristics indicate higher sensitivity to wind turbines. Key sensitivities include the higher level of recreation use within each of the three areas, and their relative wildness, in contrast to the nearby urban areas. These hills contain distinctive scarps which are highly visible in the wider landscape, and which provide important backdrops to the adjacent lowlands.
- 5.111 The steep scarp of the Kilsyth Hills contrasts with the Broad Valley Lowland (LCT10) and wider low-lying urban area immediately to the south. Wind turbines could interrupt this key relationship if placed on the edges of the hills, which are therefore the most sensitive part of this LCT.
- 5.112 Those areas which are set back from the highly visible edges of the hills may be of locally reduced sensitivity, although turbine development in open, unforested interior locations could diminish the relative wildness which is a key characteristic of this LCT. Lower slopes may be less sensitive to small turbines where these would have more localised effects, and would not be seen to disrupt the scale of the hills in wider views.

Table 5.16 Sensitivity of LCT20 Rugged Moorland Hills

Turbine typology	Sensitivity
Small turbine (15-30 m to tip)	Medium
Small-medium turbine (31-50 m to tip)	High-medium
Medium turbine (51-80 m to tip)	High
Large turbine (81-120 m to tip)	High
Very large turbine (over 120 m to tip)	High

Landscape value

- 5.113 North Lanarkshire has defined a Regional Scenic Area covering the Kilsyth Hills. While there is no published background to this specific designation, **Stirling Council's proposed supplementary guidance on local landscape areas defines special qualities for the 'Southern Hills' which** are considered to apply to this area. The special qualities relevant to the Kilsyth Hills include:
- Seemingly towering hills defining and confining adjacent lowland and conveying a strong sense of a physical barrier. Precipitous south facing slopes appear much higher and larger than they really are because of lack of scale indicators. Distinctive and dramatic rock outcrops and corrie landforms appear unassailable.
 - A sense of remoteness and isolation: The core, largely uninhabited, simple, large-scale landscapes still convey a sense of remoteness, despite the proximity of the whole hill mass to major settlements.
- 5.114 The Stirling Council document notes the impact of wind turbines on remoteness in particular, and highlights the sensitivity of the hills to further large-scale change.

Underlying capacity

- 5.115 The sensitivity of this landscape, combined with the high value placed upon it, suggest that this LCT has lower capacity for wind turbine development at all scales, with limited capacity for medium turbines and little or no capacity for large or very large turbines.

Cumulative development and current residual capacity

- 5.116 There are no consented or proposed turbines in the Kilsyth Hills. This LCT extends to the north into the buffer area: to the north of the Kilsyth Hills is an emerging cluster of wind turbine development including the operational Craigengelt and Earlsburn wind farms, and the consented Earlsburn North. These would not alter the underlying capacity of this landscape, which is already limited. The introduction of turbines within these hills could lead to cumulative effects on the landscape and views as perceived from areas to the north including the Carron Valley.

Constraints

- 5.117 Large and very large turbine typologies are unlikely to be successfully accommodated within this landscape. The prominent scarp slopes and uplands associated with the LCT will render large turbines highly visible across the wider landscape. Some of the key skylines, for example the southern aspect of the Kilsyth Hills, are of particular importance to the settlements and landscapes they overlook.
- 5.118 The Rugged Moorland Hills contain some of the highest levels of wildness in the study area. This is a highly valued resource given the close proximity to densely settled urban areas. Larger turbine developments within the hills would tend to erode this important aspect of this LCT.

Opportunities

- 5.119 Single turbines or small groups of turbines in the small or small-medium typologies could potentially be sited at the fringes of the LCT, where the open upland gives way to enclosed farmland and, in some areas, settlement fringe landscapes.
- 5.120 There may be limited locations where single turbines or groups of small or small-medium, or possibly medium turbines, set well back from the prominent edges of these hills, can be sited in such a way that their visibility in the wider landscape would be reduced. Any proposals would need to demonstrate a high level of care in siting and design.

6 Summary and Conclusions

Summary of sensitivity and capacity

- 6.1 The findings of the sensitivity and capacity assessments for the LCTs which lie within North Lanarkshire are summarised in **Table 6.1**. The findings on capacity are drawn from the narrative text developed for each LCT and area, and are provided here for comparison purposes. Reliance should not be placed on the text in **Table 6.1** without reference to the more detailed discussions in **Section 5**.
- 6.2 Landscape sensitivity is illustrated in **Figures 5.21 to 5.25**. The areas into which the LCTs have been subdivided for the purpose of reporting current residual capacity are shown on **Figure 5.26**.

Table 6.1 Summary of sensitivity and capacity in North Lanarkshire

LCT	Turbine Typology	Sensitivity	Underlying Capacity	Current Residual Capacity
4 Rolling Farmland	Small	Medium-low	Moderate capacity for wind turbine development, particularly at small and small-medium scales. Capacity for medium turbines is likely to be more restricted, with little or no capacity for large or very large turbines.	A moderate level of capacity for turbines of smaller typologies remains, some limited capacity for medium turbines and little or no capacity for large or very large turbines.
	Small-medium	Medium-low		
	Medium	Medium		
	Large	High-medium		
	Very large	High		
5 Plateau Farmland	Small	Low	Moderate to higher overall capacity for wind turbine development at a range of scales, up to large typology.	<p><i>Cumbernauld to Airdrie area</i></p> <p>Limited scope for large or very large turbines. Moderate capacity remains for medium to small development.</p> <p><i>Airdrie to Shotts area</i></p> <p>Moderate capacity remains for small to medium development, and lower capacity for large or very large turbines.</p>
	Small-medium	Medium-low		
	Medium	Medium		
	Large	High-medium		
	Very large	High-medium		
7 Fragmented Farmlands	Small	Low	Higher capacity for small and small-medium turbines, moderate capacity for medium turbines, and lower capacity for large and very large	As underlying capacity.
	Small-medium	Low		
	Medium	Medium-low		
	Large	High-		

LCT	Turbine Typology	Sensitivity	Underlying Capacity	Current Residual Capacity
		medium	wind turbines.	
	Very large	High		
8 Incised River Valleys	Small	Medium	Lower capacity for wind turbine development at small to medium scales, and no capacity for large or very large turbines.	As underlying capacity.
	Small-medium	High-medium		
	Medium	High-medium		
	Large	High		
	Very large	High		
10 Broad Valley Lowland	Small	Medium-low	Moderate to lower capacity for small or small-medium turbine sizes, little capacity for medium turbines, and no capacity for large or very large turbines.	As underlying capacity.
	Small-medium	Medium		
	Medium	High-medium		
	Large	High		
	Very large	High		
11 Broad Urban Valley	Small	Low	Moderate capacity for small or small-medium turbines, lower capacity for medium turbines, and little or no capacity for large or very large turbines	As underlying capacity.
	Small-medium	Medium-low		
	Medium	High-medium		
	Large	High		
	Very large	High		
18 Plateau Moorlands	Small	Medium-low	Moderate to higher capacity for small, small-medium or medium scale wind turbine development, and moderate capacity at large or very large scales.	Cumbernauld to Shotts area Moderate capacity for further development at a range of scales. Forth area Limited further capacity for large-scale development.
	Small-medium	Medium-low		
	Medium	Medium		
	Large	High-medium		
	Very large	High-medium		
20 Rugged Moorland Hills	Small	Medium	Lower capacity for wind turbine development at all scales, with limited	As underlying capacity.
	Small-medium	High-medium		

LCT	Turbine Typology	Sensitivity	Underlying Capacity	Current Residual Capacity
	Medium	High	capacity for medium turbines and little or no capacity for large or very large turbines.	
	Large	High		
	Very large	High		

Summary of strategic cumulative assessment

- 6.3 The strategic cumulative assessment examined patterns of development across the study area to identify potential cumulative effects occurring beyond the LCT scale and in some cases beyond the local authority scale. The assessment is reported in full in the Overview Report, and the findings relevant to North Lanarkshire are presented here.
- 6.4 The assessment was undertaken at a strategic scale and does not examine every potential cumulative impact. Rather, the assessment seeks to examine regional patterns of development, including consideration of existing and emerging clusters of development, and undeveloped areas which remain between such clusters. The assessment seeks to recommend where future development could be fitted into this pattern, either by building on existing clusters or by protecting important open areas.
- 6.5 The methodology for the strategic cumulative assessment is set out in **Section 3**. The assessment only considers turbines of over 50 m to tip height (i.e. medium and larger typologies), and considers two 'scenarios': firstly operational and consented developments which form a baseline of acceptable impact; and secondly operational, consented and proposed developments. The latter scenario is speculative, since it includes undetermined proposals, but it reflects the current pattern of development pressure.
- 6.6 The assessment has been informed by examination of cumulative zone of theoretical visibility (CZTV) maps and comparison with the assessed sensitivity of the landscape, and by examination of potential cumulative impacts on views from a number of representative viewpoints and routes across the study area.

Patterns of development

- 6.7 Consented and operational development within North Lanarkshire is relatively dispersed. There are wind farms at Greengairs, Torrance and Black Law, and single turbines in the central and eastern areas. Almost all turbines are within the Plateau Moorland and Plateau Farmland LCTs, with no turbines in the more developed western areas, and the less developed landscape north of Cumbernauld. Beyond the council boundary there is development at Earlsburn and Craigengelt in Stirling, Burnhead in Falkirk, Tormywheel and Pates Hill in West Lothian, and Lochhead and Blantyre Muir in South Lanarkshire. The developments which are closest to North Lanarkshire all lie within the wider Plateau Moorland type landscape.
- 6.8 Proposed development follows a similar pattern, with further development at Black Law and Greengairs, and a new discrete cluster north of Shotts. Again, proposed development is almost entirely within the Plateau Moorland and Plateau Farmland LCTs.
- 6.9 These two LCTs are of lower sensitivity in comparison with other parts of North Lanarkshire. The prominent Kilsyth Hills to the north is the area of highest sensitivity, with the smaller-scale and more settled landscapes to the west and south-west also of relatively high sensitivity.
- 6.10 The highest levels of development are therefore occurring within the landscapes most able to accommodate development. The capacity assessment concludes that there is currently some residual capacity within the Plateau Moorland, and to some extent within the Plateau Farmland. At a strategic level, it is preferable to meet future demand for development within these lower sensitivity landscapes in order to retain the undeveloped nature of other higher sensitivity areas. In North Lanarkshire the key undeveloped area being the Kilsyth Hills and Kelvin valley.

Cumulative ZTVs

- 6.11 The cumulative ZTV for operational and consented turbines is shown in **Figure 6.1**. This indicates moderate or higher levels of theoretical visibility across much of central and south-western North Lanarkshire. This area has theoretical visibility of Whitelee and other development to the south, although the built up nature of this area will limit these views. Theoretical visibility is lower to the east and north, though there is moderate visibility from the Kilsyth Hills, arising from their extensive views across the study area.
- 6.12 The cumulative ZTV for operational, consented and proposed turbines is shown in **Figure 6.2**. This indicates an intensification of the current pattern of theoretical visibility. Again, the level of theoretical visibility in the south and west is influenced by relatively distant wind farm proposals in South Lanarkshire. The area around Cumbernauld, and the Kelvin valley in particular, remains an area of low theoretical visibility.

Viewpoints

- 6.13 The following sections describe the representative viewpoints which are listed in **Table 4.1** and shown on **Figure 4.3**. The CZTV maps (**Figures 6.1** and **6.2**), and the underlying visibility data on which they are based, were examined to identify consented and proposed development which may be visible from these locations in future. No wireframe visualisations have been generated as part of the study. Full details of the viewpoint analysis can be found in the overview report.

Viewpoint 7 Tak Ma Doon Road

- 6.14 A signposted viewpoint on this minor road through the Kilsyth Hills offers panoramic views to the south and east. The view takes in the Firth of Forth to the east, the Slamannan Plateau and Pentland Hills to the south-east, and looks south across Cumbernauld. On clear days Tinto is visible in the distance.
- 6.15 The closest operational turbines are at Greendykeside (13 km), with consented development adjacent at Greengairs and to the south-east at Burnhead (19 km). More distant views of Black Law (29 km) and Whitelee (36 km) are available in conditions of good visibility. Developments to the north are not visible from this location. Currently proposed developments are at similar distances, the closest being Greengairs East.
- 6.16 Existing and proposed developments are seen from this viewpoint in the context of the settled plateau to the south, with Cumbernauld in the foreground, and are at a lower elevation. Cumulative effects on this location are limited. Development of turbines closer to the viewpoint could increase the level of effect, particularly if turbines were sited on the ridge north of Cumbernauld which forms the south side of the Kelvin Valley.

Viewpoint 12 Bedlay Cemetery, Moodiesburn

- 6.17 The cemetery is located on a low ridge in the west of North Lanarkshire, with relatively open views. To the north the Kilsyth Hills and Campsie Fells form a prominent backdrop. Views in other directions are less extensive, but overlook areas of the surrounding Fragmented Farmland and Plateau Farmland.
- 6.18 The consented Greengairs wind farm (9 km) will be theoretically visible from this location, along with other single turbines in the Plateau Farmland to the east. Wind farms in the wider landscape are unlikely to be visible under most conditions, due to surrounding topography and built developments.
- 6.19 Views from this location emphasise the visual importance of the Kilsyth Hills as a visual backdrop, and turbines in the Rolling Farmland to the north could interrupt this or similar views to the hills. Views of turbines to the east will be less prominent from this location due to rising topography, and will be viewed in the context of the settled plateau.

Viewpoint 13 Blawhorn Moss

- 6.20 Blawhorn Moss is a National Nature Reserve at the western edge of West Lothian. From the reserve there are views across the moorland landscape of the Plateau Moorlands, with the edge of the Kilsyth Hills visible to the north-west.

- 6.21 Torrance wind farm is visible 4 km to the south-east, with Pates Hill wind farm seen behind, around 15 km away. To the south Black Law can be seen at 11 km. The consented Burnhead wind farm is located immediately to the north, and the consented Greengairs 8 km to the west. Turbines will be seen in most directions. Proposed turbines around this viewpoint include Greengairs East 6 km to the west, and West Benhar/Starryshaw/Shotts wind farm 5 km to the south.
- 6.22 The existing and proposed turbines visible from this location are all sited within Plateau Moorland LCT, and similar landscape types in West Lothian and Falkirk. Further development in this LCT could result in the surrounding of this and other viewpoints in the area, though as noted there are already views of turbines in most directions. To reduce potential cumulative impact, a strategy of discrete clusters of development would have benefit over dispersal of turbines throughout the plateau.

Viewpoint 14 A706, Gladsmuir Hills

- 6.23 This location on the A706 is on the north side of the Gladsmuir Hills in the south-west of West Lothian. From this location there are panoramic views northwards across the foreground moorland. To the north-west there are views over Fauldhouse to the moorland plateau which lies between North Lanarkshire and West Lothian. The Campsie Fells and Kilsyth Hills are seen in the distance to the north-west, and the Ochils are also visible to the north-east.
- 6.24 The closest wind farms, Pates Hill and Black Law, are not seen from this location due to local topography. Torrance wind farm, 8 km to the north, is visible. The consented Tormywheel wind farm will be located either side of the road at this location, and the future view will therefore be seen through these turbines. The consented Burnhead wind farm will be seen behind Torrance to the north. Proposed turbines at West Benhar/Starryshaw/Shotts wind farm 6 km north-west will be visible, and development on the plateau beyond will be theoretically visible at greater distances, e.g. Greengairs East at 17 km.
- 6.25 Based on the pattern of existing and proposed development, turbines are likely to become a feature of views to the north and north-west from this location, though open views to the north-east, away from the study area, will remain.

Viewpoint 15 Chatelherault Country Park

- 6.26 From the 18th-century pavilion at Chatelherault there are long views to the north, extending across the Clyde basin to the Kilsyth Hills, and to the Kilpatrick Hills in the north-west. Hamilton and the M74 are in the foreground, with the horizon in the middle distance formed by a low ridge with houses, tower blocks, commercial buildings and pylons all visible. Behind this the steep scarp of the Campsie Fells and Kilsyth Hills is a striking feature.
- 6.27 There are presently no turbines visible in this view, though operational and consented development within North Lanarkshire is theoretically visible at between 10 and 15 km to the north-east, including Greengairs wind farm and single turbines. Similarly, proposed development including Bracco and West Benhar/Starryshaw/Shotts wind farms is theoretically visible.
- 6.28 In this view, it is the nearer horizon formed by the ridge which runs from Tannochside to Holytown and round to Motherwell and Wishaw that is most prominent. Development behind this ridge will not have a significant impact. However, development which does affect this ridge is likely to be viewed in front of the Kilsyth Hills, and could interrupt this open and valued view from the country park. While much of the ridge is urban, there are sections of Fragmented Farmland, Incised River Valley and Broad Urban Valley.

Routes

- 6.29 The following sections discuss potential sequential cumulative effects on key routes through North Lanarkshire, again focusing firstly on operational and consented development, then proposed development. The aim is to identifying any strategic undeveloped areas, the retention of which would reduce the potential for cumulative effects.
- 6.1 Along the M80 and A803 routes entering the study area from the north-east, there are views of Craigmelt and Earlsburn from within the buffer area. Passing through North Lanarkshire there will be views of consented development at Greengairs, and large single turbines in this area. The undeveloped skyline of the Kilsyth Hills and Campsie Fells is to the north.

- 6.2 From the M8 there are views of Torrance wind farm entering the study area, then views of Whitelee and Blantyre Muir to the west, and glimpses of Black Law to the south. Proposed development would add Hartwood wind farm and some single turbines to the view. However, the affected section of the overall route is short.
- 6.3 In this area sequential effects may be more noticeable along the A89 and A71. The A89 passes relatively close to Torrance and the consented Burnhead, then the emerging cluster of development around Greengairs/Greendykeside, and with views of other large operational, consented and proposed single turbines.
- 6.4 The A71, entering the study area from the east, passes Pates Hill, Tormywheel (consented) and Black Law, all at relatively close range. In this area proposed development would add Harburnhead to the east, and Hartwood to the north. Continuing along the A71, there will be long views of several developments to the west and south-west, including Whitelee and Lochhead.
- 6.5 The main Edinburgh to Glasgow railway line, via Falkirk, has limited visibility of turbines within the core area. The Airdrie-Bathgate and Shotts railway lines enable greater visibility of turbines across the Plateau Farmland and Plateau Moorland in North Lanarkshire, with close views of wind farms including Torrance, Burnhead, Black Law and Pates Hill, and the proposed Hartwood, although often filtered by trackside vegetation. Black Law is also viewed from the West Coast Main Line, in the area between Motherwell and Carluke where it passes through the Plateau Farmland. Whitelee is also viewed from here, as well as a number of other developments along the Clyde Valley to east and west.

Overall Conclusions

- 6.6 The study found that the highest sensitivity landscape is the Kilsyth Hills to the north. The smaller-scale and more settled landscapes to the west and south-west were also found to be of relatively high sensitivity, though with reduced sensitivity to smaller turbine types. Generally lower sensitivity was found within the Plateau Moorland and Plateau Farmland which make up the less populous parts of central and eastern North Lanarkshire.
- 6.7 The highest levels of landscape value were associated with the Kilsyth Hills, the Clyde valley, and the Antonine Wall along the Kelvin valley. Consequently, the areas with greatest underlying capacity for wind turbine development were found to be the Plateau Moorland and Plateau Farmland LCTs. There are relatively high levels of existing and proposed wind turbine development in both these LCTs, which locally restricts capacity, notably in the south around Black Law, though some residual capacity was identified in both LCTs.
- 6.8 The strategic cumulative assessment indicates that the pattern of development in North Lanarkshire is concentrated within landscapes of relatively lower sensitivity, and which have some residual capacity for further development. There is limited development currently affecting the areas of higher sensitivity.
- 6.9 The analysis of representative viewpoints highlights the visual importance of the Kilsyth Hills as a backdrop to the whole of North Lanarkshire. The lack of existing and proposed development in or around the areas of higher sensitivity, i.e. the Clyde and Kelvin valleys and the Kilsyth Hills, is notable, and it is recommended that these areas are maintained as landscapes relatively free of large-scale wind energy development.
- 6.10 From the findings of the sensitivity and capacity study and the strategic cumulative assessment, it is concluded that future development will be most readily accommodated within the Plateau Moorland and Plateau Farmland LCTs, avoiding effects on the more sensitive landscapes with lower capacity. Further development within the Plateau Moorland and Plateau Farmland may intensify cumulative effects, but this is considered preferable to dispersal of cumulative effects into currently unaffected areas. The assessment of sensitivity and capacity within these two LCTs highlights the need to develop discrete foci or clusters of development rather than allow a scatter of single turbines and turbine groups across the whole area.

Appendix 1

Guidance for small-scale development

The following provides some generic guidance on siting small-scale wind energy development, focussing on minimising landscape and visual effects. It is recognised that turbines need to be sited and designed to ensure a reasonable output. In all cases the findings of the sensitivity assessment for the relevant LCT should be considered when considering potential sites for wind energy development. This is not an exhaustive list of factors for consideration, but focuses on the points of most relevance to the Glasgow and Clyde Valley landscape.

Further detail is provided in the SNH publications *Siting and Designing Wind Farms in the Landscape* (2009) and *Siting and Design of Small Scale Wind Turbines of between 15 and 50 metres in height* (2012).

When considering small-medium and medium single turbines, and clusters of such turbines, it should be borne in mind that, while their landscape and visual effects are much less than those of larger commercial-scale development, these effects can be proportionally large in relation to both the size of the development, and the benefit gained in terms of energy output.

The following general guidance relates to minimising impacts on the landscape.

- Ensure that wind energy development does not override or subsume the key characteristics of the landscape as recorded in the Glasgow and Clyde Valley Landscape Character Assessment or in more detailed landscape character assessments.
- Consider siting turbines so they are perceived as part of other built development, or are seen in association with a building group where effects on amenity allow, creating an association between generation and consumption. For example, there may be some opportunity to site small or small-medium single turbines in relation to farm buildings or community buildings, with larger scale single turbines sited in relation to larger businesses or industrial sites. Development should be commensurate with (or reflect) the scale of the associated buildings.
- Site wind energy developments away from dramatic landforms or valued distinct landform features (including prominent steep slopes).
- Seek to avoid impacts on areas which are free from overt human influence and modern development, and which are valued for their perceived rural tranquillity, including where areas are located close to settlements, such as the incised valleys.
- Consider opportunities for locating turbines on reclaimed, industrial and man-made landscapes, particularly where this can be linked to landscape restoration, or in association with business parks or industrial estates, where other landscape sensitivities are not compromised.

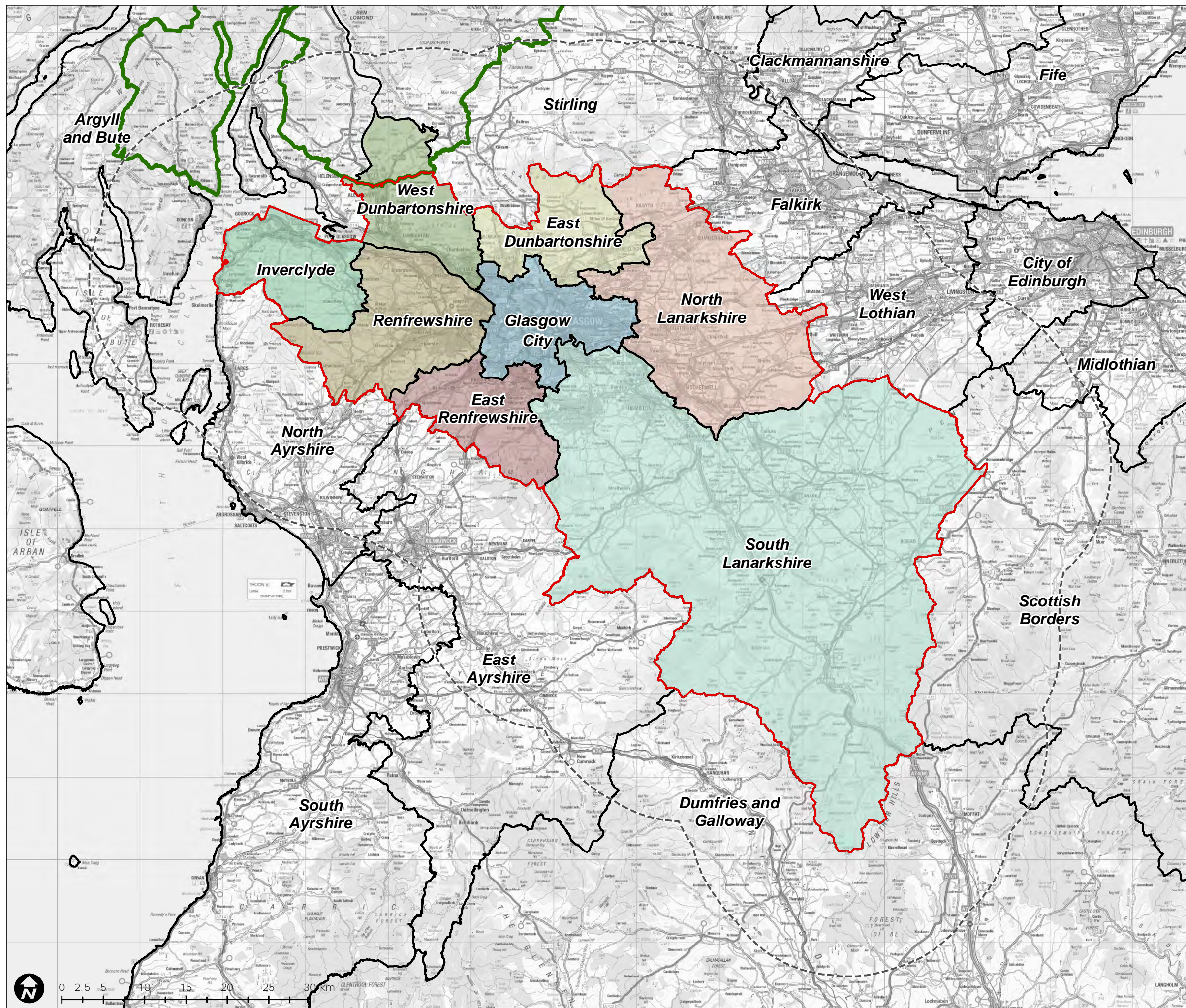
The following general points relate to minimising impacts on views and visual amenity.

- Significant effects on views from important viewpoints, including hill summits, popular outlooks, or views with heritage significance, should be avoided where possible, or minimised through careful siting.
- It is generally less distracting to see a substantial part of a turbine rather than blade tips only – this may be a particular consideration for views from sensitive viewpoints or those frequented by a larger number of viewers.
- It is preferable to site turbines where they do not distract from views of, or prevent the appreciation of, landmarks including natural and built features.
- It is preferable to site turbines in locations where they do not conflict with other man-made skyline features, such as pylons, and where the addition of turbines could create visual confusion.
- Consider sites where areas of existing vegetation and woodland could screen views of small turbines, or at least screen ground-level features of wind energy developments (such as fencing, tracks and transformers).
- Avoid selecting sites on important undeveloped or distinctive skylines or ridge lines, or skylines with important cultural or historic landmark features.

When considering the potential for cumulative impacts, the following guidelines may be particularly relevant.

- Avoid siting smaller turbines in close proximity to existing large turbines where contrasts of scale could occur. This may also affect longer views where smaller turbines appear in the foreground, and may lead to a confusing visual image.
- Consider the visual relationship between larger wind farms which are seen on upland and high ground, with smaller turbines and single turbines in farmland areas. Seek to maintain the distinction between the types of development which are present within these types of landscape. Transitional locations between upland and farmland may therefore be sensitive if development leads to the blurring of boundaries.
- Avoid siting smaller turbines of different design in close proximity, which could lead to unattractive visual contrasts. Design elements including height, rotor diameter, number of blades, tower construction and nacelle shape should all be considered.
- Colour smaller turbines appropriately: pale grey may be less suitable for turbines which will be primarily viewed against a background of trees, as opposed to the sky.

In all cases, the key aims should be to ensure compatibility between the proposed development and the receiving landscape, and to minimise the extent and likely significance of effects on views and landscape character.



Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley

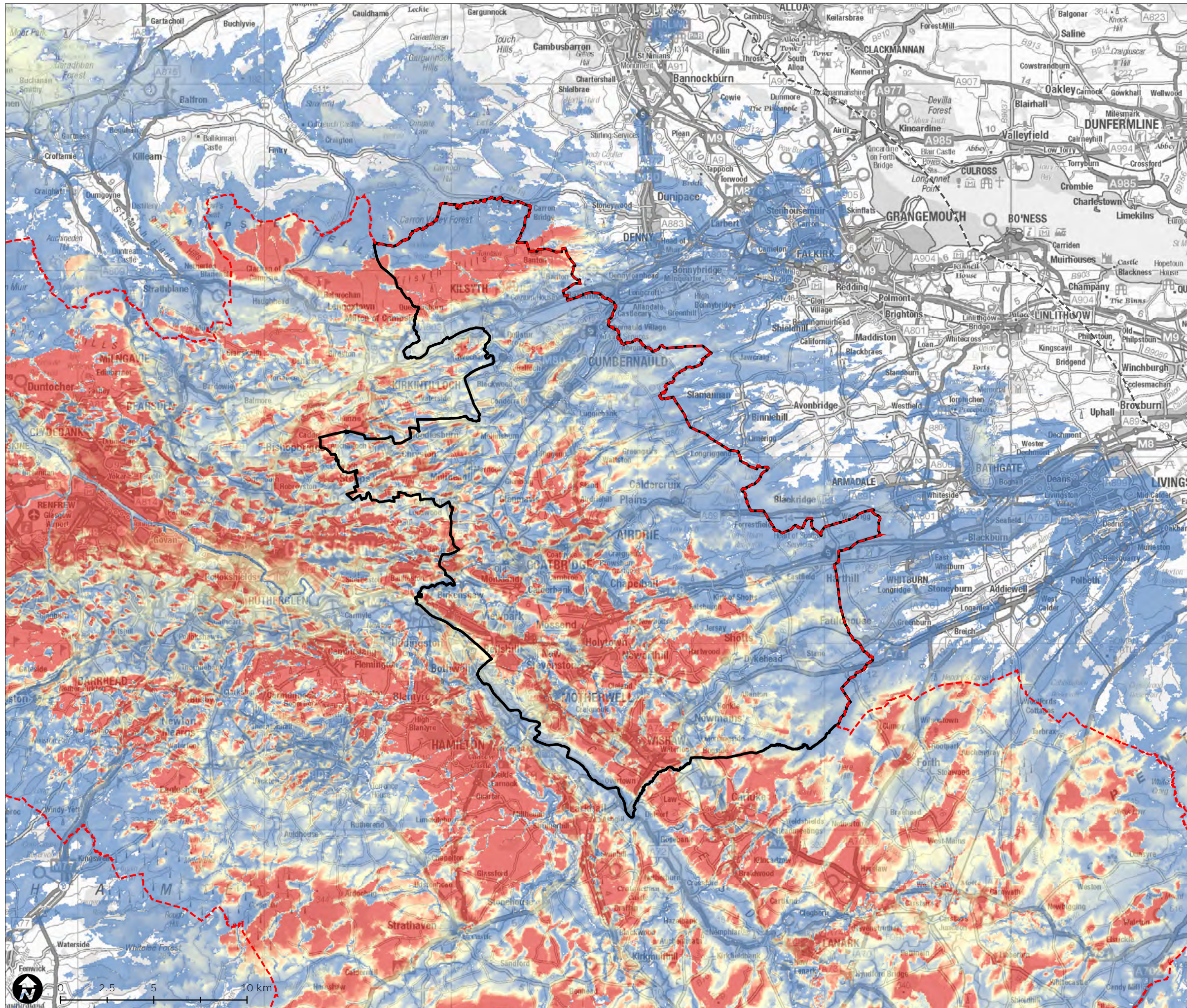
Glasgow and Clyde Valley Strategic Development Plan Area

- Core Area
- 15km from Core Area
- Loch Lomond & The Trossachs National Park
- Local Authority
 - East Dunbartonshire
 - East Renfrewshire
 - Glasgow City
 - Inverclyde
 - North Lanarkshire
 - Renfrewshire
 - South Lanarkshire
 - West Dunbartonshire

Figure 3.1

Map Scale @ A3: 1: 450,000

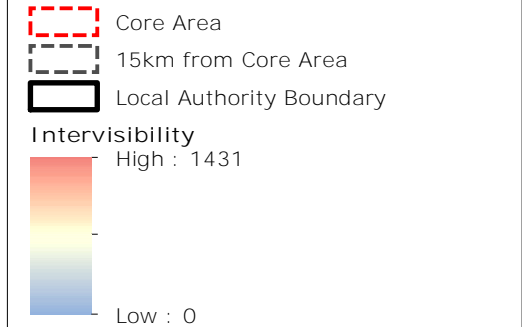




Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley

North Lanarkshire

Intervisibility with the Core Area (ground level)



Note
Intervisibility calculates number of points visible within 15km. The points are arranged in a 500m grid covering the whole of the Core Area. The viewshed is calculated to 0m for each point, from a height of 2m above ground level.

The visible extent for each point is set to 15km.

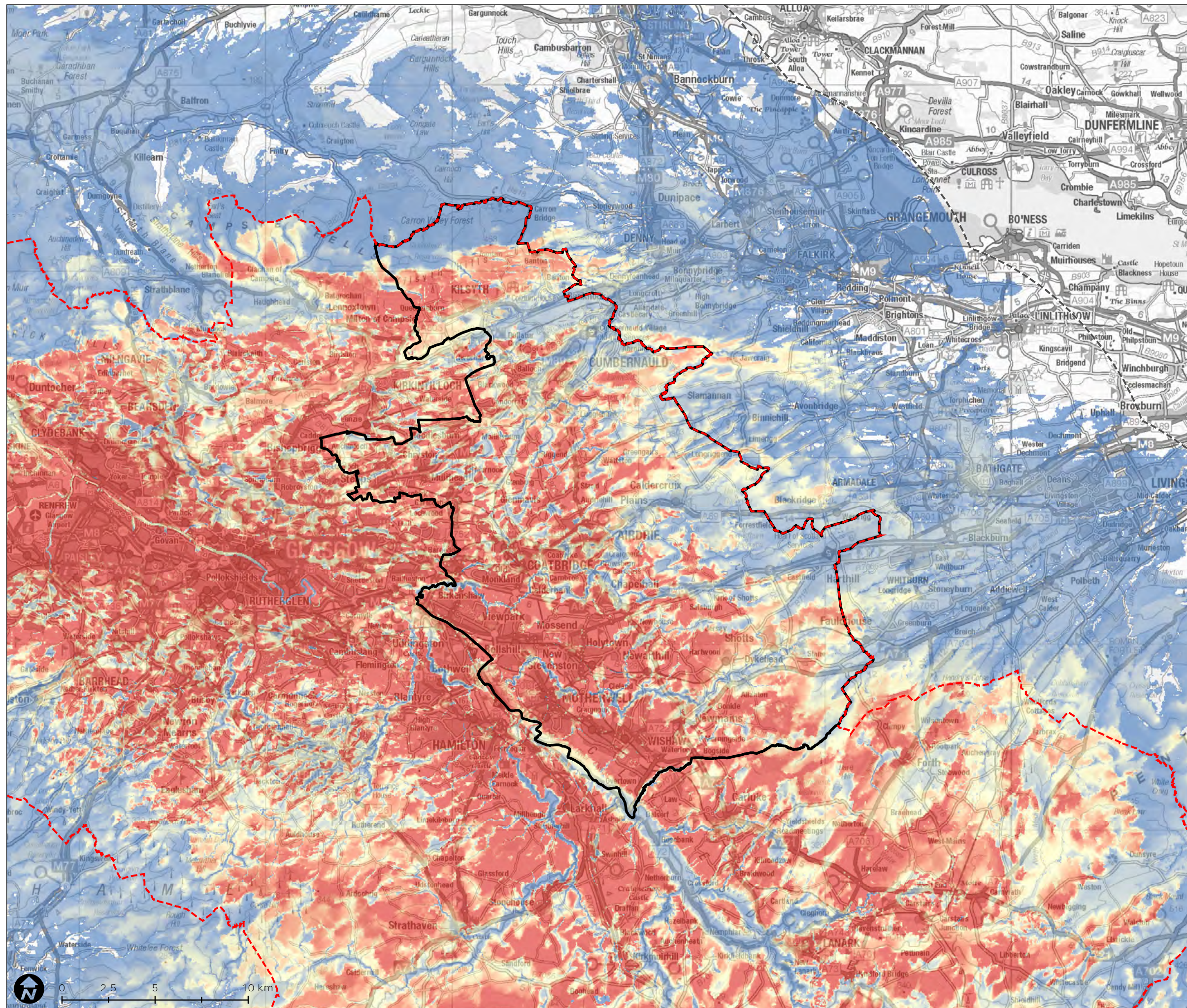
The terrain model is bare ground and derived from OS Terrain 50 height data.

The earth curvature and atmospheric refraction have been taken into account.

Figure 3.2

Map Scale @ A3: 1: 200,000



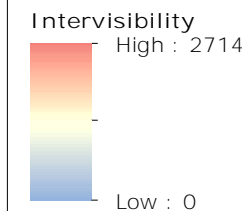


Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley

North Lanarkshire

Intervisibility with the Core Area (80m)

- Core Area
- 15km from Core Area
- Local Authority Boundary



Note
Intervisibility calculates number of points visible within 15km. The points are arranged in a 500m grid covering the whole of the Core Area. The viewshed is calculated to 80m for each point, from a height of 2m above ground level.

The visible extent for each point is set to 15km.

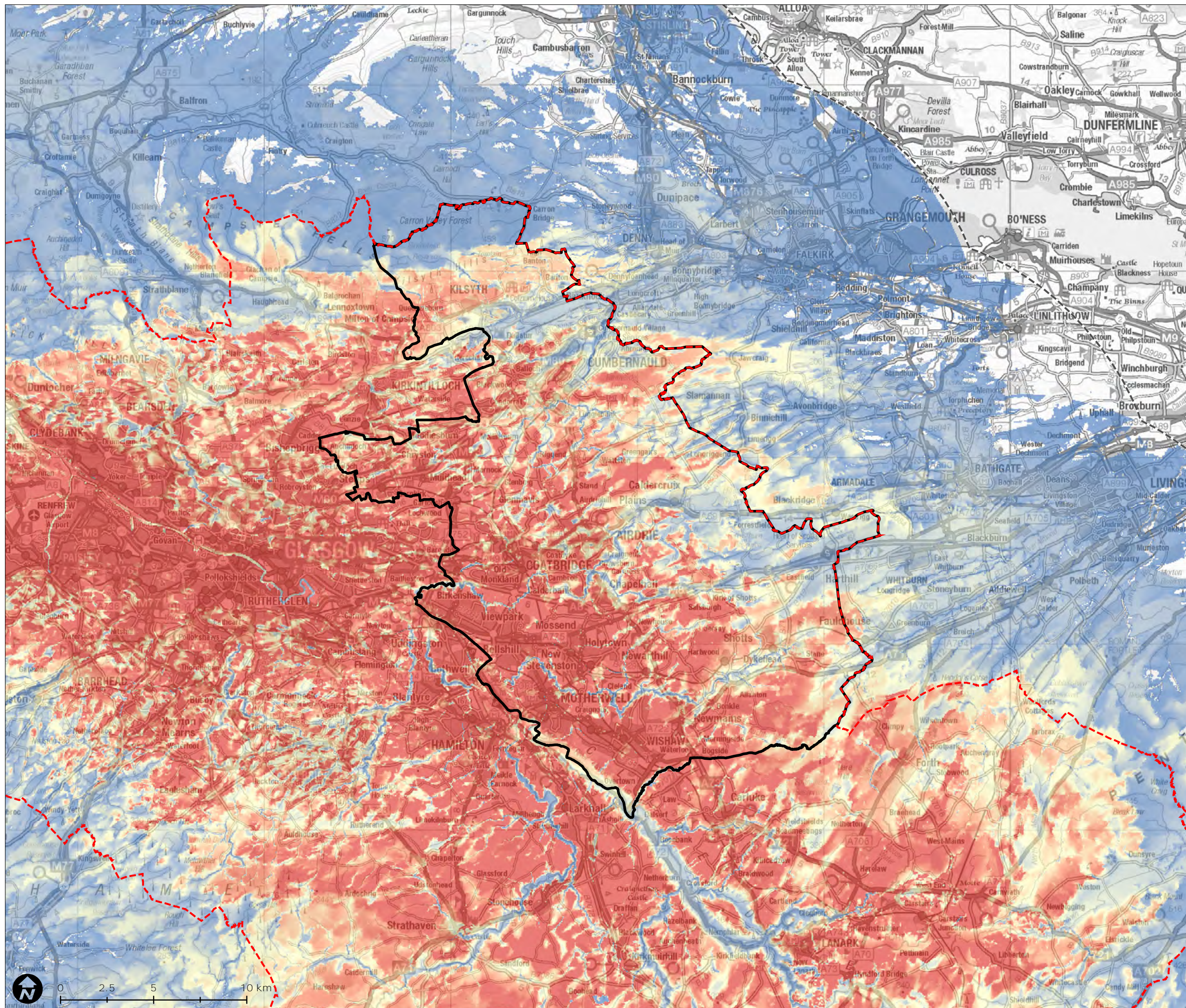
The terrain model is bare ground and derived from OS Terrain 50 height data.

The earth curvature and atmospheric refraction have been taken into account.

Figure 3.3

Map Scale @ A3: 1: 200,000





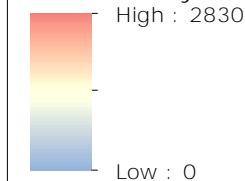
Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley

North Lanarkshire

Intervisibility with the Core Area (150m)

- Core Area
- 15km from Core Area
- Local Authority Boundary

Intervisibility



Note
Intervisibility calculates number of points visible within 15km. The points are arranged in a 500m grid covering the whole of the Core Area. The viewshed is calculated to 150m for each point, from a height of 2m above ground level.

The visible extent for each point is set to 15km.

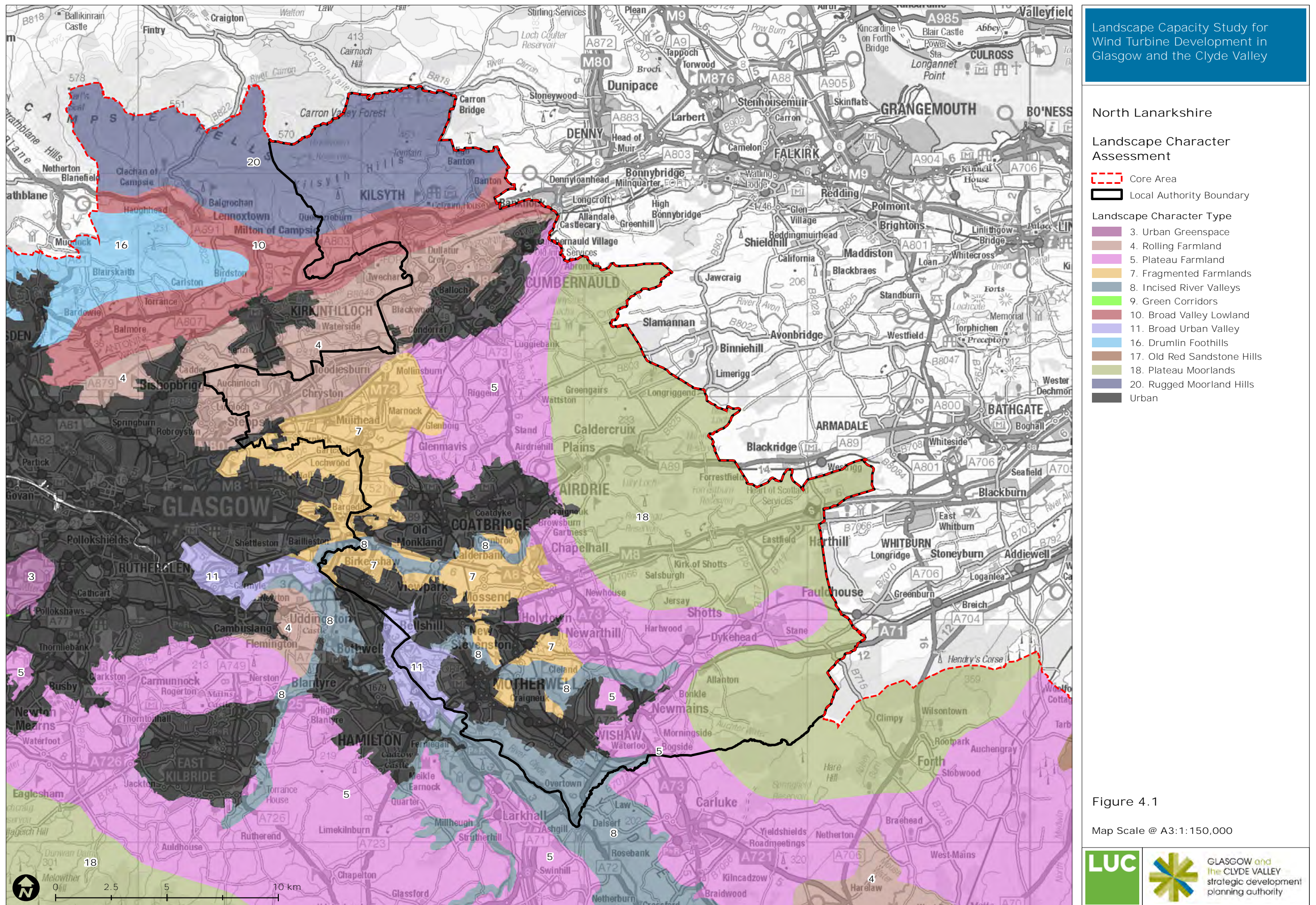
The terrain model is bare ground and derived from OS Terrain 50 height data.

The earth curvature and atmospheric refraction have been taken into account.

Figure 3.4

Map Scale @ A3: 1: 200,000





Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley

- North Lanarkshire
- Landscape Designations
- Core Area
 - Local Authority Boundary
 - Loch Lomond & The Trossachs National Park
- West Dunbartonshire
- Local Landscape Area
- East Dunbartonshire
- Regional Scenic Area
- North Lanarkshire
- Area of Great Landscape Value
 - Regional Scenic Area
- South Lanarkshire
- Special Landscape Area

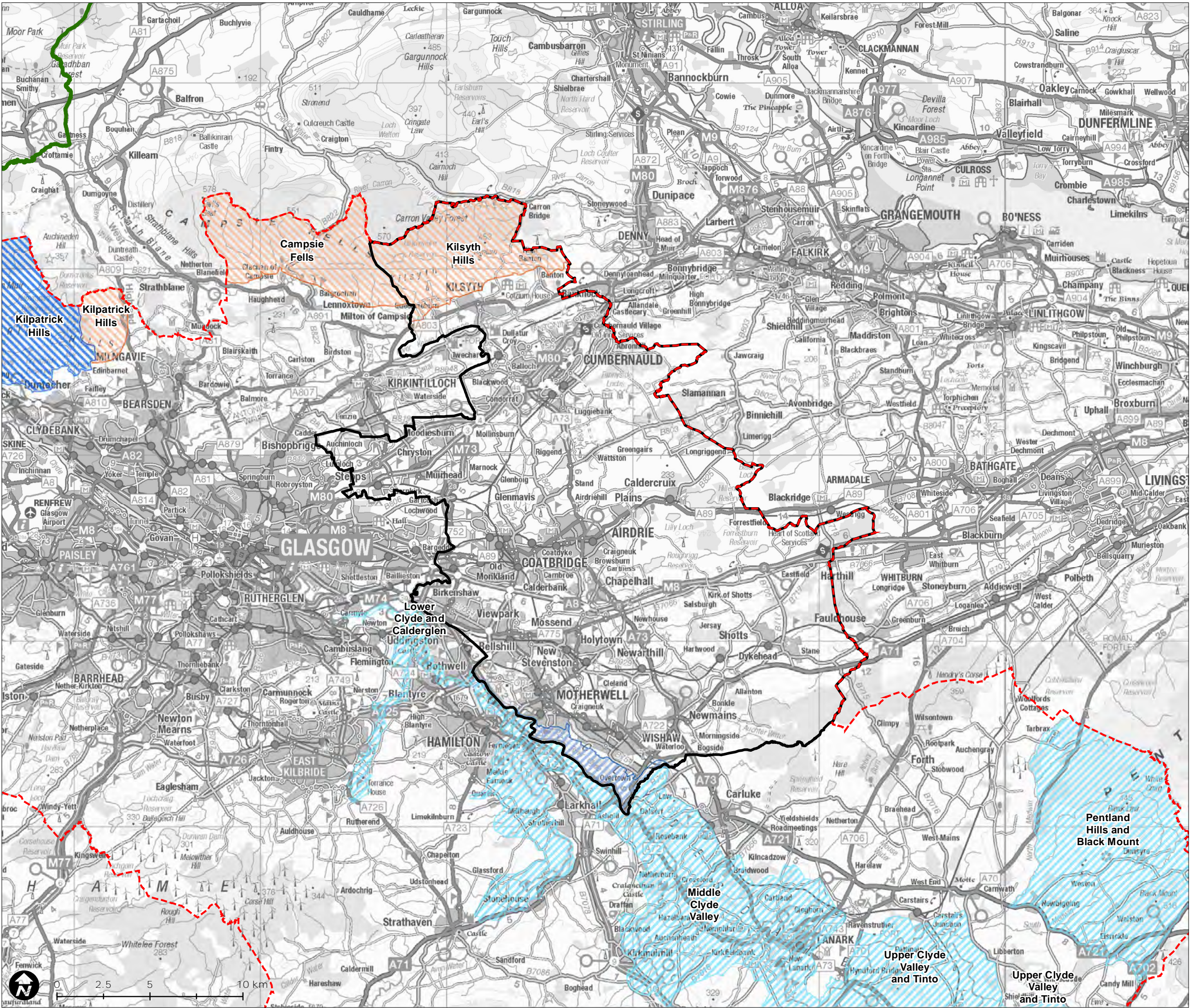


Figure 4.2

Map Scale @ A3: 1: 200,000



North Lanarkshire

Viewpoints

- Core Area
- Local Authority Boundary
- Loch Lomond & The Trossachs National Park
- Viewpoint
- 3. Duncolm, Kilpatrick Hills
- 4. Castle Hill, Bearsden
- 5. Ruchill Park
- 6. Crow Road, Campsie Glen
- 7. Tak Ma Doon Road, Kilsyth Hills
- 10. Neilston Pad
- 11. Cathkin Braes
- 12. Bedlay Cemetery, Moodiesburn
- 13. Blawhorn Moss
- 14. A706, Gladsmuir Hills
- 15. Chatelherault Country Park
- 17. Black Hill
- 18. Black Law

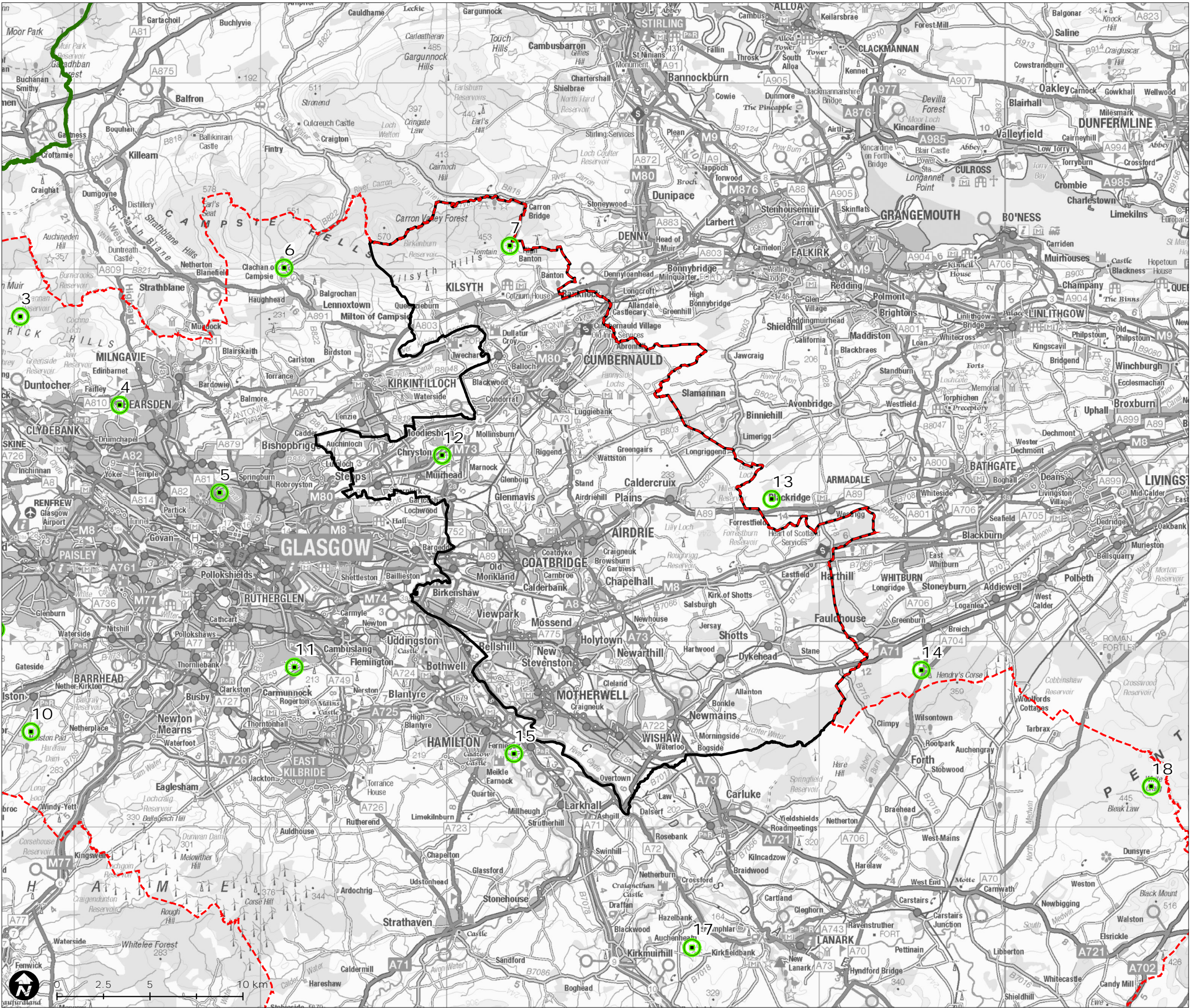
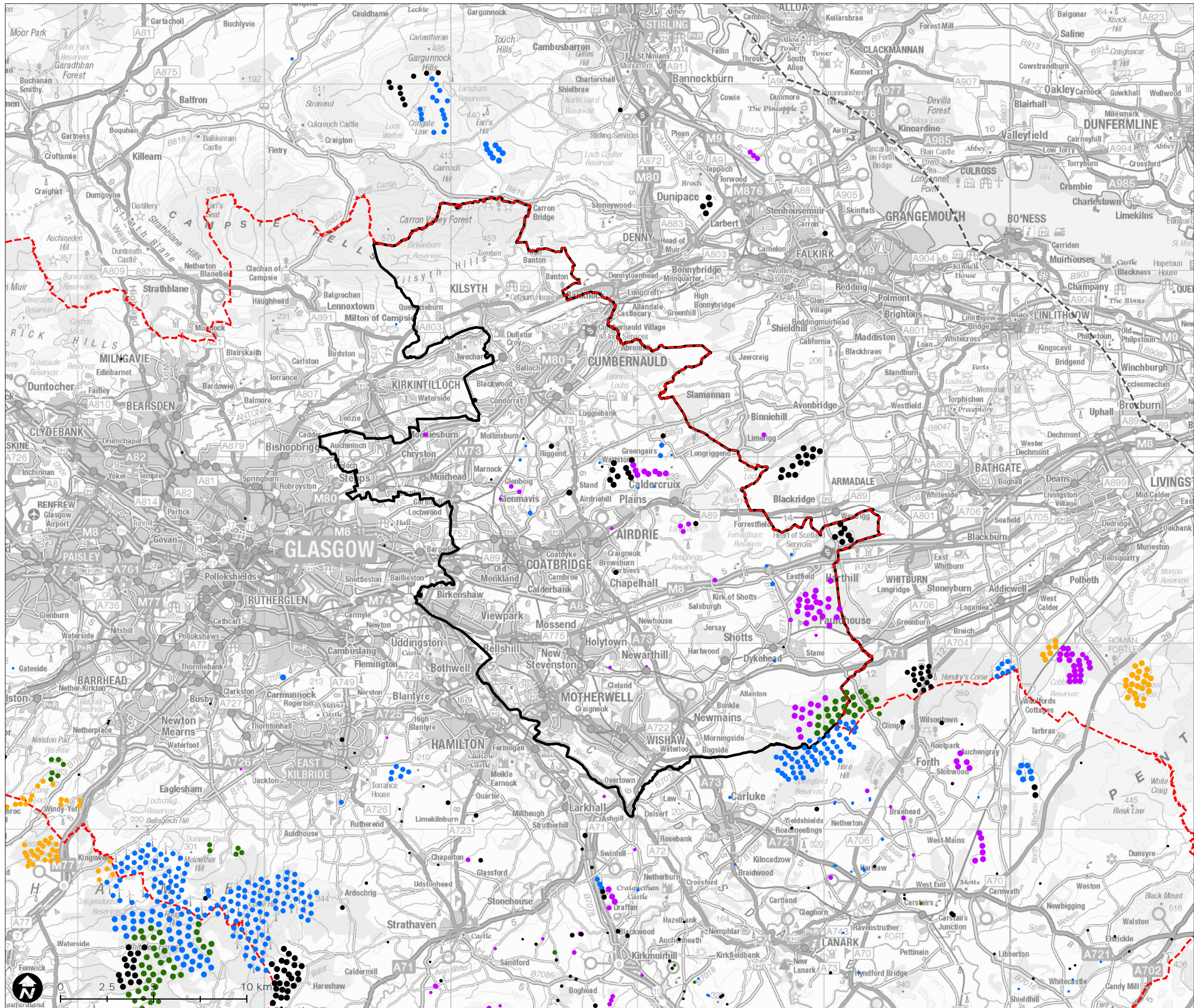


Figure 4.3

Map Scale @ A3: 1: 200,000





Landscape Capacity Study for
Wind Turbine Development in
Glasgow and the Clyde Valley

North Lanarkshire
Wind Energy Development in
the Core Area and Buffer Area

- Core Area
- 15km from Core Area
- Local Authority Boundary

Operational

- 15 - 30
- 31 - 50
- 51 - 80
- 81 - 120
- 121 - 152

Under Construction

- 31 - 50
- 51 - 80
- 81 - 120
- 121 - 152

Consented

- 15 - 30
- 31 - 50
- 51 - 80
- 81 - 120
- 121 - 152

Appeal/Public Inquiry

- 81 - 120
- 121 - 152

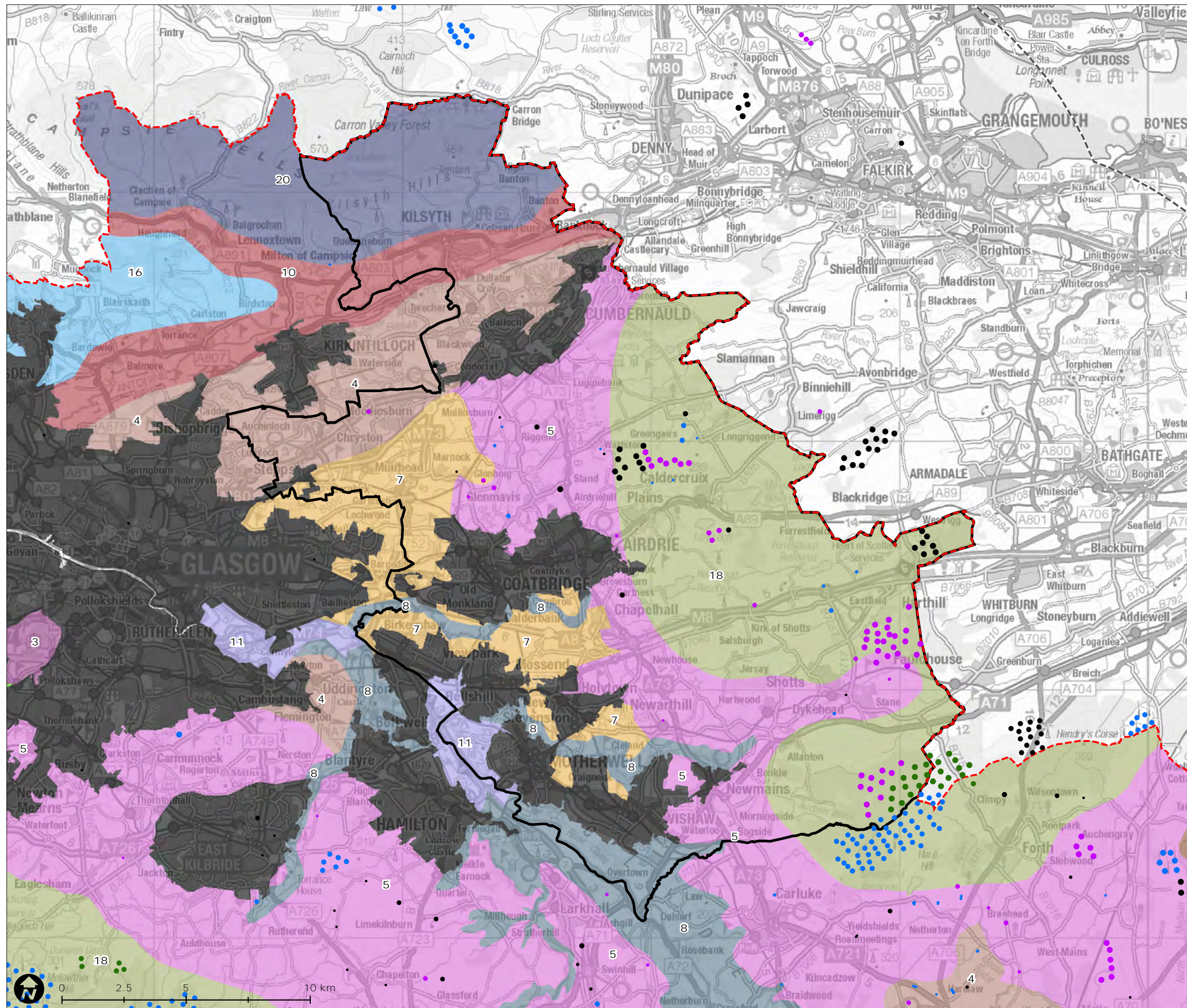
Application Submitted

- 15 - 30
- 31 - 50
- 51 - 80
- 81 - 120
- 121 - 152

Figure 4.4

Map Scale @ A3:1:200,000





Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley

North Lanarkshire

Wind Energy Development and Landscape Character

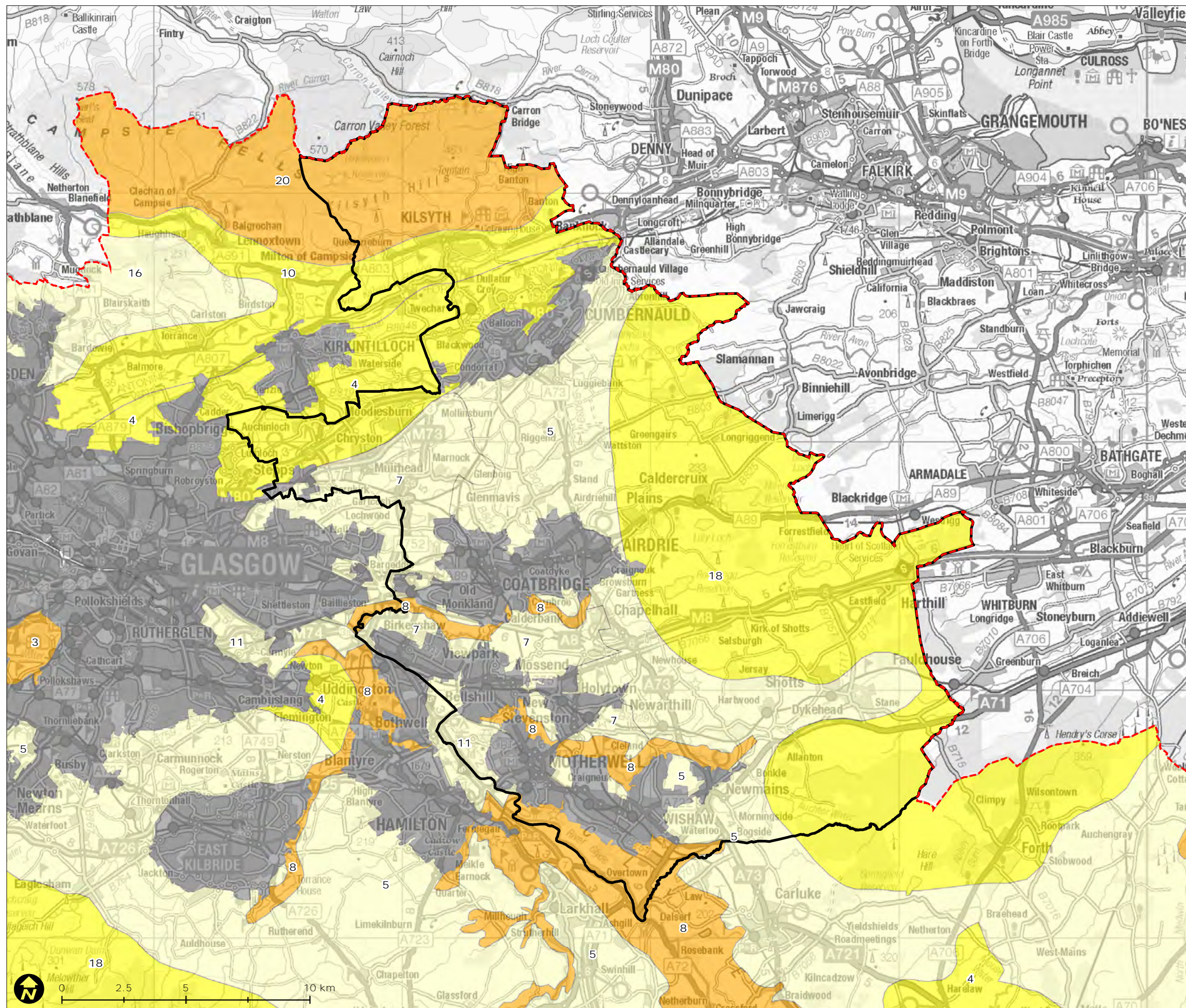
- Core Area
- 15km from Core Area
- Local Authority Boundary
- Operational
 - 15 - 30
 - 31 - 50
 - 51 - 80
 - 81 - 120
 - 121 - 152
- Under Construction
 - 81 - 120
 - 121 - 152
- Consented
 - 15 - 30
 - 31 - 50
 - 51 - 80
 - 81 - 120
 - 121 - 152
- Appeal/Public Inquiry
 - 121 - 152
- Application Submitted
 - 15 - 30
 - 31 - 50
 - 51 - 80
 - 81 - 120
 - 121 - 152

- Landscape Character Type
 - 3. Urban Greenspace
 - 4. Rolling Farmland
 - 5. Plateau Farmland
 - 7. Fragmented Farmlands
 - 8. Incised River Valleys
 - 9. Green Corridors
 - 10. Broad Valley Lowland
 - 11. Broad Urban Valley
 - 16. Drumlin Foothills
 - 17. Old Red Sandstone Hills
 - 18. Plateau Moorlands
 - 20. Rugged Moorland Hills
 - Urban

Figure 4.4a

Map Scale @ A3: 1:150,000





Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley

North Lanarkshire

Landscape Sensitivity to Small Turbines

- Core Area
- Local Authority Boundary

Sensitivity to Small Turbines

- Low
- Medium-Low
- Medium
- Urban

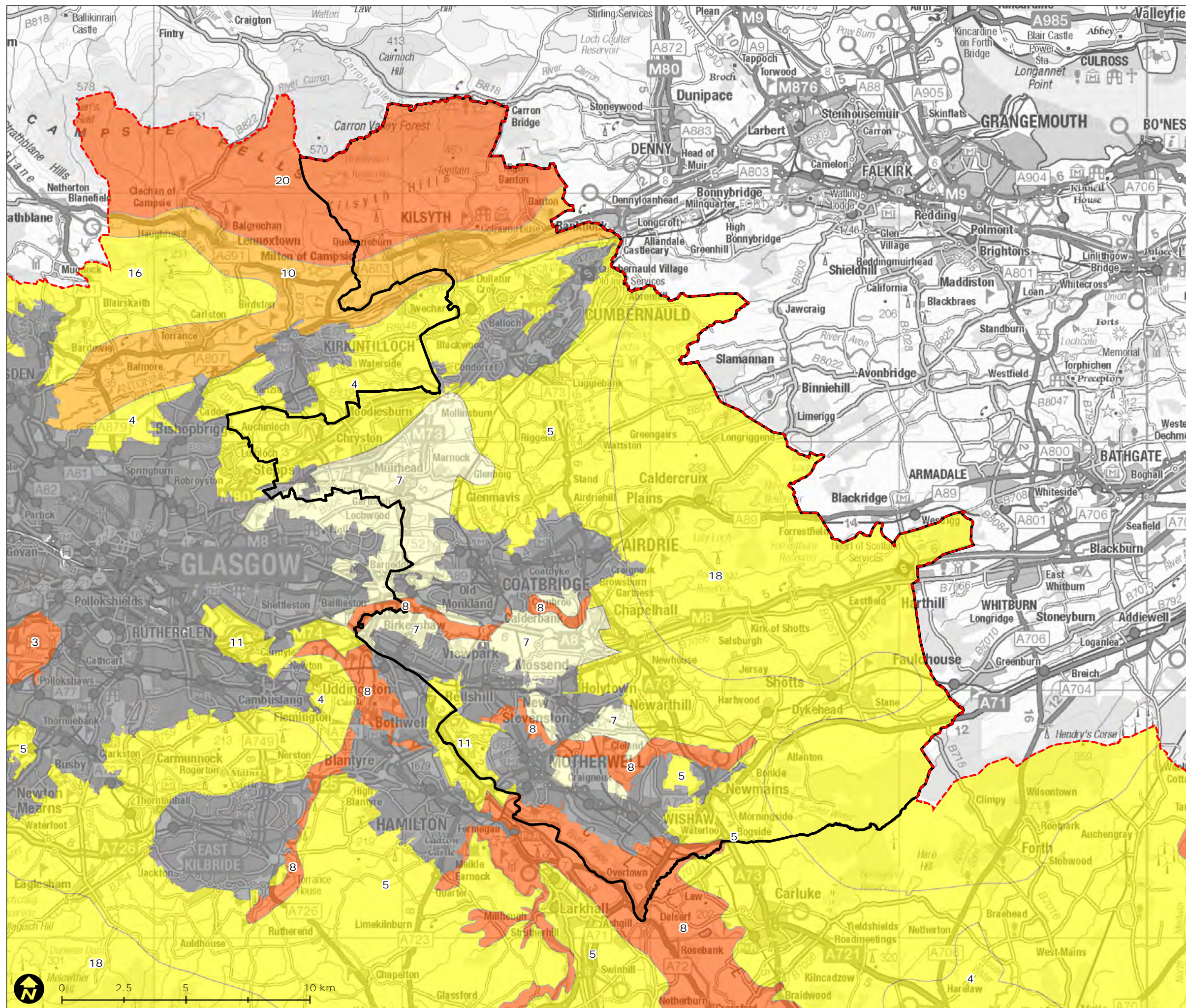
Landscape Character Type

- 3. Urban Greenspace
- 4. Rolling Farmland
- 5. Plateau Farmland
- 7. Fragmented Farmlands
- 8. Incised River Valleys
- 10. Broad Valley Lowland
- 11. Broad Urban Valley
- 16. Drumlin Foothills
- 17. Old Red Sandstone Hills
- 18. Plateau Moorlands
- 20. Rugged Moorland Hills

Note
Mapping shows underlying landscape sensitivity only, please refer to the text for details of landscape capacity assessments.

Figure 5.21

Map Scale @ A3: 1:150,000



Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley

North Lanarkshire

Landscape Sensitivity to Small-Medium Turbines

- Core Area
- Local Authority Boundary

Sensitivity to Small-Medium Turbines

- Low
- Medium-low
- Medium
- High-medium
- Urban

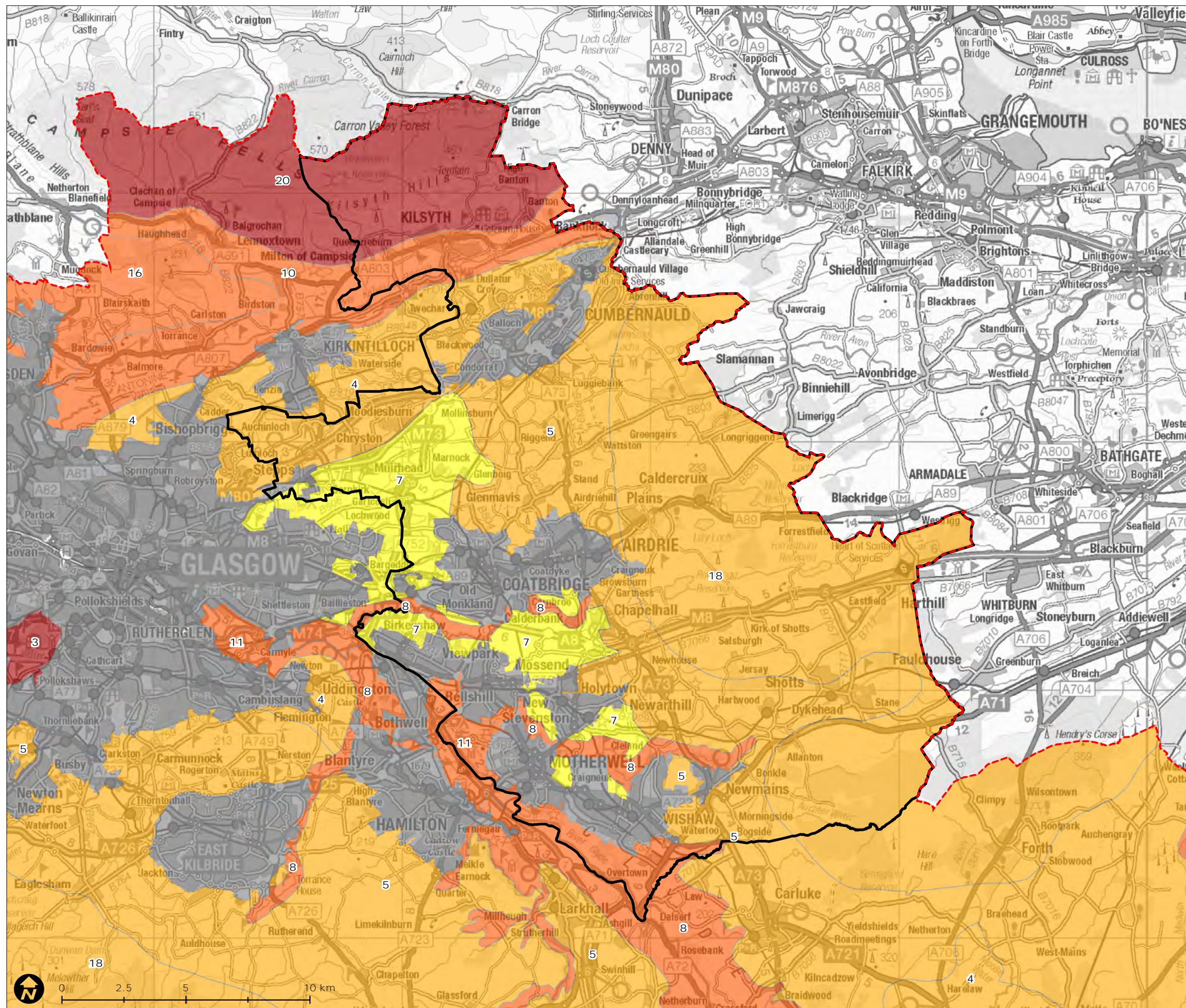
Landscape Character Type

- 3. Urban Greenspace
- 4. Rolling Farmland
- 5. Plateau Farmland
- 7. Fragmented Farmlands
- 8. Incised River Valleys
- 10. Broad Valley Lowland
- 11. Broad Urban Valley
- 16. Drumlin Foothills
- 17. Old Red Sandstone Hills
- 18. Plateau Moorlands
- 20. Rugged Moorland Hills

Note
Mapping shows underlying landscape sensitivity only, please refer to the text for details of landscape capacity assessments.

Figure 5.22

Map Scale @ A3: 1: 150,000



Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley

North Lanarkshire

Landscape Sensitivity to Medium Turbines

- Core Area
- Local Authority Boundary

Sensitivity to Medium Turbines

- Medium-low
- Medium
- High-medium
- High
- Urban

Landscape Character Type

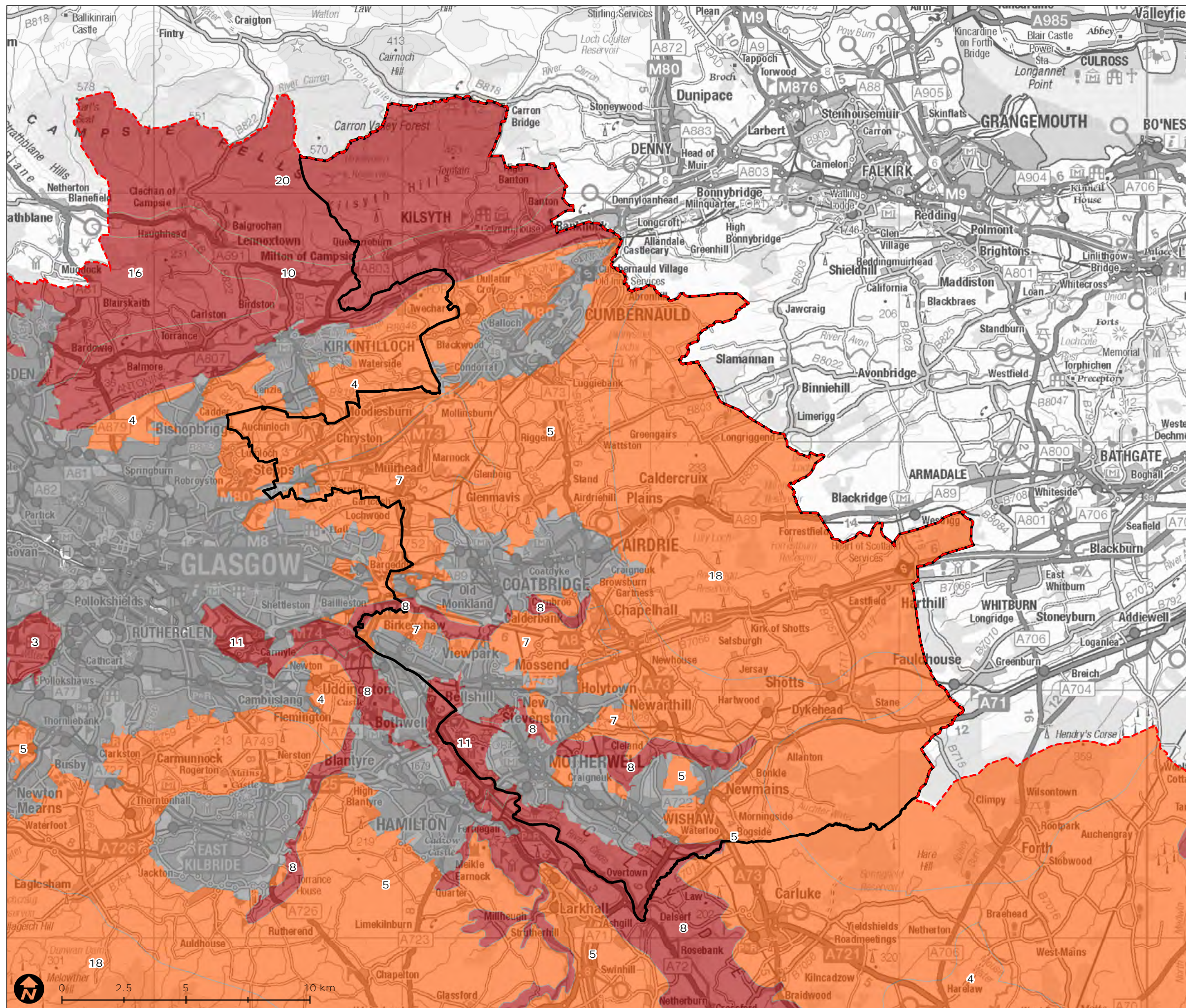
- 3. Urban Greenspace
- 4. Rolling Farmland
- 5. Plateau Farmland
- 7. Fragmented Farmlands
- 8. Incised River Valleys
- 10. Broad Valley Lowland
- 11. Broad Urban Valley
- 16. Drumlin Foothills
- 17. Old Red Sandstone Hills
- 18. Plateau Moorlands
- 20. Rugged Moorland Hills

Note
Mapping shows underlying landscape sensitivity only, please refer to the text for details of landscape capacity assessments.

Figure 5.23

Map Scale @ A3: 1: 150,000





Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley

North Lanarkshire

Landscape Sensitivity to Large Turbines

- Core Area
- Local Authority Boundary

Sensitivity to Large Turbines

- High-medium
- High
- Urban

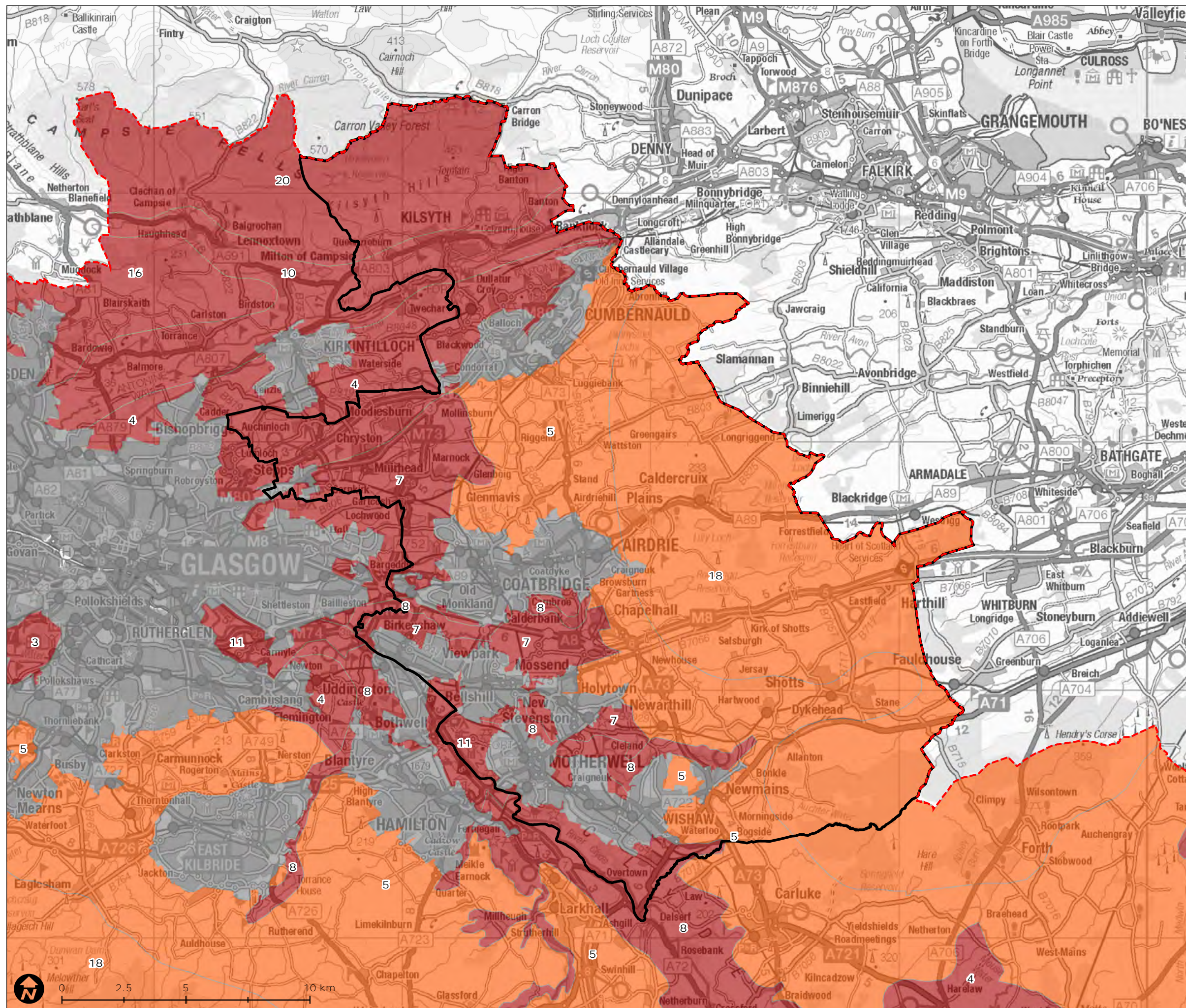
Landscape Character Type

- 3. Urban Greenspace
- 4. Rolling Farmland
- 5. Plateau Farmland
- 7. Fragmented Farmlands
- 8. Incised River Valleys
- 10. Broad Valley Lowland
- 11. Broad Urban Valley
- 16. Drumlin Foothills
- 17. Old Red Sandstone Hills
- 18. Plateau Moorlands
- 20. Rugged Moorland Hills

Note
Mapping shows underlying landscape sensitivity only, please refer to the text for details of landscape capacity assessments.

Figure 5.24

Map Scale @ A3: 1:150,000



Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley

North Lanarkshire

Landscape Sensitivity to Very Large Turbines

- Core Area
- Local Authority Boundary
- Sensitivity to Very Large Turbines
 - High-medium
 - High
 - Urban

Landscape Character Type

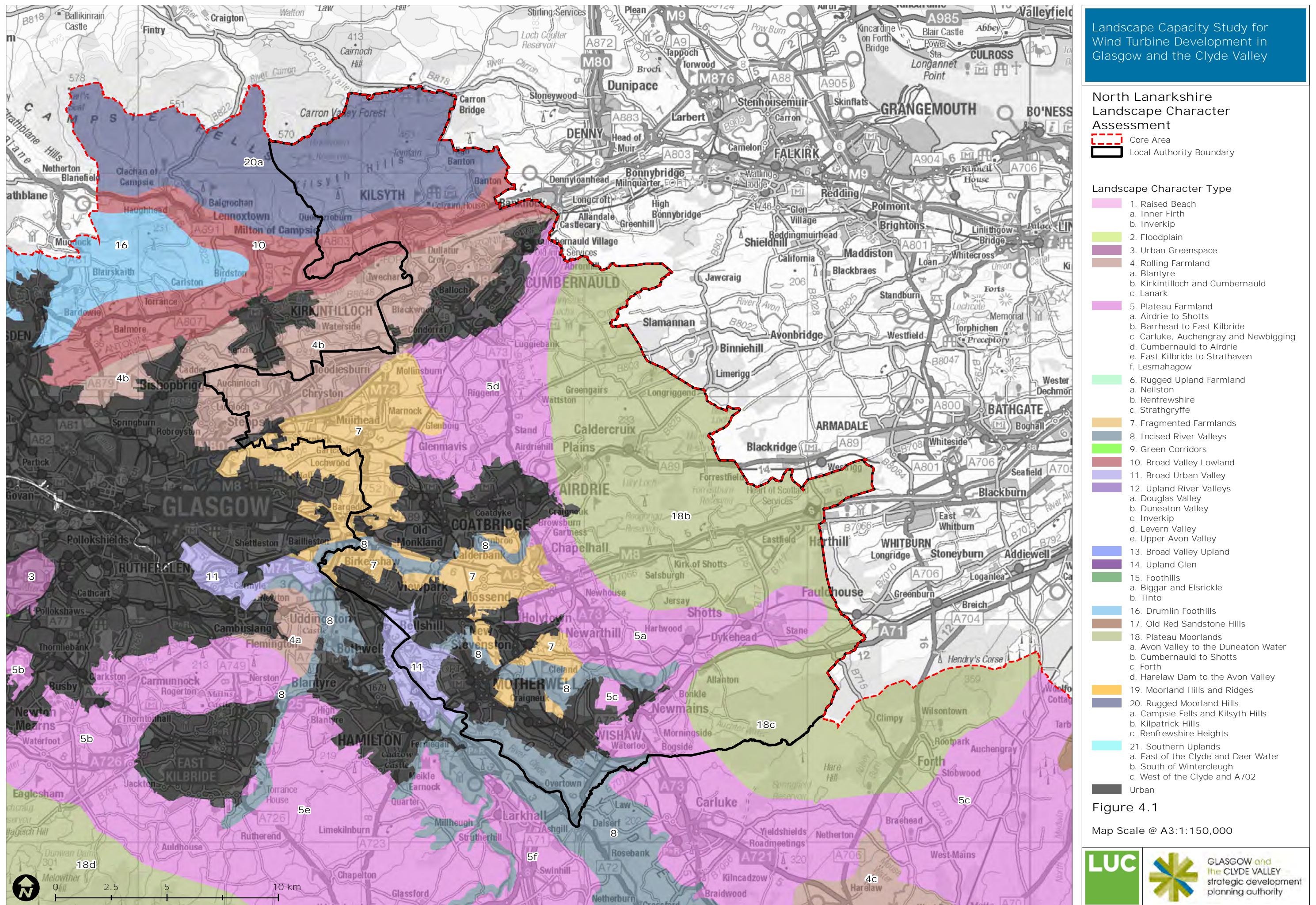
- 3. Urban Greenspace
- 4. Rolling Farmland
- 5. Plateau Farmland
- 7. Fragmented Farmlands
- 8. Incised River Valleys
- 10. Broad Valley Lowland
- 11. Broad Urban Valley
- 16. Drumlin Foothills
- 17. Old Red Sandstone Hills
- 18. Plateau Moorlands
- 20. Rugged Moorland Hills

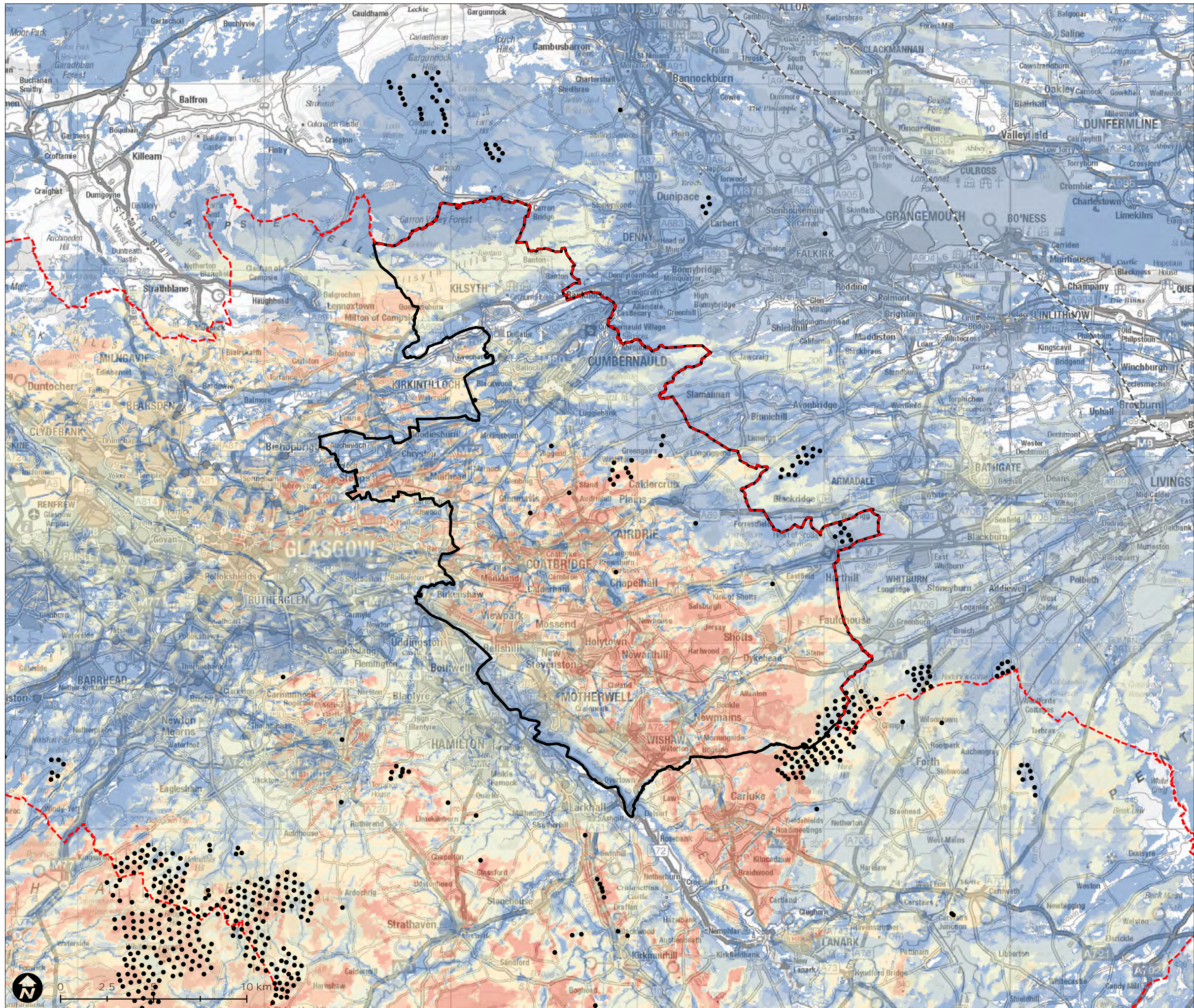
Note
Mapping shows underlying landscape sensitivity only, please refer to the text for details of landscape capacity assessments.

Figure 5.25

Map Scale @ A3: 1: 150,000







Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley

North Lanarkshire

Cumulative Zone of Theoretical Visibility: Operational or Consented Turbines

- Core Area
- 15km from Core Area
- Local Authority Boundary
- Turbine > 50m and Operational, Under Construction or Consented

Number of Turbines Visible	
1 - 28	
29 - 70	
71 - 125	
126 - 188	
189 - 258	
259 - 333	
334 - 435	
436 - 658	

Notes

The ZTV is calculated to turbine tip height from a height of 2m above ground level.

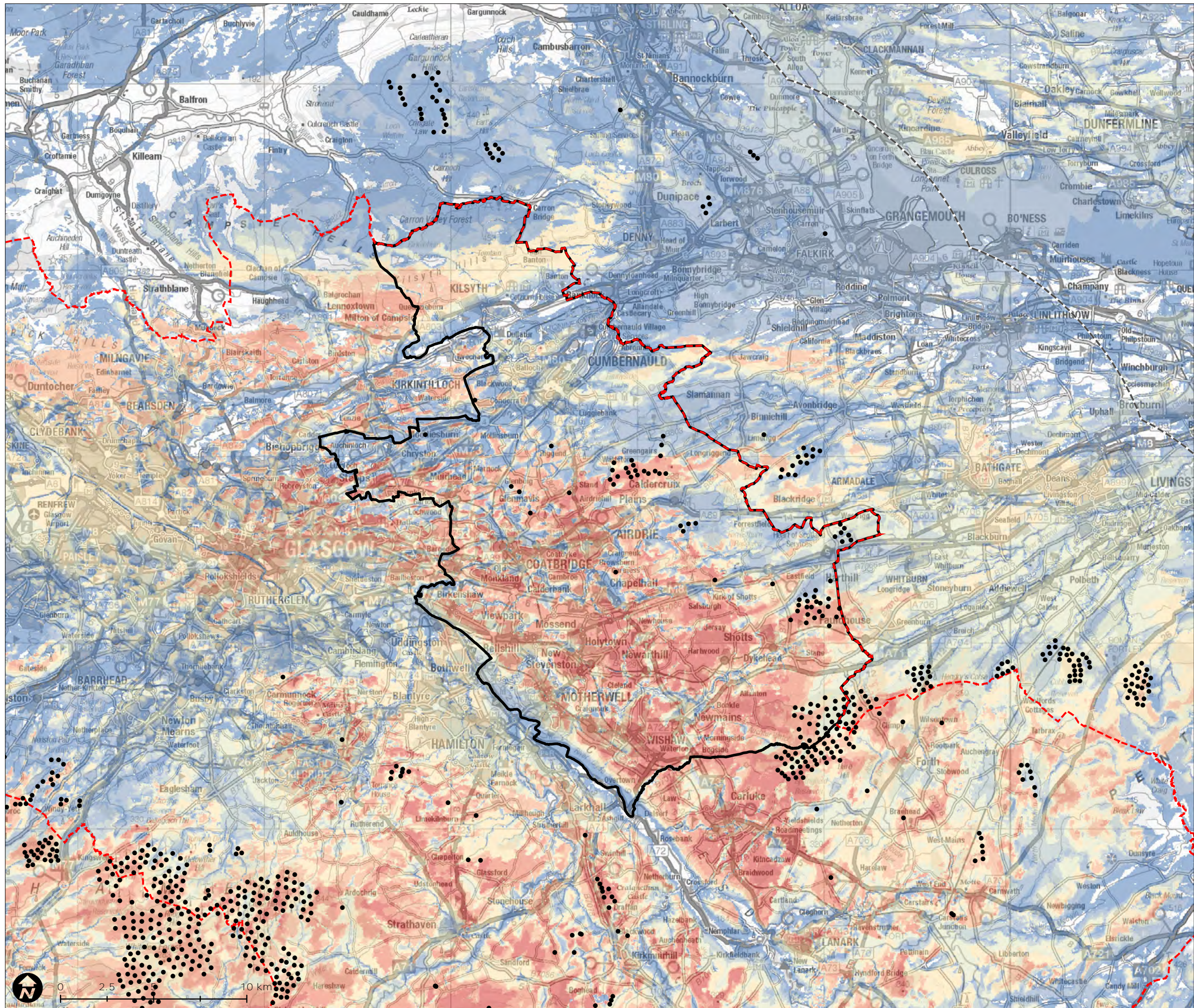
The ZTV extents for all windfarms are based on SNH guidance (Visual Representation of Windfarms: Good Practice Guidance, SNH, 2006).

The terrain model is bare ground and derived from OS Terrain 50 height data.

The earth curvature and atmospheric refraction have been taken into account.

Figure 6.1

Map Scale @ A3: 1:200,000



Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley

North Lanarkshire

Cumulative Zone of Theoretical Visibility: Operational, Consented or Proposed Turbines

- Core Area
 - 15km from Core Area
 - Local Authority Boundary
 - Turbine > 50m and Operational, Under Construction, Consented or Application Submitted
- Number of Turbines Visible
- 1 - 28
 - 29 - 70
 - 71 - 125
 - 126 - 188
 - 189 - 258
 - 259 - 333
 - 334 - 435
 - 436 - 1,001

Notes

The ZTV is calculated to turbine tip height from a height of 2m above ground level.

The ZTV extents for all windfarms are based on SNH guidance (Visual Representation of Windfarms: Good Practice Guidance, SNH, 2006).

The terrain model is bare ground and derived from OS Terrain 50 height data.

The earth curvature and atmospheric refraction have been taken into account.

Figure 6.2

Map Scale @ A3: 1:200,000





Review of North Lanarkshire Local Landscape Character

April 2015

Prepared for:
North Lanarkshire Council



REVISION SCHEDULE					
Rev	Date	Details	Prepared by	Reviewed by	Approved by
1	November 2014	Draft Report	Mark Elliott Principal Landscape Architect	Zoë McClelland Principal Planner	Nigel Hackett Technical Director
2	February 2015	Revised Draft Report	John Devenny Principal Landscape Architect	Nigel Hackett Technical Director	Nigel Hackett Technical Director
3	April 2015	Revised Draft report, incorporating feedback	John Devenny Principal Landscape Architect	Nigel Hackett Technical Director	Nigel Hackett Technical Director
4	April 2015	Final Report	John Devenny Principal Landscape Architect	Nigel Hackett Technical Director	Nigel Hackett Technical Director

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TABLE OF CONTENTS

	GLOSSARY	4
1	INTRODUCTION.....	5
2	METHODOLOGY	6
3	LOCAL LANDSCAPE UNITS.....	8
4	CONCLUSION AND RECOMMENDATIONS.....	39
	APPENDIX 1: FIELD SURVEY PRO-FORMA	40

GLOSSARY

GDL	Garden and Designed Landscape: sites identified on the Inventory of Gardens and Designed Landscapes held by Historic Scotland.
GLVIA	Guidelines for Landscape and Visual Impact Assessment: best practice guidance on landscape and visual assessment, produced by the Landscape Institute and the Institute of Environmental Management and Assessment.
LCT	Landscape Character Type: areas of landscapes which have a unity of character due to particular combinations of landform, land cover and a consistent and distinct pattern of elements.
LLU	Local Landscape Unit: discrete geographical areas of relatively uniform landscape character, identified at the local scale.
SNH	Scottish Natural Heritage
UNESCO	United Nations Educational, Scientific and Cultural Organization

1 INTRODUCTION

URS were appointed by North Lanarkshire Council to evaluate the local landscape character of the Local Authority area and assess the requirement for landscape protection within the Local Development Plan, currently being prepared by the Council.

This report initially sets out the broad context of landscape character assessment, followed by an overview of the methodology employed, a description of each of the identified Local Landscape Units, and concludes by identifying those areas that would warrant specific landscape protection.

Landscape is defined within the European Landscape Convention as follows: '*Landscape is an area, as perceived by people, whose character is the result of the action and interaction of natural and/ or human factors*' (Council of Europe, 2000). This definition has also been adopted by *Guidelines for Landscape and Visual Impact Assessment* (GLVIA) produced by the Landscape Institute and Institute of Environmental Management and Assessment, 2013.

The character of the landscape relates to the natural processes and human activities that have been at work for a long time to shape the land to its present form. Factors contributing to landscape character include topography, vegetation cover, sense of space or enclosure and past and present land use. Landscape character and resources are considered to have an importance in their own right and are valued for their intrinsic qualities.

The aim of this assessment is to identify areas of distinct landscape character at the local level and establish their broad sensitivity to development, leading to the identification of areas where specific policy protection can be recommended.

2 METHODOLOGY

This assessment has been prepared with reference to best practice guidance including: Landscape Character Assessment: Guidance for England and Scotland (SNH / The Countryside Agency) and Guidelines for Landscape and Visual Impact Assessment (GLVIA).

The assessment has been undertaken in two main stages, as follows:

- Desktop review and analysis; and
- Site appraisal and assessment.

Desktop Review and Analysis

The landscape character assessment process commenced with a review of previous landscape character studies and assessments covering the area and the existing local planning context and policy. Analysis of Ordnance Survey mapping and aerial photography was undertaken to identify topographical features, vegetation and field patterns and areas of development. The principal sources of information included:

- The adopted North Lanarkshire Local Plan, September 2012;
- The Glasgow and Clyde Valley Strategic Development Plan, May 2012;
- Glasgow and the Clyde Valley Landscape Character, Scottish Natural Heritage Review No116, 1999;
- Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley, Glasgow and the Clyde Valley Strategic Development Plan Authority, June 2014; and
- Ordnance Survey 1:25,000 Explorer and 1:50,000 Landranger mapping.

Site Appraisal and Assessment

Following the desktop review, comprehensive field assessment of the local landscape character of North Lanarkshire was undertaken. This involved the use of an agreed standard pro-forma, shown in Appendix 1, supported by annotation of Ordnance Survey mapping. The pro-forma facilitated the identification of key features and characteristics, based upon an assessment of the following criteria:

- Topographical characteristics;
- Openness and inter-visibility;
- Settlement and man-made influences;
- Land use;
- Landscape pattern and field boundaries; and
- Landscape quality and condition.

In addition to identifying the key characteristics of each Local Landscape Unit, an important part of the field assessment was to establish the landscape value and sensitivity of each area.

Landscape Sensitivity

Landscape value is frequently addressed with reference to international, national, regional and local designations. However, the absence of such a designation does not necessarily imply a lack of value. Factors such as accessibility and local scarcity can render areas of nationally unremarkable quality, highly valuable as a local resource. The quality and condition of the landscape is also considered in determining its value.

The evaluation of landscape sensitivity involves consideration of the nature of the landscape and its ability to accommodate change without compromising its key elements or characteristics. Landscape sensitivity is defined through an appraisal of value and landscape susceptibility. Landscape susceptibility relates to the ability of a landscape to accommodate change and considers the nature, scale and complexity of the landscape. Landscape sensitivity is defined with reference to a three point scale, outlined in Table 1.

Table 1: Landscape Sensitivity	
Sensitivity	Classification Criteria
High	Landscape of particularly highly valued character and scenic quality, considered susceptible to relatively small changes e.g. within a designated landscape or recognised as an iconic or important feature of the North Lanarkshire landscape
Medium	Landscape of local value, quality or rarity, exhibiting some distinct features, considered tolerant of some degree of change e.g. within a landscape typical of much of North Lanarkshire or with landscape elements of local importance.
Low	Landscape of lower scenic quality, with few distinctive elements or valued characteristics and considered tolerant of a large degree of change e.g. within a degraded or heavily developed landscape.

It should be noted that appraisal of landscape sensitivity has identified an overall rating for each Local Landscape Unit. It is recognised that the sensitivity to development will vary across each landscape unit, with localised areas of higher and lower sensitivity.

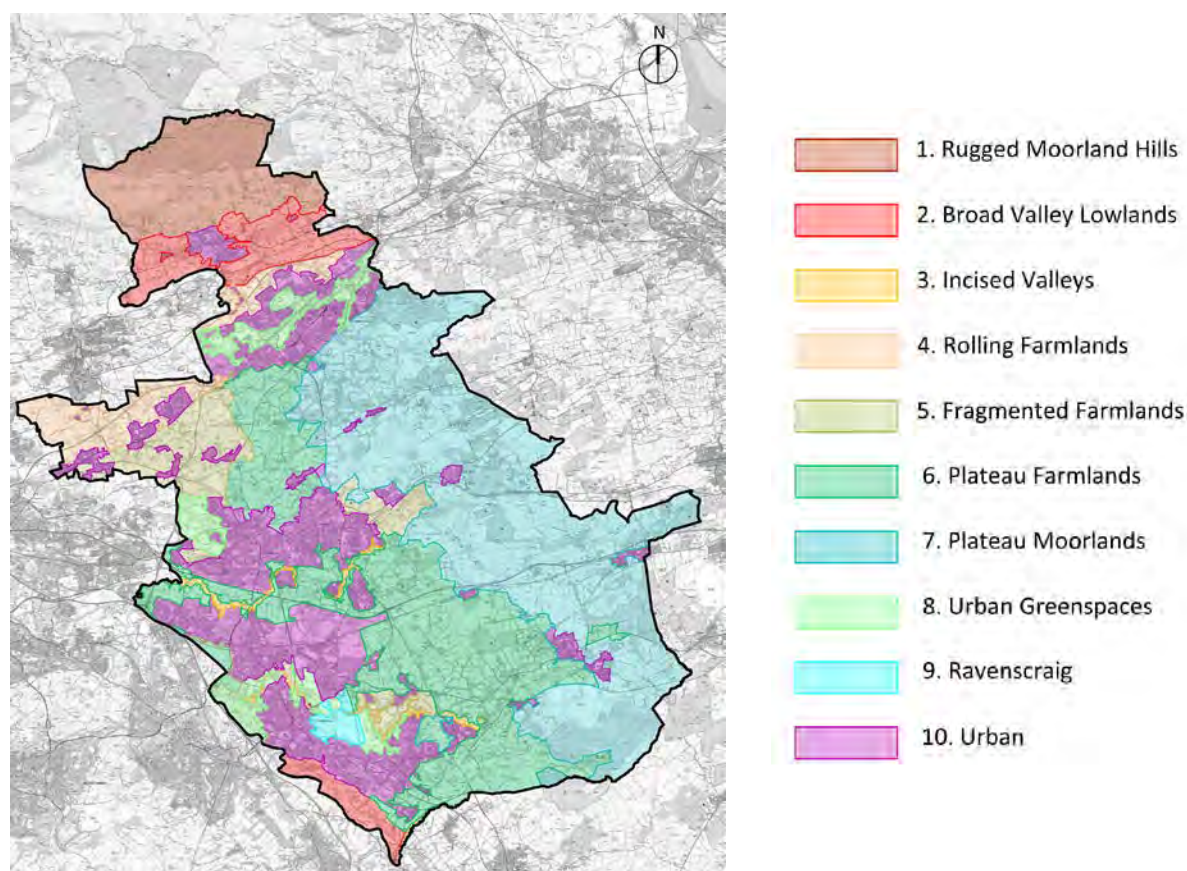
3 LOCAL LANDSCAPE UNITS

Landscape character can be described at different levels of detail, from broad national character areas to local level character units. The most recent landscape character assessment of the North Lanarkshire area was undertaken in 2014 by Land Use Consultants (for the Glasgow and the Clyde Valley Strategic Development Authority) as part of the *Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley*. The Landscape Capacity Study covers a large area of central Scotland and identifies and provides a description of a series of Landscape Character Types (LCT). Reference is made to the LCTs, and relevant key characteristics, identified within the previous studies (*Landscape Capacity Study for Wind Turbine Development in Glasgow and the Clyde Valley* and *Glasgow and the Clyde Valley Landscape Assessment*).

The purpose of this assessment is to evaluate and identify local landscape character units found within North Lanarkshire. The initial stage of the assessment has involved reviewing the boundaries and extents of the previously identified LCTs at a more local level. This has resulted in some changes to the boundaries and the identification of an additional LCT at Ravenscraig. Figure 1, below, shows the 10 LCTs that have been identified by the study within North Lanarkshire.

The reason for including Ravenscraig (former steelworks) as a new LCT is that although the area is presently a series of open spaces, it will ultimately be developed for a variety of (mainly residential) uses. This is an area in flux and over the next decade is anticipated to completely change from its present character.

Figure 1: Landscape Character Types



An assessment of each of the LCT has been undertaken and a series of smaller scale Local Landscape Units (LLU) identified, as described in the following text and shown on Figure 2.

1. Rugged Moorland Hills

The previous studies identify the following key characteristics of the Rugged Moorland Hills LCT:

- Distinctive upland character created by the combination of elevation, exposure, rugged landform, moorland vegetation and the predominant lack of modern development;
- These areas share a sense of apparent naturalness and remoteness which contrasts strongly with the farmed and developed lowland areas; and
- Presence of archaeological sites on hilltops and sides.



Whilst the above key characteristics remain relevant to the wider Rugged Moorland Hills LCT, the following provides a description of the landscape character at a local level. A single Local Landscape Unit has been identified in North Lanarkshire: Kilsyth Hills.

1 - Kilsyth Hills

The Kilsyth Hills Local Landscape Unit is found in the extreme north of the area. The hills are part of a larger expanse of basalt geology, overlain by large uplands typified by rough grassland, some peat moorland and summits of approximately 400-600m. This LLU is part of a larger expanse of the Rugged Moorland Hills LCT, which extends westwards into East Dunbartonshire, north towards Stirling and east towards Falkirk.

Topographical characteristics: The Kilsyth Hills are a large scale landscape feature that rises steeply to the north from the Kelvin Valley, forming physical and visual enclosure to the northern area of North Lanarkshire. They are predominately rounded hills, with an overlay of moorland soils, which in places have eroded to leave areas of exposed basalt rock.

Openness and inter-visibility: This landscape is characterised by a strong sense of openness and exposure, particularly from the upper slopes, with wide panoramic views southwards over much of North

Lanarkshire. This delivers a high degree of inter-visibility, where the hills also feature as a prominent element in the setting of a number of adjacent landscape units and a backdrop to nearby settlements. The Kilsyth Hills are particularly dominant as a feature from within the Kelvin Valley, immediately to the south. The Kilsyth Hills landscape is bisected by a ridge that runs west-east, south of which is open moorland, overlooking much of North Lanarkshire. North of the ridge, extensive forestry plantations result in a locally increased sense of enclosure. The geometric shapes and strong edge of the forestry often appears unrelated to the underlying landform, although current and future woodland management will see a gradual transition to more natural, mixed woodland, particularly along the watercourses.

Settlement and man-made influences: Settlement within this area is largely limited to occasional farms, generally found on the lower slopes. There is archaeological evidence of historic settlement on many of the summits along the ridgeline. Modern development within the character area is limited to a minimal road network, being a singletrack road north from Kilsyth ("Tak-Ma-Doon road"), forestry tracks and small buildings and an overhead power line along the lower slopes.

The extensive plantations to the north of the ridgeline extending to Carron Valley Reservoir are an obviously artificial feature. However, excepting a large plantation area north of Banton, these are restricted to the area north of the ridgeline, and the slopes south of the ridgeline are largely untouched and free of obvious human influence. As indicated above, proposed woodland management will see a gradual transition to more natural, mixed woodland.

Land use: North of the ridgeline, the land use is a mixture of forestry plantation (coniferous) and open moorland for sheep grazing. South of the ridgeline, the open moorland is again predominately sheep grazing, with some cattle grazing closer to the fringe areas near Kilsyth.

Landscape pattern and field boundaries: The moorland areas of the hills are typified by an open character, with post and wire fences used only to contain small areas such as the viewpoint car park on Tak-Ma-Doon road. The open and unrestrained sheep grazing of the moorland areas has resulted in a rough grassland character, with areas of heath and some wet areas. On the lower slopes, along the fringe of this LLU there is a more defined landscape pattern of smaller fields of semi-improved grassland. These fields are generally enclosed by irregular stone walls, remnant fragmented hedgerows and post and wire fences.

Landscape quality and condition: The limited development and general sense of naturalness indicates a landscape of high quality. On the lower slopes hedgerows are often fragmented or over mature. However, this does not have a strong influence of the overall impression of the landscape quality or condition.

Value of the landscape: The upland, largely undeveloped nature of this landscape provides a contrast to the adjacent more settled and developed landscapes to the south. The hills are a prominent feature in the North Lanarkshire area with open views, vistas and are a part of larger regionally important landscape feature. The undeveloped nature of this landscape unit and its importance as a backdrop to adjacent landscapes and settlements results in a high landscape value.

Sensitivity to future development: The value of the Kilsyth Hills landscape character area is a result of its largely undeveloped nature and importance as a contrasting feature. The character of this LLU is therefore considered to be highly sensitive to development as the introduction of artificial structures could adversely affect the key characteristics and value of the landscape.

Summary

- Large scale, open and exposed landscape which contrasts strongly with the adjacent settled lowland valley and rolling farmland.
- Highly valued as a contrasting backdrop and setting to adjacent landscape units and settlements.
- The strong sense of naturalness and remoteness and the high landscape value indicate a **high sensitivity** to development

2. Broad Valley Lowlands

The previous studies identify the following key characteristics of the Broad Valley Lowlands LCT:

- Wide flat bottomed valley;
- Presence of water bodies, wetlands and rivers;
- Transport routes and settlements along the valley sides;
- Transition from arable to rough grazing from the valley floor to the high valley sides;
- Historic sites and communication routes along the valley sides; and
- Presence of farm and policy woodland.



Whilst the above key characteristics remain relevant to the wider Broad Valley Lowlands LCT, the following provides a description of the landscape character at a local level. Two Local Landscape Units have been identified within North Lanarkshire: River Kelvin Valley; and Clyde Valley.

2a – River Kelvin Valley

The River Kelvin extends from the base of the Campsie Fells west of North Lanarkshire, along the base of the Kilsyth Hills and eastwards, past Banton towards Denny. The character area is bordered to the north by the Kilsyth Hills and to the south by the Antonine Wall.

The valley is typical of the wider LCT, being broad and open and containing both the River Kelvin and the Forth and Clyde Canal along the flat floor. In addition, it contains extensive communication and transport routes running west-east along the valley floor, including railway, roads and telecommunication and overhead transmission lines.

Topographical characteristics: Broad open valley with flat floor and steeply sloping sides, including the steep and occasionally craggy lower slopes of the Kilsyth Hills to the north. The topography is of medium to large scale, with limited views out of the valley, particularly from its base. There are a number of water bodies, ponds and small reservoirs located along the valley floor.

Openness and inter-visibility: The valley is relatively open, with linear views along its length. Views out of the valley are more restricted by the rising topography of the side slopes. Views into the valley from both the north (Kilsyth Hills) and the south (along the Antonine Wall) are extensive, with the entire valley visible from some viewpoints in the Kilsyth Hills. There is a strong visual connection and relationship with the adjacent Kilsyth Hills.

Settlement and man-made influences: The valley is relatively well settled, with the majority of development focussed around the large town of Kilsyth. Two other small settlements (Queenzieburn and Banton) are also present. Much of the remaining settlement consists of scattered farms and houses. A number of other structures and man-made influences are also present, including a number of active and disused quarries, the Forth and Clyde Canal, railway, transport routes and overhead transmission lines. There are also a number of blocks of plantation forestry which often form strong geometric shapes, unrelated to the underlying landform.

The Antonine Wall that marks the southern extent of the valley is part of the Frontiers of the Roman Empire World Heritage Site and is an important historic feature. The Antonine Wall and other features highlight the human influence, occupation and management of this landscape over a long period of time.

Land use: The land use of this LLU varies and includes; urban, forestry plantation, arable land and pasture. There are heavy influences on the landscape due to transport and communications infrastructure, including the various road and rail corridors, pylon routes, canal (and associated infrastructure) and the presence of Cumbernauld Airport to the south east, but just outwith this LLU. There is also an extensive recreational access network, which includes the canal towpaths, footpaths, cycleways and linked open spaces, improving informal penetration throughout the area.

Landscape pattern and field boundaries: The field patterns are well defined, rigid and regular with managed farmlands combining both arable and livestock farming. There are both fence and hedge field boundaries with hedgerow trees, small and medium sized copses and small woodlands. The nature of the field patterns and containment changes from being mostly arable land with hedgerows, to pasture fields defined by fences or stone walls, where the valley floor meets the slopes.

Landscape quality and condition: The majority of this LLU, and particularly the valley floor, is actively managed and well cared for. Some areas have been developed to provide increased wildlife habitat opportunities. In some areas hedgerows have become fragmented but other field boundaries are generally well maintained.

Value of the landscape: There are a number of important cultural heritage assets and features within this landscape, including the Antonine Wall, the Forth and Clyde Canal. These features and a series of other paths and recreation and leisure assets, such as Colzium Estate and Auchinstarry Basin add to the value of this landscape. Much of this landscape is heavily managed, with clearly defined field boundaries. However, there are also less managed, habitat rich areas along the valley floor which have been developed as part of recent agri-environmental schemes.

Sensitivity to future development: The River Kelvin Valley LLU is a distinct landscape within North Lanarkshire, defined by a broad valley with a diverse land use and variable pattern. This is a relatively well settled landscape with development largely focussed around the settlement of Kilsyth. The value as a setting to adjacent settlements, the Forth and Clyde Canal, Antonine Wall and other historic features and the connection with the adjacent rugged moorland hills increases the sensitivity of this landscape. This LLU is considered to be of medium to high sensitivity to development.

There is some potential to accommodate further development within this LLU without adversely affecting its character. However, care is required to ensure this development is of a scale and type appropriate to the landscape character and context. It is suggested that where possible, future development is focused on existing brownfield areas, of which there are many within the existing settlements.

Summary

- Medium to large scale, broad, open valley with a flat floor containing the River Kelvin and Forth and Clyde Canal.
- Well settled landscape with extensive communication and transport infrastructure.
- Wealth of cultural heritage assets and valued as a setting to Kilsyth and smaller towns.
- **Medium to high landscape sensitivity**, tolerant of some well-designed, appropriate development. Areas important to the setting of cultural heritage assets have increased sensitivity.

2b – Clyde Valley

The Clyde Valley is a large, regionally important area that passes through a number of local authorities. Part of the north side of the Clyde Valley is within North Lanarkshire, the south side being in South Lanarkshire. Within the North Lanarkshire area, the Clyde Valley is a medium to large scale broad lowland valley.

Topographical characteristics: The northern valley slopes feature a number of wooded areas and rise up to farmland and urban character types beyond the slope ridge. The valley floor is smooth and flat, obviously fertile and has therefore been extensively farmed. To the south of the valley floor, the slope is less steep and less wooded than to the north. The valley broadens out in the north west of the LLU, with a greater number of open water bodies, some of which are included in the Baron's Haugh Nature Reserve.

Openness and inter-visibility: The valley floor is very open in its northern section and there are views along the valley to the north west and the south east. Further towards Garrion Bridge, the valley becomes more contained by slopes. Deeply incised valleys spur off the main broad valley to the north and south, each of which have very limited and contained views into and out of the incisions.

There are views from areas to the north and the south into the broad valley area from adjacent character types, in addition to good views into the Clyde Valley from the extensive road networks that cross the valley.

Settlement and man-made influences: Whilst there are no settlements within this character area, there are a number of farmsteads, farm buildings and other related structures within the valley area.

In the south eastern end of the area, there is an extensive network of vehicular access routes servicing the various farms, and are generally in poor condition. North west of the Carbarns wood and orchards, the access network is considerably more developed, including access to the sewage works at Lower Carbarns.

Within Dalzell Park and Baron's Haugh Nature Reserve, the access network is again extensive and recreation oriented. Along the entire length of the River Clyde through this area, the Clyde Walkway forms a comprehensive footpath corridor of regional importance.

Land use: The dominant land use in this LLU is farming, both arable and grazing. Baron's Haugh Nature Reserve is located to the north western end of the North Lanarkshire area and includes the extensive valley floor wetlands.

Landscape pattern and field boundaries: There are well established field patterns on both north and south valley slopes, separated by hedgerows and areas of woodland. Field patterns are consistent along the entire valley and extend outwith the area to the north and south.

Landscape quality and condition: This is a generally well maintained and cared for landscape. Many of the hedgerows have become fragmented or have been lost due to more intensive farming methods. However, these don't have a significant influence on the overall quality or condition of the LLU.

Value of the landscape: The limited settlement and farmed nature of the valley contrasts with the adjacent, extensive, urban areas to the north. The nationally important Dalzell Park Garden and Designed Landscape (GDL) and the Baron's Haugh Nature Reserve also increase the value of this landscape.

Sensitivity to future development: The value and key characteristics of this LLU relate to the limited settlement and overall impression of a well-cared for agricultural landscape. The valley provides a contrast to the adjacent large urban areas to the north. This landscape is therefore highly sensitive to development which does not relate to its agricultural character.

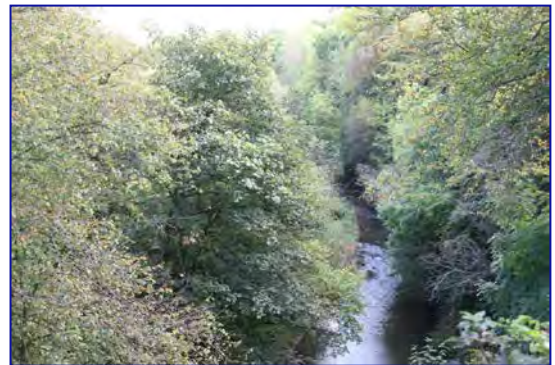
Summary

- Medium to large scale, agricultural landscape which contrasts with the extensive urban areas to the north.
- Highly valued as a contrast to more developed and settled landscapes to the north and as part of the wider Clyde Valley landscape.
- The largely undeveloped nature and high landscape value indicate a **high sensitivity** to development.

3. Incised Valleys

The previous studies identify the following key characteristics of the Incised Valleys LCT:

- Narrow, steeply sided valleys, cut deeply into plateau farmlands;
- Rich broadleaf woodlands on steep valley sides;
- Agriculture where valleys are wide enough with a mixture of pastures, arable, market gardens and orchards;
- Series of policy landscapes, castles and other historic sites;
- Linear villages and winding roads;
- Focal role of rivers and tributaries; and
- Rich, sheltered and settled areas, often hidden within the wider landscape.



Whilst the above key characteristics remain relevant to the wider Incised Valleys LCT, the following provides a description of the landscape character at a local level. Three Local Landscape Units have been identified within North Lanarkshire: North Calder Water; South Calder Water; and Garrion Burn.

3a – North Calder Water

The North Calder Water LLU is separated into two sections; between Broomhouse and Carnbroe, and Calderbank and Moffat Mills. The short section of the watercourse, between Carnbroe and Calderbank is within a flatter, more open valley and as such is not included within the Incised Valley landscape. The North Calder Water valley also incorporates the North Calder Heritage Trail footpath/cycleway.

Topographical characteristics: This is a small scale landscape, defined by a narrow incised river valley. The valley sides are steeply sloping and often wooded, and cut through the surrounding landscape. The character of the adjacent LLUs can have an influence on the impression of this landscape, particularly when it passes through or adjacent to urban areas.

Openness and inter-visibility: Views into adjacent areas from within this LLU are severely restricted by topography. Views along the valleys are also severely restricted due to the winding nature of the valley and prevalence of woodland. Within the western section of this LLU, to the west of Bankhead Farm, the banks of the valley are less wooded and views into and out are increased as a result. This includes views into the valley from the A752 corridor, as it crosses the valley between Aitkenhead and Woodlands.

Although the adjacent landscape is elevated with respect to the incised valleys, the wooded nature of the valley sides limits and restricts views into this LLU, except where urban development encroaches into the fringes (for example at Carnbroe) and where road bridges cross the valley at elevated levels (e.g. the A73 Monkland Bridge crossing).

Settlement and man-made influences: This LLU is relatively free from man-made influences, excepting where the valleys are crossed by elevated road and rail links. There is limited development within the valley floor (restricted to tips, small quarries (disused) and limited residential), and occasionally within the valley sides (mostly small residential, such as west of Monkland Bridge), localised development where the slopes are less steep and easily accessed from the road network.

Land use: Some recreational use along footpaths and cycleways such as the North Calder Heritage Trail. Very limited farming, restricted to the broader valley areas west of Bankhead Farm.

Landscape pattern and field boundaries: There is no field pattern in the central and eastern sections of the North Calder Water valley, since the valley floor is too narrow and difficult to access. West of the A725, there are limited fields on the valley floor, but these are largely formed by the meandering course of the river, and therefore are of irregular size and shape, becoming more regular as the valley broadens west of the A752 crossing.

Landscape quality and condition: The quality and condition of this LLU varies considerably along its length and is strongly influenced by the nature of the adjacent landscape. Where the LLU passes through the Plateau Farmland LCT, the quality and condition is generally high, whereas when it passes through or adjacent to urban areas it can appear unmanaged and poorly cared for.

Value of the landscape: This LLU provides a green and generally undeveloped corridor through other landscape types and is a valuable wildlife and recreational resource. Where adjacent to urban areas the LLU is also valued as a setting to the settlements.

Sensitivity to future development: The steeply sloping sides and narrow valley floor would limit the potential for development within this LLU. The small scale, enclosed, wooded and largely undeveloped nature of this LLU leads to a medium to high sensitivity to development.

Summary

- Small scale, enclosed narrow valley in an incised channel, cut through the surrounding landscape.
- Valued as a contrasting, intimate landscape and as a recreation and wildlife resource.
- The small scale and largely undeveloped nature of this LLU results in a **medium to high sensitivity** to development.

3b – South Calder Water

The South Calder Water LLU extends from Strathclyde Country Park in the west to Allanton in the east. This LLU is bisected by the Ravenscraig development area, through which the South Calder Water is culverted from Calder Park to Carfin Bridge. East of the Ravenscraig culvert, the South Calder valley is steeply incised through a narrow wooded valley. West of the Ravenscraig culvert, the valley sides are less comprehensively wooded and more open.

Topographical characteristics: Steeply sloped, narrow and heavily incised valley. Slopes are wooded and descend to a narrow valley floor, with little flat floor area other than the river course.

Openness and inter-visibility: The landscape character of this valley area is wooded and due to the meandering course of the river, views along, into, and out of the valley are short distance, if present at all. There is little opportunity to view into the valley from the adjacent landscape, due to the steepness and wooded nature of the sides.

Towards the western end of the South Calder Water valley, the slopes are less incised and the landscape is more open as it approaches the Strathclyde Country Park, resulting in increased inter-visibility, particularly where the water course runs near to the southern boundary of the Bellshill Golf Course.

Settlement and man-made influences: Much of the South Calder Water valley is enclosed on at least one side by urban development. Within the valley there is only minimal development, limited to some minor field pattern, historic remains (Orbistan and Jerviston Houses) and a water treatment plant. Within some of the less steep sections of valley sides in the western section of the valley, there is public access via a limited footpath network. However, in the central and eastern sections, the valley sides are generally too steep and wooded, resulting in limited or no public access.

Land use: East of Ravenscraig, there is generally no active land use within the valleys, the banks being too steep and wooded to enable commercial or recreational access. West of Ravenscraig, there is greater use of the land, particularly the valley floor areas, predominately for recreation and public access along the river to Strathclyde Country Park.

Landscape pattern and field boundaries: There is no formal field pattern, the valley area being compartmentalised only by land ownership boundaries and occasionally by the interruption of the valley by transport (road and rail) or pedestrian access pathways.

Landscape quality and condition: There is some variation in quality and condition within this landscape, often informed by the nature of the adjacent landscape. Much of this LLU is unmanaged woodland, although sections adjacent to urban areas tend to be managed for recreation.

Value of the landscape: This LLU is valued as a recreational resource, particularly when adjacent to urban areas, and provides a link to areas of greenspace, including Strathclyde Country Park.

Sensitivity to future development: The steeply sloping sides and narrow valley floor would limit the potential for development. The key characteristics of this LLU relate to its undeveloped, narrow, wooded and enclosed nature. This landscape is therefore of medium to high sensitivity to development which would adversely affect these characteristics. There may be some limited scope for sympathetic recreational development, such as an expansion of the footpath network, in more western areas.

Summary

- Small scale, enclosed, wooded valley with limited settlement or development.
- Valued as a recreational resource and link between urban areas and larger areas of greenspace.
- The small scale, enclosed and largely undeveloped nature of this LLU result in a landscape that is of **medium to high sensitivity** to development.

3c – Garrion Burn

The Garrion Burn runs north east from the Clyde Valley and forms part of the southernmost boundary of North Lanarkshire. The valley forms a clear incision within the surrounding farmland areas.

Topographical characteristics: Very steeply incised valley, with Garrion Burn water course running along the floor. The valley is narrow and forms the Local Authority boundary as it progresses north east from the broader Clyde Valley.

Openness and inter-visibility: Very enclosed, steeply incised and generally heavily wooded slopes and narrow floor. From the surrounding farmland areas, the valley is only visible as the canopies of the trees are seen cutting across the plateau farmland.

Settlement and man-made influences: There is no settlement within this LLU. However, an adjacent residential cluster at Blairs Orchard, and a smaller group of farm buildings, east of Overtown at the top of the steep banks has a local influence. Part of the valley (accessed from Blairs Orchard) forms the Garrion Gill Nature Reserve.

Land use: The inaccessible nature of the valley, combined with its steepness and wooded nature, has prevented active land use of this LLU.

Landscape pattern and field boundaries: There is no field pattern within the valley, as there are no fields on the slopes and the floor is too narrow to provide accessible space for fields.

Landscape quality and condition: There is very limited active land use or management of this area. However, the undeveloped, heavily wooded and unspoiled nature indicates a high landscape quality.

Value of the landscape: This LLU is valued as a recreational resource, with informal footpaths and is also part of the wider Garrion Gill Nature Reserve.

Sensitivity to future development: The key characteristics, quality and value of this landscape relate to its undeveloped nature and the general lack of human influence. This landscape is therefore of medium to high sensitivity to development.

Summary

- Small scale, undeveloped, enclosed and deeply incised wooded valley.
- Highly valued as a largely unspoiled landscape, recreational resource and nature reserve.
- The undeveloped, enclosed, small scale nature of this landscape results in a **medium to high sensitivity** to development

4. Rolling Farmlands

The previous studies identify the following key characteristics of the Rolling Farmlands LCT:

- Distinctive undulating landform created by fluvio-glacial action;
- Dominance of pastoral farming, varying in productivity according to elevation and exposure; and
- Importance of woodland in structuring the landscape and providing shelter for agriculture and rural settlement.



Whilst the above key characteristics remain relevant to the wider Rolling Farmlands LCT, the following provides a description of the landscape character at a local level. Two Local Landscape Units have been identified within North Lanarkshire: an area south of the Kelvin Valley; and a more expansive area north of the A80 road corridor.

4a – Land south of Kelvin Valley

This LLU is located to the south of the Kelvin Valley, as the landform slopes up from the valley and flattens out into a gently rolling landscape. The settlements of Dullatur and Cumbernauld form the southern edge of this LLU. This character area extends beyond the Local Authority boundary to the west, towards Castle Hill.

Topographical characteristics: A fluvio-glacial originated landform of medium scale that varies from rolling to almost flat plateau form, with some areas of steep gradient, including limited exposed rock faces (which have provided opportunities for quarrying) and deposits of sand and aggregate.

Openness and inter-visibility: The landform is very open and there is excellent inter-visibility with adjacent landscape character types, particularly those to the north. However, there are a number of woodlands and landform hillocks that locally restrict views within the character area.

The Kilsyth Hills in particular, are visible to some extent from almost all of this LLU. Because of this inter-visibility between character areas, the hills form a particularly prominent and close relationship with this LLU. Although it only forms a small section of this character area's boundary, the Forth and Clyde Canal along with its associated infrastructure and footpath network, is prominent within the landscape, and is a feature in views from more elevated parts of this LLU. There is a relatively small section of pylon supported transmission line within the western section of this LLU, but many of the extensive transmission and transport networks in the adjacent Kelvin Valley are visible features from within the rolling hills area.

Settlement and man-made influences: The entire southern boundary of this LLU is urban fringe, and this forms a prominent boundary and enclosure to this landscape. In addition, the settlement of Croy cuts into this landscape increasing the urban influence from adjacent LLUs. Man-made influences are prominent throughout this LLU. In addition to some farmland, most of the landscape is covered by a combination of quarries, golf courses, Cumbernauld Airport and heritage features, including the UNESCO World Heritage Antonine Wall site, roman forts and the course of the Roman military way. Within the western end of this character area there is a network of pylon supported transmission lines. In isolation, this network is significantly smaller and has less impact than those in adjacent character areas, but as it serves as a link between these surrounding networks, it forms a considerably larger network when viewed in association with the other areas.

Land use: Land use within this LLU is diverse and varied and includes golf courses, sand, stone and aggregate quarrying, farming and heritage evidence of former Roman land use. Circulation and transport within the character area is dominated by the east-west railway line which bisects the area and also forms the Local Authority boundary west of the B802. The railway is a major feature within the landscape and is prominent in views of the character area from the Kilsyth Hills. The road network is less extensive and has considerably less impact than in adjacent character areas, being restricted to the B802 and minor distributor roads around Croy. Towards the west of the character area, the increasing extent of both arable and pastoral farmland, serves to give the area a more rural character, which is more typical of the wider LCT and is more prevalent in the adjacent Local Authority area and the other rolling farmlands within North Lanarkshire to the south west.

Landscape pattern and field boundaries: The field pattern is well defined and often delineated by shelterbelt planting in addition to hedgerows and post and wire fencing. Within non farming areas, most notably the Antonine Wall and the numerous quarries in the character area, the boundaries are mostly hedgerows and shelterbelt tree planting.

Landscape quality and condition: The quality and condition of this landscape varies considerably, from the highly managed golf courses and arable land, to the former quarries and unmanaged future development land near Croy. The presence of a Croy Quarry and Cumbernauld Airport reduce the landscape quality.

Value of the landscape: This landscape is valued as a recreational resource, with several golf courses and links to the wider footpath network. It also provides a setting to the Antonine Wall UNESCO World Heritage Site and a series of settlements which combine to form its southern boundary.

Sensitivity to future development: This landscape is strongly influenced by human intervention and development. However, the importance as a setting to various cultural heritage features and to adjacent settlement leads to a medium sensitivity to development. Care is required to ensure any potential development would not adversely affect the local character or setting of the Antonine Wall.

Summary

- Medium to large scale, open landscape with a strong human influence.
- Some value as a recreational resource and setting to adjacent settlements and historic assets.
- Although there is a strong influence from existing development, the importance as a setting to the Antonine Wall and other historic features results in a **medium sensitivity** to development.

4b – Farmland north of A80 Road Corridor

This Local Landscape Unit is a large area that crosses the western Local Authority border, and extends northwards from the A80 road corridor towards Kirkintilloch.

Topographical characteristics: The fluvio-glacial formation has resulted in an even and regular rolling landform, with fertile soils and a structure ideal for agricultural use. The rolling nature is a result of numerous low and rounded hillocks, generally of less than 25m elevation, that cover the otherwise flatter landform. This LLU also includes a medium sized loch (Gadloch) in a glacially formed valley.

Openness and inter-visibility: The rolling and open nature of the landscape enables open views across the LLU, and good inter-visibility with the adjacent and surrounding landscape.

Settlement and man-made influences: Small settlements are present, such as Auchinloch, smallholdings and isolated farmsteads. The largest man-made influence is the extensive road network that runs throughout the landscape character area, providing good access, but also having a strong influence on the perception of the character of this area.

The regular field pattern and extensive agricultural land use indicates a highly managed landscape, heavily influenced by human intervention.

Land use: Agriculture is the predominant land use throughout the LLU, with small isolated urban settlements, some light industrial development such as quarrying, minor plantations and an extensive road network. There are small areas given over to golf course development, which has expanded the openness and managed appearance of the character area.

Landscape pattern and field boundaries: There is a regular field pattern with fenced and hedged boundaries, some hedgerow trees and minor copses. Numerous road corridors and minor accesses increase the already rigid field pattern, in addition to some drainage channels within the field pattern, which further compartmentalise the field network.

Landscape quality and condition: This is generally a well-managed and cared for landscape. In places, hedgerows have become fragmented but these do not have a strong influence on the overall impression of quality or condition. Noise from the road corridors can have a strong influence on the experience of this landscape.

Value of the landscape: This landscape is valued locally as a setting to adjacent urban areas and the M80 motorway. There is also some value as a recreational resource.

Sensitivity to future development: The strong influence of the M80 motorway and adjacent urban areas results in a low sensitivity to development. However, care is required to ensure development relates to the scale and nature of the local landscape.

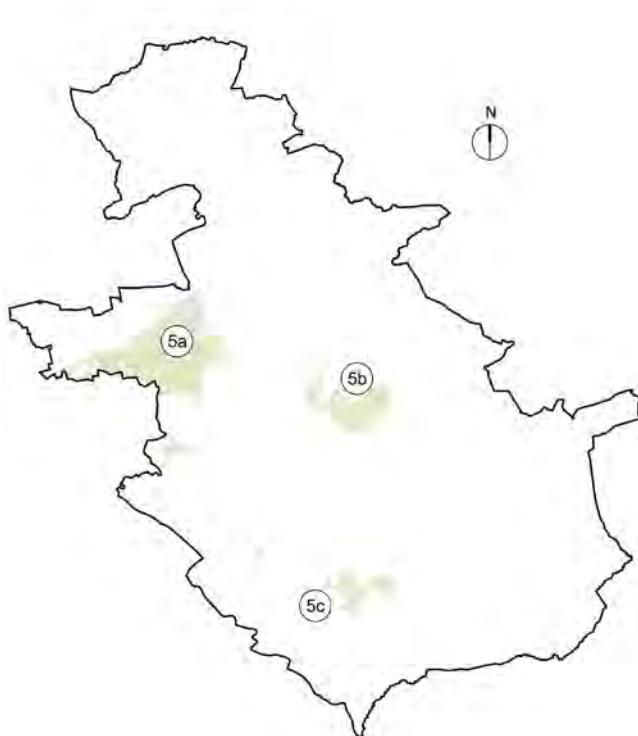
Summary

- Medium to large scale, open farmland landscape, influenced by the M80 motorway and associated noise.
- Some value as a setting to adjacent urban areas and the M80 and for recreational use.
- The influence from existing infrastructure development and adjacent urban areas results in a **low sensitivity** to development.

5. Fragmented Farmlands

The previous studies identify the following key characteristics of the Fragmented Farmlands LCT:

- A landform which ranges from gently undulating topography associates with the plateau farmlands to more hummocky patterns where fluvio-glacial action has created drumlins and eskers;
- Pockets of remnant pastoral farming, in some areas retaining a strong structure of hedges and trees, but in others suffering serious decline;
- Visual influence of the urban edge, of former and current industrial sites and transport infrastructure; and
- Urban fringe issues including blight, management decline and anti-social behaviour such as fly-tipping.



Whilst the above key characteristics remain relevant to the wider Fragmented Farmlands LCT, the following provides a description of the landscape character at a local level. Three Local Landscape Units have been identified within North Lanarkshire: an area on either side of the M73 corridor, south of the A80; an area immediately east of Airdrie; and an area north of the South Calder Water, west of the A73.

5a – Area either side of M73 Road Corridor, south of the A80

This Local Landscape Unit extends across the Local Authority boundary, and covers the area south from the A80, towards the west side of Coatbridge. There are a number of water bodies and man-made features that disrupt the character of the area, deteriorating an already fragmented field pattern and any rhythm within the landscape.

Topographical characteristics: Within this LLU, the topography is generally undulating, with hummocky structures in the north, around Gartcosh and Glenboig. There are small valleys, some isolated hillocks, and open flat areas.

Openness and inter-visibility: There is a lack of visibility within the character area, excepting from locations atop the numerous small hills and higher undulation ridges. Views are further disrupted by the numerous plantations and road and rail corridors within the LLU.

Views into and out of the LLU are similarly disrupted due to the unevenness of the topography and the presence of visually disruptive features such as settlements and road/rail corridors, which form many of its boundaries.

Settlement and man-made influences: A number of settlements border and are wholly within the LLU. There is an extensive road and rail network, including major motorway corridors, which have a strong influence on the character of the area. Road and rail corridors also serve to isolate island areas, and although some of the rail network is now disused, they still have an influence on the landscape structure.

There are a number of overhead transmission lines, whose pylons are prominent within the landscape, in addition to telecommunications masts in the north of the character area. Many of these transmission lines and telecommunication masts are sky-lined and are therefore prominent features in the landscape, the impact of which varies depending upon lighting conditions.

Land use: The land use pattern across this character area can be confused and disjointed. There are isolated areas of farmland, plantations, golf courses, urban settlements and industry and also larger areas of more consistent farmland, exhibiting a strong rural character. There are a number of water bodies, some of which have recreational uses, both artificial (disused quarries) and natural in origin.

The many scattered farmsteads vary considerably in size, many of which also incorporate alternative uses in addition to agriculture. There is considerable evidence of former light industry, including stretches of disused railway and redundant quarries.

The LLU contains a complex and unplanned road network, which is a combination of local roads and tracks to large scale motorway corridors, disrupting the land use pattern across the area.

Landscape pattern and field boundaries: The fragmented farmlands differ from the plateau farmlands because they lack structure and uniformity. The size and shape and the boundary treatments of fields are irregular. All of this serves to break up cohesion within the landscape and results in a complex and disjointed pattern.

Landscape quality and condition: The quality and condition of this LLU varies considerably, from well managed farmland to abandoned and unmanaged former industrial land. The variable nature of this landscape results in areas of both good and poor landscape quality and condition.

Value of the landscape: The often fragmented, incoherent pattern of parts of this landscape reduces its value. However, there is some value as a recreational resource and as a setting to and division between the adjacent settlements.

Sensitivity to future development: The variable nature of this landscape, with locally strong influence of existing development and infrastructure and areas of more consistent rural character results in a low to medium sensitivity to development. Care should be taken to ensure development is carefully sited and designed to fit with the local character and not result in further fragmentation.

Summary

- Varied land use and inconsistent pattern, locally influenced by roads and other infrastructure.
- Some value as a setting to urban areas and routes, with areas of consistent rural character.
- The variable nature of this landscape results in a **low to medium sensitivity** to development.

5b – Area east of Airdrie

This is an irregular LLU, heavily disrupted by man-made influences that have resulted in a landscape which consists of elements typical to a number of other Landscape Character Types, but lacking a coherent structure.

Topographical characteristics: Rolling landscape, with valleys and small hummocks. The area is mostly formed through glacial action and this has resulted in the smooth landform, with areas of aggregate and soil deposits, through which water action has produced localised valleys and cuttings.

Openness and inter-visibility: The adjacent LLUs are mostly elevated and afford views into the fragmented landscape, although these views are often disrupted by plantations and other features. Within the LLU, there are short and medium distance views, although these are also disrupted by plantations and other features.

Settlement and man-made influences: There are numerous small developments and farms within this LLU, although they are generally isolated and small scale. There is extensive evidence of former light industry throughout the landscape, which manifests in derelict sites and dismantled infrastructure such as the remains of the rail network. An overhead power line also passes through the west of this area and is locally prominent. The adjacent urban area of Airdrie has a local influence on the impression of this landscape.

Land use: The dominant land use is farming, although the field system is very disjointed and inconsistent due to the topographic and human influences such as the various former quarries, railways and other legacy features. There are plantations in the eastern portion of this area and due to rotational felling programmes these are also disjointed and inconsistent.

Landscape pattern and field boundaries: The field pattern lacks cohesion and is a mixture of post and timber rail, post and wire fences and hedgerows. Many of the hedgerows have trees, though the lack of consistency is sometimes confusing to the observer.

The many (now disused and dismantled) railway corridors that cross the character area, in addition to the live railway corridor, serve to further compartmentalise the landscape in a pattern unsympathetic with the field system, and also introduce an additional boundary fencing type.

Landscape quality and condition: Inconsistency within the landscape and general confusion within the field pattern has resulted in a lack of structure, lacking natural features, and instead showing a dominant character of dereliction and decline. This is particularly noticeable in the disjointed field pattern and the proliferation of disused industrial sites and railways. The area south east of the railway is generally more actively managed and in better condition than the area to the north.

Value of the landscape: The fragmented, incoherent pattern of this landscape reduces its value. However, there is some value as a recreational resource and as a setting to the adjacent urban areas of Airdrie and Plains.

Sensitivity to future development: The fragmented nature and influence from past and present development, adjacent urban areas and infrastructure elements results in a low sensitivity to change. There may be scope for future development to help improve the structure and quality of the landscape.

Summary

- Medium to large scale landscape with a fragmented and disjointed pattern, influenced by development.
- Some value as a setting to adjacent urban areas and locally as a recreational resource.
- The strong influence from existing development and infrastructure and the fragmented, incoherent pattern result in a **low sensitivity** to development

5c – Area north of the South Calder Water

This LLU is similar to the larger Plateau Farmland LCT, which borders it to the north and east. However, land use is characterised by being more fragmented and disjointed, with numerous former railway corridors and a greater extent of disruption of the landscape pattern.

Topographical characteristics: An undulating small to medium scale landform, including small hummocks and water course valleys. This LLU borders more open farmlands to the north and east, and an incised valley to the south and west. To the north of the fragmented farmlands, the bordering areas are urban and plateau farmlands, both of which are on flatter land, with less rolling landform.

Openness and inter-visibility: There is little inter-visibility with the Incised Valley LCT to the south, due to the steep and wooded nature of the valley slopes. The area south of the incised valley is the urban settlement of Coltness, the northern edge and properties of which enjoy occasional limited views of the fragmented farmland over the incised valley.

The northern boundaries of this character area are a combination of urban settlement, from which there is limited inter-visibility, and Plateau Farmlands LCT, where there are medium range views from some of the higher elevations.

Settlement and man-made influences: The character of this area is heavily influenced by extensive farming and legacy features such as the disused railway that runs through the LLU. The road network also serves to segregate the area, and as it has developed to take advantage of crossing points in the adjacent incised valley, forms an irregular pattern through the landscape. The considerable woods and plantations serve to further compartmentalise the area, resulting in increased fragmentation and landscape inconsistency.

Land use: Within this LLU, the present dominant land use is farming, mostly pastoral due to the quality of the land, with some minor arable areas. Recreation is also prominent to the north west of the character area, including Dalziel Park Golf Course and the playing fields east of the BOC oxygen plant.

Landscape pattern and field boundaries: The field pattern is inconsistent through the character area and is mostly dictated by a combination of landform and human influences such as road and rail corridors. Field boundaries are likewise inconsistent, being a mixture of hedges and fences of various types.

Landscape quality and condition: With areas of intensive management, such as Dalziel Park Golf Course and areas of no obvious active land use or management, the quality and condition of this landscape varies considerably. Hedgerows are often fragmented or over mature, particularly along the former railway corridor.

Value of the landscape: There is some value as a recreational resource, particularly in the north west of the LLU. There is also some value as a setting to and important division between adjacent settlements.

Sensitivity to future development: The fragmented and disjointed nature of this landscape and the influence from adjacent urban and industrial development results in a low sensitivity to development. However, care should be taken to ensure that the landscape value as a division between urban areas is not significantly affected by future development.

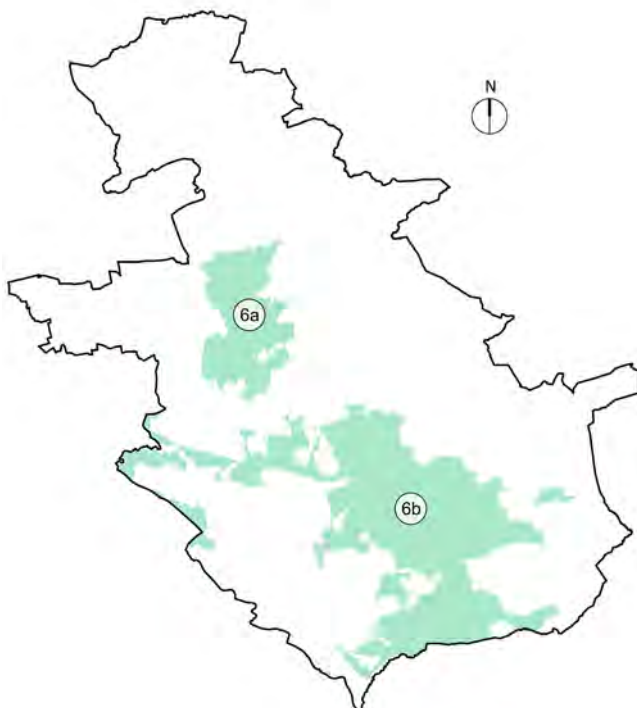
Summary

- Medium scale landscape consisting largely of agricultural and recreational land uses within a fragmented and inconsistent pattern.
- Some value for recreation and as a setting to and division between adjacent urban areas.
- **Low sensitivity** to development due to the fragmented nature and influence from adjacent urban and industrial development.

6. Plateau Farmlands

The previous studies identify the following key characteristics of the Plateau Farmlands LCT:

- Extensive, gently undulating landform;
- Dominance of pastoral farming, but with some mosses surviving;
- Limited and declining tree cover;
- Visually prominent settlements and activities such as mineral working, and
- The rural character of the Plateau Farmland has suffered as tree cover has declined and the visual influence of settlements, transport infrastructure and mineral working has increased.



Whilst the above key characteristics remain relevant to the wider Plateau Farmlands LCT, the following provides a description of the landscape character at a local level. Two Local Landscape Units have been identified within North Lanarkshire: an area north of Coatbridge and Airdrie; and a larger area south from Coatbridge and Airdrie.

6a – Northern Plateau Farmland

The northern Plateau Farmland LLU is a considerable band of farmland north of Coatbridge and Airdrie, and south of Cumbernauld. The plateau farmlands separate the large Plateau Moorland Landscape Character Type to the east, from the Fragmented Farmlands to the west. The area is typified by a mix of arable and pastoral agriculture, set within a fairly rigid and settled field pattern, with frequent plantations and more natural stands of trees.

Topographical characteristics; The plateau farmland is located within a flat or gently undulating topography, the frequency of the low hills and shallow valleys varying from gently undulating to almost flat. As the topography becomes flatter, the openness of the landscape generally also increases, resulting in a more open landscape to the east of the LLU. Within the western parts of this area, the undulating nature of the landscape becomes more pronounced and this is reflected in the complexity of the landscape and land use (as illustrated by the increasingly complex field pattern).

Openness and inter-visibility: The underlying topography is undulating, which results in open views from elevated areas within the LLU, thereby enabling medium to long distance views both across the LLU and into adjacent character areas. Within the lower elevations and troughs, the views remain open, but of reduced visibility. Many of these troughs and their land-uses are not visible from adjacent LLUs. Generally the road pattern does not follow the contours, and therefore road users experience changing openness and views as they pass through the LLU. In addition, the frequent plantations and groups of trees impact upon inter-visibility by reducing the available views.

Settlement and man-made influences: Settlement within this area is largely limited to scattered farms and houses, although there are also a number of small settlements. However, this landscape shows considerable human influence, including extensive field patterns, road network and farmsteads that cover the entire character area. The well-defined field pattern includes a number of plantations and woodlands that serve as boundary features, enhancing the perception of management and human influence.

The road pattern within this LLU is both extensive and complex, linking the various developments, farmsteads and settlements both within this area and to those in adjacent character areas. Field accesses are generally directly onto the roads, resulting in a disjointed and complex road network. The impact of transport networks is increased by the rail track that bisects the northern part of the character area, and a formerly more extensive, but now disused, railway network, the infrastructure for which remains as a feature within the landscape.

The perception of human influence is further increased by the numerous overhead lines and pylons that cross the landscape, in both north-south and east-west alignments. The area also includes evidence of former quarrying, with numerous small to medium sized disused quarries in the northern section of the area, and opencast workings near the A73 at Pinwinnie and Stand.

Land use: The dominant land use is farming, both arable and pastoral. There is a nature reserve at Luggiebank Wood, south west of Greenfaulds, and a number of former quarries that have become recreation opportunities for angling. The well-established field pattern also incorporates an extensive footpath network that links the woodlands and follows the numerous water courses within the LLU.

Landscape pattern and field boundaries: The field pattern is well established, derived from a combination of topography and the existing road network. The field boundaries are mostly post and wire fencing, with hedgerows and hedgerow trees.

Landscape quality and condition: This landscape is generally well managed and cared for with a consistent rural character. There are some former industrial and open cast sites which can locally reduce the quality of the landscape.

Value of the landscape: There is some local value for recreation and also as a setting to the adjacent urban areas of Cumbernauld, Coatbridge and Airdrie. This landscape also provides a transition between the Fragmented Farmland and Urban LCTs and the Plateau Moorland LCT.

Sensitivity to future development: Human influence and development is found across this landscape and can be locally prominent, with evidence of former large scale industrial and opencast mining. However, the overall rural, agricultural nature of the landscape results in a medium sensitivity.

Summary

- Medium to large scale, gently undulating agricultural landscape with some evidence of previous open cast development.
- Some value as a setting to adjacent urban areas, local recreational resource and as a transition to the more upland, plateau moorland landscape.
- The generally rural character and well cared for nature of the landscape, combined with the influence of adjacent urban areas, infrastructure and past development results in a **medium sensitivity**.

6b – Southern Plateau Farmland

As expected when they are effectively a single area bisected by the Coatbridge/Airdrie urban settlement, the southern Plateau Farmland LLU is very similar in character and quality to the northern area.

Topographical characteristics: The landform is flat and slightly undulating. The scale of the landscape is large and the shallow valleys are broad. The undulations are minor in height, with shallow valleys and low, rounded ridges.

Openness and inter-visibility: Although the landscape is large scale and generally shallow in undulation, the lack of elevation within the area prevents large scale views and vistas. This is also combined with the considerable afforestation, both commercial forestry, and as tree belts along the field pattern boundaries. This is particularly the case in the area between Newmains and Shotts, where there are numerous woods and plantations, including Heatherland Plantation, Mossband Wood, Penty Wood, Muiredge Wood and Newmill Wood.

Inter-visibility with adjacent LLUs is also limited, excepting locations within adjacent LLUs, where hills provide more elevated views across the Plateau Farmlands.

Settlement and man-made influences: The Southern Plateau Farmlands LLU covers an extensive area, within which there are a number of small settlements and many farmsteads, light industrial areas, prominent evidence of former heavier industry, numerous bings and open cast workings.

Much of the LLU boundary is urban fringe, where the extent and boundaries of the plateau farmland is defined by adjacent settlement boundaries.

Transport and telecommunications networks are also particularly prominent. The character area includes major east-west transport links, both rail and road, such as the M8 road corridor, A775/B7066 and the A71. This east-west network is complemented by north-south routes such as the A73, A723 and A725.

These major road links are further enhanced by an extensive network of interconnecting access routes resulting in an easily penetrated landscape, though they also enhance the man-made influence upon the landscape. In addition to the rail corridors, there is an extensive network of (now disused) railway linkages, probably as a direct result of the extensive former quarrying, open cast extraction and industrial heritage.

The settled and well defined field pattern within the farming areas, extensive commercial woodlands, settlements, and industrial evidence, combined with the transport and telecommunications/transmission lines, all result in a heavily man influenced landscape character.

Land use: The present land use of this area centres upon arable and pastoral farming, depending upon the degree of exposure, landscape condition and quality. There are numerous commercial plantations within the character area and evidence of former industry, although modern day industry has declined to largely isolated minor light industry.

There are a number of associated semi-rural uses, such as the presence of HMP Shotts, reservoirs and golf driving ranges, open cast workings and quarries, some of which are still in operation. This LLU also includes some shallow wooded valleys with public access, and restored open cast workings that have been developed into Community Nature Parks (such as at Greenhead Moss).

Landscape pattern and field boundaries: The field pattern is well defined by predominately post and wire fencing. The post and wire fences are often strengthened with hedgerows and in many instances, stretches of shelterbelt tree planting. The use of hedgerows, hedgerow trees and woodland belts improves the quality of the farmland appearance, in contrast to the adjacent Plateau Moorland LCT.

Landscape quality and condition: The quality and condition of this landscape varies locally as a result of differing levels of land management. However, the overall impression is of a well-managed and cared for landscape.

Value of the landscape: There is some local value for recreation and as a setting to adjacent settlements. In some areas this LLU forms an important division and buffer between adjacent urban areas.

Sensitivity to future development: The well-defined landscape pattern and predominantly agricultural land use can be susceptible to development. However, prominent telecommunication and transport infrastructure, existing and previous industrial development and the influence from adjacent urban areas results in a low to medium sensitivity to development. Sensitivity to change is locally increased where the LLU provides a division between different urban settlements.

Summary

- Large scale, predominantly agricultural landscape, influenced by infrastructure and adjacent urban areas.
- Some value as a setting to and division between adjacent urban areas and as a local recreational resource.
- The prevalence of infrastructure and development within an otherwise agricultural landscape results in a **low to medium sensitivity** to development.

7. Plateau Moorlands

The previous studies identify the following key characteristics of the Plateau Moorlands LCT:

- Distinctive upland character created by the combination of elevation, exposure, smooth plateau landform, moorland vegetation and the predominant lack of modern development, and
- These areas share a sense of apparent naturalness and remoteness which contrasts with the farmed and settled lowlands.



Whilst the above key characteristics remain relevant to the wider Plateau Moorlands LCT, the following provides a description of the landscape character at a local level. One Local Landscape Unit, covering a large part of the eastern half of North Lanarkshire has been identified.

7 – Plateau Moorland

North Lanarkshire contains a considerable area of Plateau Moorland that extends over much of the eastern part of the Local Authority area. This is a large scale, open upland landscape which contrasts with the more settled lowlands of North Lanarkshire.

Topographical characteristics: This LLU is defined by an elevated, large scale flat or gently undulating topography. There is a strong sense of exposure and openness throughout. Soils are variable, from areas of wet peatland to thinner soils with exposed rock outcrops. However, the land cover is relatively simple and uniform.

Openness and inter-visibility: Much of the Plateau Moorlands LLU is open and gently rolling or relatively flat. Therefore, there is considerable inter-visibility with adjacent LLUs. The occasional more elevated areas within this landscape enable medium to long distance views over adjacent areas and into neighbouring Local Authority areas.

Settlement and man-made influences: There are a number of small to medium sized settlements, in addition to a considerable number of farmsteads and small light-industrial developments within this LLU.

There is considerable evidence of past industrial use with numerous former open cast sites, quarries and the presence of many bings and spoil heaps

There are extensive areas of commercial plantation, which in North Lanarkshire is almost exclusively coniferous. Rotational cropping and replanting of the plantation areas has led to a changing landscape, of varying ages and maturity. These commercial woodlands differ considerably from the mixed and deciduous natural woodlands that occur sparsely within this LLU.

A number of wind farms within this LLU and in adjacent areas have a locally strong influence on this landscape.

Land use: This landscape is crossed by major transport links, including the M8 and A71, the corridors of which form a considerable division within the LLU. Rough grassland, mostly sheep grazing with limited and localised cattle grazing is the principal land use. There is also some minor existing light industry, including mineral extraction and quarrying. The LLU includes extensive telecommunications and overhead transmission connections, incorporating National Grid connections for the various small and medium sized wind farms within the character area.

Landscape pattern and field boundaries: There is a network of irregular field boundaries, largely post and wire fencing, with occasional lengths of hedgerow, incorporating hedgerow trees. The diversity of field boundaries is reflected in the varied nature of the field pattern, the irregular field size and shape, and the presence of many plantations. The landscape pattern is large scale with large areas of rough grassland and large forestry plantations.

Landscape quality and condition: The quality and condition of this landscape varies considerably, from areas of well managed farmland to former abandoned industrial and open cast sites. The predominance of former opencast sites and bings and existing quarries has a strong influence on the landscape quality of this LLU.

Value of the landscape: The upland, exposed and generally less settled nature of this landscape provides a contrast to much of the wider North Lanarkshire landscape. There is also some value as a setting to the adjacent urban area to the north.

Sensitivity to future development: The large scale nature of this landscape and the prevalence of existing and former industrial development, wind farms and other structures results in a low sensitivity to some types of development (e.g. wind farms and small scale residential). However, not all development will be appropriate and it will be important to ensure that any future development relates well to the upland nature of the landscape.

Summary

- Large scale, open and exposed upland landscape which is generally sparsely populated, although with interspersed existing and former industrial development.
- Some value as an upland landscape, contrasting with the more settled lowland landscapes of much of North Lanarkshire.
- The large scale nature of this landscape and the predominance of existing and former industrial development results in a **low sensitivity** to certain development types.

8. Urban Greenspace

The previous studies identify the following key characteristics of the Urban Greenspace LCT:

- Remnant policy woodlands and landscape creating distinct pockets of open countryside landscape within the urban area;
- Visual influence of surrounding urban areas and activities;
- The decline in landscape management and the increase in development and urban fringe pressures mean these are landscapes under stress.



Whilst the above key characteristics remain relevant to the wider Urban Greenspace LCT, the following provides a description of the landscape character at a local level. Four Local Landscape Units have been identified within North Lanarkshire: M80 Corridor and Cumbernauld Glen; Drumpellier Country Park; Strathclyde Country Park; and an area east of Ravenscraig.

8a – M80 Corridor and Cumbernauld Glen

The M80 runs north east to south west through North Lanarkshire, between the areas of Balloch and Carrickstone to the north and the original new town area of Cumbernauld to the south. Either side of the road corridor is a large area of urban greenspace, comprising a number of recreation areas, woods, nature reserves and other associated open spaces. There is excellent permeability and access via an extensive public footpath network which connects the various greenspace areas with adjacent urban areas.

Topographical characteristics: The topography is varied within this LLU, including hills, depressions and generally undulating landform. In the west of this LLU the topography tends to be relatively flat and includes Broadwood Loch. The central and eastern parts of this LLU have a more undulating landform which forms two valleys.

Openness and inter-visibility: The elevated nature of much of this landscape provides good inter-visibility into adjacent LLUs. This inter-visibility is particularly evident from the high point at Airdriehead, from which there are excellent views south over Cumbernauld. Elsewhere in the LLU, there is extensive woodland which serves to restrict both views within this area, and inter-visibility with adjacent character areas.

The M80 forms a considerable transport corridor, which is mostly either within cutting, or has shelterbelt planting to the north and south, in order to reduce the visual impact of the road corridor. However, this combination (except at the largely open junction with the A73) serves to form a considerable obstruction to the views into and out of the LLU.

Settlement and man-made influences: This LLU is almost entirely surrounded by urban development and includes a number of large man-made features, including stadia, hotel complexes, cemeteries, schools, churches and recreation parks.

The area includes a number of recreational footpath and cycling routes, which are generally in good condition. There is also a major road network linking into the M80 junction and feeding the adjacent urban areas. This road network and the railway divide the greenspace, and can form barriers to the potential use of the area as a whole.

Land use: The predominant active land use is recreational, with some limited pastoral farming and commercial woodland. Within the LLU, there are two nature reserves, and the footpath network which extends into adjacent woodlands.

Landscape pattern and field boundaries: There is generally no clear landscape pattern within this LLU. Woodland blocks and transport infrastructure are the key elements in defining the landscape structure. Land ownership and land use boundaries are similarly variable, with no clear local pattern.

Landscape quality and condition: Much of this area is amenity greenspace and is generally well maintained. In areas formerly influenced by development and with no clear active land use at present, particularly in the west of this LLU, the landscape quality and condition is poor.

Value of the landscape: This LLU is valuable as a recreational resource to the adjacent settlements. It also forms a setting to and division between different urban areas and a setting to the M80 road corridor.

Sensitivity to future development: There is already extensive, but generally sympathetic, development within the character area. The managed nature of the area would enable some limited future development of a similar character. Care should be taken when considering future development to ensure it does not negatively affect the setting to or division between adjacent urban areas. The character of this landscape is of medium sensitivity to development.

Summary

- Small scale, variable landscape consisting largely of amenity greenspace between two urban areas and along the M80 corridor.
- Valued as a recreational resource and setting to the adjacent urban areas.
- The small scale nature, existing developed context, value as a recreational resource and setting to adjacent urban area result in a **medium sensitivity** to development.

8b – Drumpellier Country Park

This LLU forms a significant area of open space on the western edge of Coatbridge, from Woodend in the north, to the A89 in the south.

Topographical characteristics: This is a gently rolling landscape with a large scale simple landform. The Monkland Canal and to a greater extent Lochend Loch and Woodend Loch are prominent features within this landscape and are located within the lower lying areas.

Openness and inter-visibility: Large areas of woodland and tree planting and smaller shelterbelts reduce views within and out of this LLU. However, there are more open, medium distance views from some areas. Views into the area from the A89, Townend Road and Gartcosh Road look across much of the LLU.

Settlement and man-made influences: This LLU is located along the western edge of Coatbridge and the adjacent settlement has a strong influence on the impression of this landscape. There are few buildings within this LLU, mainly comprising public and community facilities linked with Drumpellier Country Park and playing fields.

Land use: Recreational and sporting activities are the main active land uses in this area. There is good permeability by formal and informal footpaths and pathways around Drumpellier Country Park and the wider LLU.

Landscape pattern and field boundaries: There is no clear landscape pattern in this area, although there is a broad division between the more formal recreation areas in the east and the less formal areas to the west. There are some regular hedgerows which demark former field boundaries. However, much of these features are now woodland and as such the divisions and pattern are less obvious.

Landscape quality and condition: The level of management varies considerably, from the intensely managed golf courses and playing fields to the less managed fields and woodlands. The overall impression is of a relatively well cared for landscape.

Value of the landscape: This LLU is a valuable recreational resource to the adjacent settlements and wider area and also provides a setting to the adjacent urban areas.

Sensitivity to future development: The importance of this landscape as a recreational resource and setting to the adjacent urban areas increases the sensitivity to development. This is further reinforced by the generally limited nature of existing development, resulting in a medium to high sensitivity to development.

Summary

- Medium to large scale landscape with a strong emphasis on recreational land use.
- Valued as a setting to the adjacent urban areas and as an important recreational resource.
- The importance as an undeveloped area and valued recreational resource results in a **medium to high sensitivity** to development.

8c – Strathclyde Country Park

The extent of this LLU is defined to the north and south by the urban settlements of Bellshill and Motherwell respectively. The urban greenspace also surrounds a significant stretch of incised river valley as the South Calder Water passes from Ravenscraig in the east to the Strathclyde Country Park in the west.

Topographical characteristics: The topography is rolling and undulating and generally rises to the north east. Strathclyde Loch is a prominent feature, located in the south west of this area. Further north this LLU occupies the upper slopes of the South Calder Water valley. This part of the landscape is divided by the incised valley of the South Calder Water LLU.

Openness and inter-visibility: The sense of openness varies considerably from open low level views across Strathclyde Loch to the enclosed, wooded areas at Bothwellhaugh Plantation. Views into and out of this LLU tend to be restricted by woodland and trees, although with occasional views from the adjacent urban areas.

Settlement and man-made influences: Development and human influence is varied, with extensive recreation and leisure facilities, associated infrastructure and open spaces. These open spaces include Colville Park, the grounds of Jerviston House, golf courses, school grounds and Strathclyde Country Park. The impression of this LLU is also strongly influenced by adjacent urban areas, the busy M74 corridor to the south west and other road and rail corridors.

Land use: The principal active land use is recreation, including sailing and rowing on Strathclyde Loch, two golf courses, playing fields, and a well-developed network of formal and informal footpaths and cycle routes. In addition, there are small areas of agricultural land use on the fringes. These generally consist of small fields used for grazing or arable crops.

Landscape pattern and field boundaries: Much of the area is dominated by recreational land uses and woodland, leading to a varied and irregular landscape pattern. Where agricultural fields are present they tend to be defined by hedgerows and post and wire fences. These tend to be small isolated groups of fields and contribute to the overall complexity of the landscape.

Landscape quality and condition: The overall impression of this area is one of a well-managed and cared for landscape. The large recreational area of Strathclyde Country Park and the golf courses have a high level of management.

Value of the landscape: This LLU is an important recreational resource which also provides a setting to the adjacent urban areas. This landscape is valued as a buffer and dividing feature between urban areas.

Sensitivity to future development: This is an important greenspace and recreational resource to adjacent areas and is therefore of medium to high sensitivity to development. Care should be taken when considering future development to ensure it relates to the existing character and recreational use.

Summary

- Medium scale landscape with a prevalence of woodland leading to a variable sense of openness and enclosure.
- Highly valued as a recreational resource, and providing a setting to and division between adjacent urban areas.
- The importance as an undeveloped area and valued recreational resource results in a **medium to high sensitivity** to development.

8d – Land east of Ravenscraig

This LLU is located to the north of Wishaw and is bounded by the Urban LCT to the south and east, Ravenscraig to the west, and the incised valley of the South Calder Water LLU to the north.

Topographical characteristics: The topography is relatively flat, with gentle undulations, gradually rising to the east. Local artificial landform features are present in some areas, providing evidence of former industrial use, particularly in the west.

Openness and inter-visibility: Extensive woodland areas limit internal views. The presence of the adjacent incised valley, railway embankment and urban fringe effectively restrict views into and out of this area.

Settlement and man-made influences: Settlement within this landscape is limited to a few scattered houses and farm buildings. The adjacent urban areas of Wishaw and Coltness are relatively prominent from parts of this LLU and can have a strong local influence on the landscape. The golf course and amenity grassland areas have a high level of management, whilst other areas are unmanaged and abandoned.

Land use: The main active land use is recreation. This includes a golf course, Belhaven Park and more informal recreation and open space. Other areas appear to be formerly used for agriculture but have no current active land use.

Landscape pattern and field boundaries: There is no clear landscape pattern, due largely to the limited space and predominance of woodland. There are some remnant hedgerows and field boundaries in parts of this landscape, although encroaching woodland has reduced their prominence.

Landscape quality and condition: The quality and condition of this landscape varies considerably, from the intensively managed golf course, to the unmanaged former farmland and development land to the north.

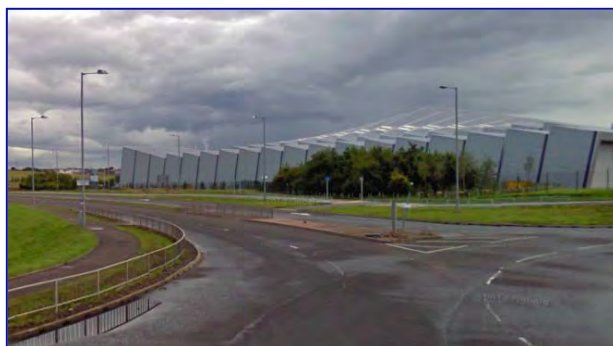
Value of the landscape: There is some local value of this landscape as a recreational resource and as a setting to the adjacent urban areas to the south and east. The value may increase in the future as the adjacent former industrial site of Ravenscraig is transformed by residential development.

Sensitivity to future development: The part of this LLU located immediately adjacent to the settlement edge and the golf course are valued for recreation and are therefore of increased sensitivity to development. However, the existing urban setting and the poor quality of other areas reduces the overall sensitivity to development.

Summary

- Small to medium scale landscape with extensive woodland and evidence of past industrial use.
- Some value as a recreational resource and setting to the adjacent urban areas.
- The influence from adjacent settlement and evidence of past development combined with the importance as a recreational resource results in a **low to medium sensitivity** to development.

9. Ravenscraig



9 – Ravenscraig

The Ravenscraig Local Landscape Unit comprises the former site of the Ravenscraig steelworks and marshalling areas. Since the closure of the steelworks, a programme of demolition has transformed the former industrial site into a location where considerable development is planned over the next decade.

Topographical characteristics: The topography is relatively flat, with local undulations and slopes and is of a large scale. The demolition of the former steelworks and the formation of development areas have resulted in the creation of a series of obviously man-made plateaux, embankments and artificial landform.

Openness and inter-visibility: The relatively flat topography and limited built form results in an open landscape with medium to long distance views to adjacent areas. This sense of openness and exposure varies locally where woodland and trees are present. As development of the area progresses the sense of openness will reduce, eventually leading to a largely enclosed character with restricted views.

Settlement and man-made influences: The character of this area is defined by previous industrial development. It is currently in a transitional state and is intended to be redeveloped for a variety of uses. There is already residential development to the north east of the area, the new regional Leisure and Sports Centre in the centre, and Motherwell College campus to the south west. In addition, there is a wide distributor road and series of roundabouts which cuts across this area. There is also some influence on the impression of this area from adjacent industrial and residential development.

As development of this area progresses its character is likely to be defined by development, resulting in it becoming part of the urban landscape type currently found in adjacent areas.

Land use: Following demolition of the former steelworks this area has been earmarked for development and as such there is no current active land use. In the future, a mix of different development types will occupy much of this area, with recreation being the predominant land use of any remaining open space.

Landscape pattern and field boundaries: The area is presently a series of open spaces, within which an extensive structure of distributor roads provides circulation to the future development areas. Extensive structure planting has taken place and this provides the separation of the various development areas, whilst also providing an overall softening of the development zones, and corridors for wildlife. The distributor roads and structure planting help to define a broad pattern to the landscape which will develop and strengthen with time.

Landscape quality and condition: This landscape is currently in transition from the former industrial use to future development. There are large areas with no active land use or management and as such the overall impression is of a poor quality landscape.

Value of the landscape: This landscape is of limited value in its current form, with large areas set aside for future development.

Sensitivity to future development: The former developed nature of this landscape, the anticipated further development and the limited value results in a low sensitivity to development.

Summary

- Medium to large scale open landscape subject to extensive past and future development.
- Landscape in transition between different development types.
- Limited landscape value in its current form and therefore of **low sensitivity** to development.

4 CONCLUSION AND RECOMMENDATIONS

URS were appointed by North Lanarkshire Council to evaluate the local landscape character of the Local Authority area and assess the requirement for landscape protection within the Local Development plan, currently being prepared by the Council.

Following a detailed evaluation of previous landscape character assessments and detailed field investigation, a series of nine Landscape Character Types and 19 Local Landscape Units have been identified within North Lanarkshire, as shown on Figure 2. These LLUs and the LCTs within which they are located broadly relate to the LCTs identified in previous regional level studies.

Each LLU demonstrates a different combination and pattern of elements and characteristics and it is recommended that a set of broad policies are defined to ensure future development does not have unacceptable, significant effects on the landscape character of the area as a whole and on those key characteristics which set one landscape apart from another.

The assessment has identified a number of LLUs that are of notable quality and value within which future development requires careful consideration to avoid potential significant impact on their landscape character. These comprise:

- 1. Kilsyth Hills;
- 2a. River Kelvin Valley;
- 2b. Clyde Valley;
- 3a. North Calder Water;
- 3b. South Calder Water;
- 3c. Garrion Burn;
- 8b. Drumpellier Country Park; and
- 8c. Strathclyde Country Park.

Of these, the two exemplar examples, which are also very sensitive to development, are:

- 1. Kilsyth Hills
- 2b. Clyde Valley

Both of these areas warrant specific recognition and protection, as their high landscape quality would be threatened and adversely affected by unsympathetic development within their boundaries. It is therefore recommended that these two areas are identified as Special Landscape Areas within the Local Development Plan and supported by specific policy protection.

In addition, it is also considered that the Kelvin Valley LLU has a distinct character with a strong connection to the adjacent Kilsyth Hills LLU and therefore warrants a degree of specific policy protection to ensure future development relates well to the character of this area, with a focus on smaller scale and tourist and visitor related facilities. Although this area has not been recommended as a Special Landscape Area in its own right, its importance as a distinct landscape and the strong connection with the adjacent Kilsyth Hills landscape indicate the need for specific policy protection. It is therefore recommended that the Kelvin Valley LLU is identified as a second tier designation, such as a Local Landscape Area.

APPENDIX 1: LANDSCAPE CHARACTER FIELD SURVEY PRO-FORMA

Landscape Character Field Survey Pro-forma

Ref. 47069981 - North Lanarkshire Landscape Character Assessment

Location: _____

Survey Date: _____

Landscape Character Type: _____

Local Landscape Unit: _____

Photograph Location: _____



Dominant Land cover and Landscape Elements

Buildings	Heritage	Farming	Land cover	Woodland/ Trees	Hydrology	Communications
farm buildings	vernacular buildings	walls	designed parkland	deciduous woodland	river	road
masts/poles	country house	fences	scrub	coniferous plantation	burn	track
pylons	field systems	hedges	marsh	mixed woodland	reservoir	footpath
industry	prehistoric	fields	peat bog	shelterbelt	dry valley	lane
settlement	enclosure /fort	arable	moor / heath	hedge trees	loch	railway
urban	ecclesiastic	improved pasture	rough grassland	orchard	pond	military
military	monuments of war	rough grazing	grassland	clumps	drainage ditch	pylons
wind turbines	bings and spoil heaps	orchard	species rich grassland	isolated trees		masts

Topography

flat	plain	dry valley
undulating	rolling lowland	deep gorge
rolling	plateau	broad valley
steep	hills	narrow valley
vertical	outcrop/ cliffs	incised valley

Character

Pattern	dominant	strong	broken	weak
Scale	intimate	small	medium	large
Texture	smooth	textured	rough	very rough
Remoteness	wild	remote	vacant	active
Complexity	uniform	simple	diverse	complex

Brief Description (including main elements, features, attractions and detractors)

Rarity: _____

Condition: _____

Key Characteristics (distinctive features and why they are important)