



Landscape Sensitivity Assessment

Renewable Energy Development

Midlothian Council

Draft report
Prepared by LUC
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Executive Summary

1. LUC was commissioned by Midlothian Council to prepare a Landscape Sensitivity Assessment (LSA) for wind energy, solar photovoltaic (PV) and battery energy storage system (BESS) development. This LSA provides judgements on the sensitivity of the landscape within the Midlothian Council area to these types of development. The findings of this assessment will help the Council to guide renewable energy developments to less sensitive parts of the landscape.

2. The study was undertaken in accordance with NatureScot's Landscape Sensitivity Assessment Guidance (2022). The NatureScot guidance defines landscape sensitivity as "*a measure of the ability of a landscape to accommodate change arising from specified development types or land management. It combines judgements of the susceptibility of the landscape to change and the values attached to the landscape*". NatureScot Landscape Character Types (LCT) form the basis for the assessment (see Figure 1).

3. The selection of landscape sensitivity indicators ('criteria') for this study was informed by the attributes of the landscape that could be affected by wind, solar and BESS development. The following criteria headings were used for this study:

- Landform and scale;
- Landcover (including field and settlement patterns);
- Historic landscape character;
- Visual receptors;
- Visual character (including skylines and intervisibility); and
- Perceptual and scenic qualities.

4. An overall judgement on landscape sensitivity is presented on a five-point scale from 'high' to 'low'. The results are presented below.

Table 1: Overall landscape sensitivity to new wind energy development

LCT	Small-scale Wind Energy Development	Medium-scale Wind Energy Development	Large-scale Wind Energy Development	Very Large-scale Wind Energy Development
1: LCT 266 Plateau Moorland – Lothians	High	High	High	High
2: LCT 267 Plateau Grassland – Lothians	Medium	Medium-high	High	High
3: LCT 268 Upland Hills – Lothians	High	High	High	High
4a: LCT 269 Upland Fringes – Lothians (Auchencorth)	Medium-high	High	High	High
4b: LCT 269 Upland Fringes – Lothians (North Moorfoot)	Medium-high	High	High	High
4c: LCT 269 Upland Fringes – Lothians (North Lammermuir)	Medium-high	High	High	High
5a: LCT 270 Lowland River Valleys – Lothians (North Esk and Lower South Esk)	Medium-high	High	High	High
5b: LCT 270 Lowland River Valleys – Lothians (Upper South Esk and Tyne Valley)	High	High	High	High
6a: LCT 272 Lowland Hills and Ridges – Lothians (Mayfield Ridge)	Medium-high	High	High	High
6b: LCT 272 Lowland Hills and Ridges – Lothians (Rosewell Carrington Spur)	High	High	High	High
7: LCT 275 Lowland Farmed Plain – Lothians	Medium-high	High	High	High
8: Urban Area LCT	Medium	High	High	High

Table 2: Overall landscape sensitivity to new solar PV/BESS development

LCT	Small-scale Solar PV/BESS Development	Medium-scale Solar PV/BESS Development	Large-scale Solar PV/BESS Development
1: LCT 266 Plateau Moorland – Lothians	High	High	High
2: LCT 267 Plateau Grassland – Lothians	Medium	Medium-high	High
3: LCT 268 Upland Hills – Lothians	High	High	High
4a: LCT 269 Upland Fringes – Lothians (Auchencorth)	Medium	Medium-high	High
4b: LCT 269 Upland Fringes – Lothians (North Moorfoot)	Medium-high	High	High
4c: LCT 269 Upland Fringes – Lothians (North Lammermuir)	Medium-high	High	High
5a: LCT 270 Lowland River Valleys – Lothians (North Esk and Lower South Esk)	Medium	High	High
5b: LCT 270 Lowland River Valleys – Lothians (Upper South Esk and Tyne Valley)	Medium-high	High	High
6a: LCT 272 Lowland Hills and Ridges – Lothians (Mayfield Ridge)	Medium-high	High	High
6b: LCT 272 Lowland Hills and Ridges – Lothians (Rosewell Carrington Spur)	Medium-high	High	High
7: LCT 275 Lowland Farmed Plain – Lothians	Medium	Medium-high	High
8: Urban Area LCT	Low-medium	Medium	High

Chapter 1

Introduction

Background to this study

1.1 In October 2025, LUC was commissioned by Midlothian Council to prepare a Landscape Sensitivity Assessment (LSA) for wind energy, solar photovoltaic (PV) and battery energy storage system (BESS) development. This LSA provides judgements on the sensitivity of the landscape within the Midlothian Council area to these types of development. The LSA replaces the Midlothian Landscape Wind Energy Capacity Study (2014). The findings of this assessment will help the Council to guide renewable energy developments to less sensitive parts of the landscape.

1.2 The method used is described in **Chapter 2**, the results of the LSA are presented in **Chapter 3** and generic siting and design guidance is presented in **Chapter 4**.

1.3 The assessment is based on the description and classification of the landscape presented in NatureScot's National Landscape Character Assessment (2019). This provides a characterisation of the Midlothian Council area into Landscape Character Types (LCT), as shown in Figure 1. The relative sensitivity of each of the LCTs was assessed. Landscape character does not change at administrative boundaries, or at fixed lines on the ground, and the assessment therefore considers the adjoining landscape within the City of Edinburgh, East Lothian, Scottish Borders and West Lothian, in so far as it is appropriate to do so. In practice, changes in landscape character are transitional.

Policy context

European Landscape Convention

1.4 The European Landscape Convention (ELC) came into force in the UK in March 2007. It established the need to recognise landscape in law; and develop landscape policies dedicated to the protection, management, and planning of landscape; and to establish procedures for the participation of the general public and other stakeholders in the creation and implementation of landscape policies. The ELC remains relevant despite the UK's departure from the EU.

1.5 The ELC definition of 'landscape' recognises that all landscape matters, be it ordinary, degraded, or outstanding:

“Landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors.”

1.6 Signing up to the ELC means that the UK is committed to protect, manage, and plan our landscape for the future. Landscape character is defined in the Guidelines for Landscape and Visual Impact Assessment (GLVIA3) (2013) as *“a distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse”*. This reinforces the underlying message that all landscape matters. The Convention also advocates work to raise landscape awareness, involvement and enjoyment amongst local and visiting communities.

National Planning Framework 4 (NPF4)

1.7 The Scottish Government’s National Planning Framework 4 (NPF4) strongly supports the principle of renewable energy, with the policy intent of Policy 11 *“to encourage, promote and facilitate all forms of renewable energy development onshore and offshore”*, with the exception of *“wind farms in National Parks and National Scenic Areas”* (NPF4, Policy 11, Page 53).

1.8 NPF4 Policy 4 concerns natural places. It includes the following sections relevant to this assessment:

1.9 NPF4 Policy 4(c) states that:

- *“Development proposals that will affect a National Park, National Scenic Area, Site of Special Scientific Interest or a National Nature Reserve will only be supported where:*
 - *The objectives of designation and the overall integrity of the areas will not be compromised; or*
 - *Any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by social, environmental or economic benefits of national importance.”*

1.10 NPF4 Policy 4(d) states that:

- *“Development proposals that affect a site designated as a local nature conservation site or landscape area in the LDP will only be supported where:*
 - *Development will not have significant adverse effects on the integrity of the area or the qualities for which it has been identified; or*

- *Any significant adverse effects on the integrity of the area are clearly outweighed by social, environmental or economic benefits of at least local importance.”*

Local Development Plan Policy

1.11 This assessment provides evidence to inform the review of the Midlothian Local Development Plan (LDP) 2017 policies and accompany the submission of the draft Midlothian LDP2 Proposed Plan. The following policies of the Midlothian LDP 2017 are of relevance to this assessment:

- Policy ENV 1 Protection of the Green Belt;
- Policy ENV 2 Midlothian Green Network;
- Policy ENV 3 Newbattle Strategic Greenspace Safeguard;
- Policy ENV 6 Special Landscape Areas;
- Policy ENV 7 Landscape Character;
- Policy ENV 8 Protection of River Valleys;
- Policy ENV 20 Nationally Important Gardens and Designed Landscapes;
- Policy ENV 21 Nationally Important Historic Battlefields;
- Policy NRG 1 Renewable and Low Carbon Energy Projects; and
- Policy NRG 2 Wind Energy.

Other relevant studies

Midlothian Green Belt Review and Newbattle Strategic Greenspace Safeguard Assessment

1.12 The Midlothian green belt, which forms part of the wider Edinburgh green belt, is recognised under Policy ENV 1 in the Midlothian LDP 2017. A review of the Midlothian green belt was undertaken to inform the draft Midlothian LDP2 and determine whether existing green belt boundaries remain appropriate in the context of NPF4. The review concluded that there is limited to no landscape capacity to accommodate any significant development within the green belt. Extensions to the green belt were recommended in the following locations: Dalhousie Mains/Lothianbridge; between Roslin and Auchendinny; between Bonnyrigg and Rosewell; and adjoining the A702 west of Penicuik. The existing green belt and its

proposed extensions are within the following LCTs: LCT 268 Upland Hills Lothians; LCT 270 Lowland River Valleys – Lothians; LCT 272 Lowland Hills and Ridges – Lothians; and the Urban LCT (Danderhall, north of the City of Edinburgh bypass).

1.13 The Newbattle Strategic Greenspace Safeguard (recognised under Policy ENV 3 in the Midlothian LDP 2017) was designated to contribute to long-term settlement identity by restricting development. The Strategic Greenspace is centred on Newbattle and extends between the communities of Dalkeith, Eskbank, Bonnyrigg, Easthouses and Newtongrange. The Strategic Greenspace encompasses farmland and recreational land uses along the River South Esk and its tributary the Dalhousie Burn, and is within LCT 270 Lowland River Valleys – Lothians. The review concluded that the Strategic Greenspace was successful in achieving its aim to prevent settlement coalescence. Two small extensions to the Strategic Greenspace were recommended at Lothianbridge.

1.14 The Midlothian Green Belt Review and Newbattle Strategic Greenspace Safeguard Assessment are of relevance to this study as they identify landscape which plays a role in preventing the coalescence of settlements. For further information refer to paragraph 2.31.

Special Landscape Areas Statements of Importance

1.15 Special Landscape Areas (SLA) are recognised in Policy ENV 6 Special Landscape Areas of the Midlothian LDP 2017 and described in the Special Landscape Areas Supplementary Guidance (adopted October 2018). SLAs are of relevance to this study as they indicate valued landscape qualities. The SLA Statements of Importance also describe management and development considerations. There are seven SLAs within Midlothian, listed below with their component LCTs and shown on Figure 1:

- Fala Moor SLA (LCT 267 Plateau Grassland – Lothians and LCT 269 Upland Fringes – Lothians);
- Fala Rolling Farmland and Policies SLA (LCT 267 Plateau Grassland – Lothians, LCT 269 Upland Fringes – Lothians and LCT 275 Lowland Farmed Plain – Lothians);
- Gladhouse Reservoir and Moorfoots Scarp SLA (LCT 266 Plateau Moorland – Lothians and LCT 269 Upland Fringes – Lothians);
- North Esk Valley SLA (LCT 270 Lowland River Valleys – Lothians);
- Pentland Hills SLA (LCT 268 Upland Hills – Lothians, LCT 269 Upland Fringes – Lothians and LCT 270 Lowland River Valleys – Lothians);

- South Esk Valley and Carrington Farmland SLA (LCT 269 Upland Fringes – Lothians, LCT 270 Lowland River Valleys – Lothians and LCT 272 Lowland Hills and Ridges – Lothians); and
- Tyne Water Valley SLA (LCT 269 Upland Fringes – Lothians, LCT 270 Lowland River Valleys – Lothians, LCT 272 Lowland Hills and Ridges – Lothians and LCT 275 Lowland Farmed Plain – Lothians).

Midlothian Local Development Plan 2 Evidence Report

1.16 The Midlothian LDP 2 Evidence Report was approved by Midlothian Council in June 2024. Topics 4 (Natural Places and Landscape), 7 (Green Belt and Coalescence), 11 (Wind Energy) and 12 (Solar Energy) are of most relevance to this study.

Chapter 2

Methodology

2.1 The study was undertaken in accordance with NatureScot's Landscape Sensitivity Assessment Guidance (2022). This methodology highlights the specific landscape and visual characteristics that are most likely to be affected by renewable energy development (wind energy, solar PV and BESS).

2.2 For the overall landscape sensitivity assessment of wind energy, solar PV and BESS, an overall judgement on landscape sensitivity is presented on a five-point scale from 'high' to 'low' (see **Table 3.1** and **Table 3.2**).

Scope of the assessment

2.3 The LSA focuses on the landscape considerations associated with wind energy, solar PV and BESS developments at a strategic level.

2.4 The LSA provides an indication of landscape sensitivity across the Midlothian Council area. Potential landscape opportunities and constraints were considered in addition to the technical opportunities/constraints for these types of developments.

2.5 Appropriate consideration was given to wind energy and solar PV/BESS energy development in neighbouring local authorities, when considering patterns of renewable energy development.

Spatial framework for the assessment

2.6 NatureScot LCTs (2019) form the basis for the assessment. The LCTs were subdivided where they were large in scale and/or displayed variations in landscape character across the LCT, as shown in Figure 1. The assessment also makes references to other relevant landscape studies including SLA descriptions. Cultural heritage designations are shown on Figure 2 and natural heritage designations are shown on Figure 3. **Table 2.1** sets out the LCTs considered in the study and the corresponding Landscape Character Areas (LCA) from the Midlothian Landscape Wind Energy Capacity Study (2014) for comparison. The study excludes larger urban areas as illustrated on Figure 1.

Table 2.1: Midlothian Landscape Character Types

Reference	Landscape Character Type	Landscape Character Area (2014)
1	LCT 266 Plateau Moorland – Lothians	Moorfoot Hills (LCA 11)
2	LCT 267 Plateau Grassland – Lothians	Plateau Grassland (LCA 10)
3	LCT 268 Upland Hills – Lothians	The Pentland Hills (LCA 12)
4a	LCT 269 Upland Fringes – Lothians (Auchencorth)	Moorland Fringes (LCA 8) and Lowland Moorland (LCA 9)
4b	LCT 269 Upland Fringes – Lothians (North Moorfoot)	Moorland Fringes (LCA 8) and Lowland Moorland (LCA 9)
4c	LCT 269 Upland Fringes – Lothians (North Lammermuir)	North Lammermuir Platform (LCA 7)
5a	LCT 270 Lowland River Valleys – Lothians (North Esk and Lower South Esk)	North Esk and Lower South Esk Valleys (LCA 1)
5b	LCT 270 Lowland River Valleys – Lothians (Upper South Esk and Tyne Valley)	Upper South Esk and Tyne Valleys (LCA 2)
6a	LCT 272 Lowland Hills and Ridges – Lothians (Mayfield)	Mayfield/Tranent Ridge (LCA 3)
6b	LCT 272 Lowland Hills and Ridges – Lothians (Rosewell Carrington Spur)	Rosewell Carrington Spur (LCA 6)
7	LCT 275 Lowland Farmed Plain – Lothians	Agricultural Plain (LCA 5) and North Lammermuir Platform (LCA 7)
8	Urban Area LCT	Musselburgh Prestonpans Fringe (LCA 4)

Characteristics of wind energy, solar PV and BESS development types and their potential landscape impacts

Wind energy developments

2.7 All turbines considered in this study are large-scale vertical structures that may be highly visible within the landscape. Wind energy developments may affect the landscape in the following ways:

- Construction of turbines and related infrastructure may result in changes to natural topography and the direct loss of landscape features e.g. trees and hedgerows;
- The presence of turbines (and turbine lighting, where required) may increase the perceived human influence on the landscape, and this can particularly affect landscape with a strong sense of naturalness or tranquillity, or which form a setting to heritage assets or exhibit a strong sense of time depth;
- The movement of the turbine blades is a unique feature of wind energy development, setting them apart from other stationary tall structures in the landscape, and may affect characteristics of stillness, remoteness and tranquillity;
- Turbines may be perceived as out of scale in relation to human scale features in the landscape e.g. farmsteads, quiet roads, walls and hedgerows;
- The tall vertical scale of turbines may alter the apparent scale of landforms;
- Turbines on skylines may compete with existing skyline features (e.g. distinctive cairns), where undeveloped skylines or landmark features are characteristic of the landscape; and
- Access tracks or upgrades on access routes may require alterations to topography and be highly visible, particularly in an open or undeveloped landscape.

2.8 The LSA considers the suitability of different scales of wind turbines, using bands reflecting the typical scale of development that is most likely to be put forward by developers. In addition to turbine tip height, the 'size' of a wind energy development can be defined by the number of turbines. 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. Single turbines, smaller groups of

turbines (approximately two to three turbines) and medium or larger groups (four or more turbines) are mentioned in the assessment where it is judged that the sensitivity of the landscape would differ between these sizes of development. **Table 2.2** sets out the indicative wind energy development scenarios considered in the sensitivity assessment, based on the turbine tip height.

Table 2.2: Wind energy development sizes/scales

Wind Turbine Size	Wind Energy Scale Bandings
Less than 49.9m tip height	Small
50m to 99.9m tip height	Medium
100m to 149.9m tip height	Large
Over 150m tip height	Very Large

Figure 2.1: Domestic-scale wind turbines near Cousland



Solar PV developments

2.9 Solar PV developments consist of racks of panels and associated structures such as inverters or transformer substations, fencing, and screening planting. These developments can occupy substantial areas of ground which may be visible, particularly if located on slopes. Landscape effects may include the following:

- Solar PV developments may be particularly visible in an open landscape, on upper slopes of hillsides or where overlooked;
- The reflective nature and materiality of PV panels may contrast with the colour and texture of the surrounding undeveloped landscape;
- The presence of solar PV panels and associated infrastructure may increase the perceived human influence on the landscape and erode intrinsically undeveloped character;
- Solar PV development will change the land use and appearance of a field or fields, affecting land cover patterns;
- The regular edges and linear arrangement of solar PV developments may be conspicuous in more irregular landscape (particularly where field boundaries are irregular);
- The height of racks (up to 4 metres) is likely to exceed the scale of typical hedgerow field boundaries;
- Screen planting (often in the form of tall hedgerows) around solar PV developments may change the sense of enclosure of a landscape and restrict or alter important views;
- Construction of solar PV development may result in damage to landscape features such as hedgerow or traditional stone field boundaries or alteration of the underlying field pattern or scale; and
- Structures may appear out of place in particularly wilder or undeveloped areas of landscape which are valued for their qualities of remoteness and tranquillity.

2.10 The LSA considers the suitability of different scales of solar PV development, using bandings reflecting those that are most likely to be put forward by developers. These are set out in **Table 2.3** below. Approximate sizes account for the total area of development, including associated ancillary infrastructure.

Table 2.3: Solar development sizes/scales

Solar PV Size	Solar PV Scale Bandings
Less than 4.9 hectares (ha)	Small
5ha to 9.9ha	Medium
10ha to 15ha	Large

Figure 2.2: Easter Bush Solar Farm at the University of Edinburgh's Midlothian Campus



Figure 2.3: Solar panels at Eskbank (Midlothian Council)



Battery energy storage systems

2.11 This study also considers the potential for BESS installations. BESS generally comprise battery storage containers (number depending on the capacity of the installation, typically 3m high) and may also include associated substations. Landscape effects would be similar to effects relating to solar PV developments, as set out in paragraph 2.9.

2.12 The LSA considers the suitability of different scales of BESS development, using bandings reflecting those that are most likely to be put forward by developers. These are set out in **Table 2.4** below. Approximate sizes account for the total area of development, including associated ancillary infrastructure.

Table 2.4: BESS development sizes/scales

BESS Size	BESS Scale Bandings
Less than 4.9 hectares (ha)	Small
5ha to 9.9ha	Medium
10ha to 15ha	Large

Figure 2.4: Battery energy storage system



Consideration of cumulative effects

2.13 As larger numbers of renewable energy developments are built, it is increasingly necessary to consider their cumulative effects. The cumulative effects of multiple schemes are a significant issue for planning authorities, particularly for wind farm developments.

2.14 The most significant cumulative effects are those that result in changes in the character of a landscape to such an extent as to transform it into a different landscape type. It should be recognised that if numerous developments are built, then at some point another development could tip the balance through its additional effects.

2.15 Key cumulative considerations include:

- How different developments relate to each other and the underlying landscape;
- Similarities or differences in design rationale, such as turbine scale and spacing, or relationship of solar arrays to field patterns;
- Their frequency as one moves through the landscape, or the sequential visual effects resulting from multiple developments;
- How landscape mitigation associated with multiple developments influences the landscape pattern or character of views;
- How different developments relate to the composition of key views e.g. consideration of impacts on developed versus undeveloped parts of the view; and
- Their visual separation, or the potential for combined or successive visual effects in key views.

2.16 The LSA does not include assessment of the potential cumulative impacts of specific multiple developments, as different combinations of development are not known at this stage. Specific cumulative effects are most appropriately considered at the individual site level, including through the process of cumulative Landscape and Visual Impact Assessment (LVIA).

2.17 However, the LSA does consider the influence of the baseline of operational wind and solar developments within the landscape, emerging patterns of consented and proposed developments, and how the key sensitivities of the landscape may be influenced by multiple developments.

Evaluating landscape sensitivity

2.18 The landscape sensitivity assessment is informed by NatureScot's Landscape Sensitivity Assessment Guidance (2022).

2.19 The study defines landscape sensitivity as follows:

“Landscape sensitivity is a measure of the ability of a landscape to accommodate change arising from specified development types or land management. It combines judgements of the susceptibility of the landscape to change and the values attached to the landscape.”

Assessment criteria

2.20 Landscape sensitivity assessment requires consideration of both landscape susceptibility (how vulnerable the landscape is to change from the type of development being assessed) and landscape value (the relative value attached to different landscape types by society). In this study, susceptibility and value are not considered separately, but both are addressed through the criteria that have been developed.

2.21 Each criterion evaluates elements of both susceptibility and value. Some criteria are more closely linked with value, such as ‘perceptual and scenic qualities’, which incorporates consideration of scenic value as represented by SLA designation. However, other aspects of value are covered elsewhere. For example, recreational value is considered in relation to ‘visual receptors’. All the criteria give some consideration to how valued the relevant characteristics of landscape are in reaching a judgement.

2.22 The selection of landscape sensitivity indicators (‘criteria’) for this study is informed by the attributes of the landscape that could be affected by wind, solar and BESS development. These consider the ‘landscape’, ‘visual’ and ‘perceptual’ aspects of sensitivity. Their selection is also based on current best practice and experience of LUC in undertaking similar studies elsewhere in the UK.

2.23 The following criteria headings are used for this study:

- Landform and scale;
- Landcover (including field and settlement patterns);
- Historic landscape character;

- Visual receptors;
- Visual character (including skylines and intervisibility); and
- Perceptual and scenic qualities.

2.24 The following text provides guidance and examples of higher and lower sensitivity features/attributes for applying the criteria in Midlothian, for wind energy and solar PV/BESS, respectively. The assessments present a commentary against each criterion to inform the judgements on levels of sensitivity. It is important to note that the relative importance of each criterion varies between landscape types (due to differences in landscape character). The initial stage of the assessment involved a thorough desk-based study drawing on sources of spatial and descriptive information regarding the landscape. This was supplemented by field survey work undertaken by a team of landscape professionals to verify the findings.

Wind energy development assessment criteria and guidance

Landform and scale

2.25 A flat or gently sloping landform is likely to be less sensitive to wind energy development than a landscape with a dramatic or rugged landform, distinct landform features (including prominent hills and valleys or glens) or pronounced undulations. Larger scale landforms are likely to be less sensitive than smaller scale landforms – because turbines may appear out of scale, detract from visually important landforms or appear visually confusing (due to turbines being at varying heights) in the latter types of landscape.

- **Low sensitivity:** An extensive lowland flat landscape or plateau; often a larger scale landform.
- **Low-medium sensitivity:** A simple gently rolling landscape; likely to be a medium-large scale landform.
- **Medium sensitivity:** An undulating landscape, perhaps also incised by valleys or glens, likely to be a medium scale landform.
- **Medium-high sensitivity:** A landscape with distinct landform features, and/or irregular in topographic appearance (which may be large in scale), or a smaller scale landform.
- **High sensitivity:** A landscape with a rugged landform or dramatic landform features (which may be large in scale), or a small scale or intimate landform.

Land cover pattern (including field and settlement pattern)

2.26 A simple, regular landscape with extensive areas of consistent land cover is likely to be less sensitive to wind energy development than a landscape with more complex or irregular land cover patterns, smaller and/or irregular field sizes.

2.27 A landscape with frequent human scale features, such as settlements, farmsteads, small farm woodlands, trees and hedges may be particularly sensitive to larger turbines. This is because large features such as wind turbines may dominate smaller scale features within the landscape.

- **Low sensitivity:** An open, continuous landscape with uniform land cover, or an urban or 'brownfield' landscape. Few/no human-scale features.
- **Low-medium sensitivity:** A landscape of large open fields of modern enclosure, with little variety in land cover. A landscape which contains areas of brownfield sites or urban influences. Occasional human-scale features such as trees and domestic buildings.
- **Medium sensitivity:** A landscape with medium sized fields (or a mix of modern and traditional enclosure) and some variations in land cover. A semi-developed landscape which may contain some brownfield sites or urban influences.
- **Medium-high sensitivity:** A landscape with irregular or small-scale fields and a variety in land cover. An undeveloped landscape, perhaps with some areas of semi-natural land cover. A traditional landscape that is lightly settled and/or retains a historic settlement pattern, with frequent human scale features.
- **High sensitivity:** A landscape dominated by traditional field patterns and/or semi-natural land cover. The field pattern may be characterised by smaller-scale, traditional fields, and a mosaic of heath, moor or wetland. An undeveloped or traditional landscape with a sparse settlement pattern and/or a landscape which has retained a strong historic settlement pattern. A landscape with a dense distribution of human-scale features, such as woodland

Historic landscape character

2.28 A landscape which contains important archaeological or historic features or historic associations is likely to have a higher level of sensitivity to wind energy development. Historical features may be in the form of historic land cover types and field systems, an historic designed landscape such as a Garden and Designed Landscape (GDL), or buildings/structures designated for their historical significance.

2.29 Areas which make a significant contribution to the setting of a historical feature or a designed landscape may also have higher sensitivity to wind energy development. A landscape that is primarily of modern influence and origin will have a lower sensitivity to wind energy development.

- **Low sensitivity:** A landscape with relatively few historic features important to the character of the area and little time depth (i.e. large intensively farmed fields).
- **Low-medium sensitivity:** A landscape with a small number of historic features important to the character area and some time depth.
- **Medium sensitivity:** A landscape with some visible historic features of importance to character, and a variety of time depths.
- **Medium-high sensitivity:** A landscape with many historic features important to the area and a strong sense of time depth.
- **High sensitivity:** A landscape with a high density of historic features important to the character of the area and extensive time depth (i.e. piecemeal enclosure with irregular boundaries, ridge and furrow).

Visual receptors

2.30 This criterion considers the density of sensitive visual receptors, such as residents at home and in their communities and people accessing the landscape for recreational purposes. This may be indicated by the presence of features and facilities which enable enjoyment of the landscape, and the importance of these. This is indicated by the presence of long-distance walking or cycle routes, Core Paths or other local paths, Regional Parks, Country Parks and outdoor tourist/ visitor attractions with facilities where enjoyment of the landscape is important to the experience.

- **Low sensitivity:** An unpopulated landscape or one with few opportunities to engage in recreational activities where appreciation of the landscape is integral to the experience.
- **Low-medium sensitivity:** A sparsely populated landscape or one with limited opportunities to engage in recreational activities where appreciation of the landscape is integral to the experience.
- **Medium sensitivity:** A landscape with some recreational value/ some opportunities to experience the landscape or one with some areas of settlement.

- **Medium-high sensitivity:** A landscape with high recreational value locally/ frequent opportunities to experience the landscape or one which is densely populated with many sensitive receptors.
- **High sensitivity:** A landscape with very high recreational value regionally/ frequent opportunities to experience the landscape or one which is densely populated with many sensitive receptors that experience a strong visual relationship to the landscape.

Visual character (including skylines and intervisibility)

2.31 The relative visibility of a landscape may influence its sensitivity to wind development. An elevated landscape such as a hill range or plateau, which is viewed from another landscape, may be more sensitive than a landscape with limited visibility. This criterion considers the influence of both landform and land cover on the openness or enclosure of views, and also builds on the consideration of density of visual receptors covered in the criteria above.

2.32 A landscape which has an important visual relationship with other areas, for example where one area provides a backdrop to a neighbouring area, is considered more sensitive than those with few visual relationships. The extent of inter-visibility may be modified by the importance of these views to the appreciation of the landscape, and whether adjacent areas of landscape provide a setting for one another.

2.33 This criterion also considers the role of the landscape, for example in forming the setting of a settlement, preventing the coalescence of settlements, or providing a gateway function, as perceived by residents at home and in their communities who are considered sensitive to changes in the view resulting from renewable energy development.

2.34 Prominent and distinctive and/or undeveloped skylines, or skylines with important landmark features, are likely to be more sensitive to wind energy development because turbines may detract from these skylines as features in the landscape, or draw attention away from existing landform or landmark features on skylines. Important landmark features on the skyline might include historic features or monuments as well as landforms. Where skylines are affected by development, e.g. through the presence of electricity pylons or existing turbines, the addition of turbines of a different scale may lead to visual confusion. Therefore, the presence of existing development cannot always assume a lower sensitivity to new development.

- **Low sensitivity:** An enclosed, self-contained landscape, or one with weak connections to neighbouring areas. A landscape in which skylines are not prominent, and there are no important landmark features on the skyline.
- **Low-medium sensitivity:** A landscape with limited connections to neighbouring areas, and/or where adjacent areas of landscape are not visually related. A landscape in which skylines are simple, flat or gently convex and/or there are very few landmark features – other skylines in adjacent LCTs may be more prominent.
- **Medium sensitivity:** A landscape which has some inter-visibility with neighbouring areas. A landscape with some prominent skylines, but these are not particularly distinctive – there may be some landmark features on the skyline.
- **Medium-high sensitivity:** A landscape which is inter-visible with several areas, and/or where adjacent areas are strongly interrelated. A landscape with prominent skylines or slopes that may form an important backdrop to views from settlements or important viewpoints, and/or with important landmark features.
- **High sensitivity:** A landscape which has important visual relationships with one or more neighbouring areas. A landscape with prominent or distinctive undeveloped skylines, very exposed and visible slopes, or with important landmark features on skylines.

Perceptual and scenic qualities

2.35 A landscape that is relatively remote or tranquil (and with dark skies) tends to be more sensitive to wind energy, since turbines may be perceived as intrusive. A landscape which is relatively free from overt human activity and disturbance, and which has a perceived naturalness or a strong traditional feel, will therefore be more sensitive. Wind energy development will generally be less intrusive in a landscape which is strongly influenced by modern development, including settlement, industrial and commercial development and infrastructure.

2.36 A landscape that has a high scenic quality will be more sensitive to wind energy development. Scenic qualities can include contrasts and combinations of landform and landcover, for example the contrast between open moorland hills and intimate wooded glens which is experienced in Midlothian. Scenic qualities are recorded in the Statement of Importance for Special Landscape Areas and noted from fieldwork.

- **Low sensitivity:** A landscape without attractive character, with no pleasing combinations of features, visual contrasts and/or dramatic elements, such as

industrial areas or derelict land. A landscape with much human activity and modern development, such as industrial areas.

- **Low-medium sensitivity:** A landscape of limited attractive character, with few pleasing combinations of features, visual contrasts and/or dramatic elements. A semi-developed landscape with much human activity and dispersed modern influences, such as settlement fringes.
- **Medium sensitivity:** A landscape of intermittently attractive character, with occasional pleasing combinations of features, visual contrasts and/or dramatic elements. A semi-developed landscape with some modern influences and human activity, such as arable farmland.
- **Medium-high sensitivity:** A landscape of attractive character, with some pleasing combinations of features, visual contrasts and/or dramatic elements. A more naturalistic landscape and/or one with little modern human influence and development.
- **High sensitivity:** A landscape of consistently attractive character, with pleasing combinations of features, visual contrasts and/or dramatic elements. All or the vast majority is designated for its scenic qualities. A tranquil landscape with little or no overt sign of modern human activity and development.

Solar PV and BESS assessment criteria and guidance

Landform and scale

2.37 A flat or gently undulating lowland landscape or extensive plateau is likely to be less sensitive to solar/BESS development than a landscape with prominent landforms, including hills and rugged outcrops. This is because arrays of solar panels/BESS units will be less easily perceived in a flat landscape than on a slope (including hills and rugged outcrops) especially higher slopes.

- **Low sensitivity:** An extensive lowland flat landscape or plateau, often a larger scale landform.
- **Low-medium sensitivity:** A simple gently rolling landscape, likely to be a medium-large scale landform.
- **Medium sensitivity:** An undulating landscape, perhaps also incised by glens, likely to be a medium scale landform.

- **Medium-high sensitivity:** A landscape with distinct landform features, and/or one which is irregular in topographic appearance (which may be large in scale), or a smaller scale landform.
- **High sensitivity:** A landscape with a rugged landform or dramatic landform features (which may be large in scale), or a small-scale or intimate landform.

Land cover pattern (including field and settlement pattern)

2.38 Since solar PV panels/BESS developments introduce a new land cover (of built structures), a landscape containing existing hard surfacing or built elements (e.g. urban areas or brownfield sites) is likely to be less sensitive to solar PV development than a highly undeveloped or naturalistic landscape.

2.39 A landscape with small-scale, more irregular field patterns is likely to be more sensitive to the introduction of solar PV development than a landscape with large, regular scale field patterns because of the risk of diluting or masking the characteristic landscape patterns. This would be particularly apparent if development takes place across a number of adjacent fields where the field pattern is small and intricate (bearing in mind that the height of panels or BESS units could exceed that of a hedge or stone wall). A landscape with frequent human scale features, such as settlements, farmsteads, small farm woodlands, trees and hedges may be particularly sensitive to BESS development which may dominate smaller scale features within the landscape. A landscape with a distinctive or historic settlement pattern would be particularly sensitive to the introduction of solar PV/BESS.

- **Low sensitivity:** A landscape with large-scale, regular fields of mainly modern origin. An urban or 'brownfield' landscape. Few/no human-scale features.
- **Low-medium sensitivity:** A landscape which is mainly defined by large, modern fields or those sub-divided for non-traditional uses. An area with some urban or brownfield influences. Occasional human-scale features such as trees and domestic buildings.
- **Medium sensitivity:** A landscape with a mixture of large-scale, modern fields and some smaller, more traditional enclosure. An undeveloped landscape, perhaps with some brownfield sites or urban influences.
- **Medium-high sensitivity:** A landscape with irregular or small-scale field patterns, with a few isolated areas of modern enclosure. An undeveloped landscape with some areas of semi-natural land cover. An undeveloped landscape that is lightly settled and/or retains a historic settlement pattern, with frequent human scale features.

- **High sensitivity:** A landscape dominated by small-scale, traditional field patterns and/or by semi-natural land cover. An undeveloped landscape with a sparse settlement pattern and/or has retained a strong historic settlement pattern. A landscape with a dense distribution of human-scale features, such as woodland.

Historic landscape character

2.40 A landscape which contains important archaeological or historic features or historic associations is likely to have a higher level of sensitivity to solar PV/BESS development. Historical features may be in the form of historic land cover types and field systems, historic designed landscapes such as a GDL, or buildings/structures designated for their historical significance.

2.41 Areas which make a significant contribution to the setting of a historical feature or designed landscape, may also have higher sensitivity to solar PV/BESS development. A landscape that is primarily of modern influence and origin will have a lower sensitivity to solar PV/BESS development.

- **Low sensitivity:** A landscape with relatively few historic features important to the character of the area and little time depth (i.e. large intensively farmed fields).
- **Low-medium sensitivity:** A landscape with a small number of historic features important to the character of the area and some time depth.
- **Medium sensitivity:** A landscape with some visible historic features of importance to the character of the area, and a variety of time depths.
- **Medium-high sensitivity:** A landscape with many historic features important to the character of the area and a strong sense of time depth.
- **High sensitivity:** A landscape with a high density of historic features important to the character of the area and great time depth.

Visual receptors

2.42 This criterion considers the density of sensitive visual receptors, such as residents at home and in their communities and people accessing the landscape for recreational purposes. This may be indicated by the presence of features and facilities which enable enjoyment of the landscape, and the importance of these. This is indicated by the presence of long-distance walking or cycle routes, Core Paths or other local paths, Regional Parks, Country Parks and outdoor tourist/ visitor

attractions with facilities where enjoyment of the landscape is important to the experience.

- **Low sensitivity:** An unpopulated landscape or one with few opportunities to engage in recreational activities where appreciation of the landscape is integral to the experience.
- **Low-medium sensitivity:** A sparsely populated landscape or one with limited opportunities to engage in recreational activities where appreciation of the landscape is integral to the experience.
- **Medium sensitivity:** A landscape with some recreational value/ some opportunities to experience the landscape or one with some areas of settlement.
- **Medium-high sensitivity:** A landscape with high recreational value locally/ frequent opportunities to experience the landscape or one which is densely populated with many sensitive receptors.
- **High sensitivity:** A landscape with very high recreational value regionally/ frequent opportunities to experience the landscape or one which is densely populated with many sensitive receptors that experience a strong visual relationship to the landscape.

Visual character (including skylines and intervisibility)

2.43 The relative visibility of a landscape may influence its sensitivity to solar PV/BESS development. An elevated landscape such as a hill range or plateau, which is viewed from other areas of landscape, may be more sensitive than an enclosed landscape, since any solar panels/BESS units will be more widely seen. This criterion considers the influence of both landform and land cover on the openness or enclosure of views, and also builds on the consideration of density of visual receptors covered in the criteria above.

2.44 A landscape which has important visual relationships with other areas, for example where one area provides a backdrop to a neighbouring area, is considered more sensitive than one with few visual relationships. The extent of inter-visibility may be modified by the importance of these views to appreciation of the landscape, and whether areas of adjacent landscape provide a setting for one another.

2.45 Prominent and distinctive and/or undeveloped skylines, or skylines with important landmark features, are likely to be more sensitive to solar PV/BESS development because panels or BESS units may detract from these skylines as features in the landscape, or draw attention away from existing landform or landmark features on skylines if not sited appropriately. Important landmark features on the

skyline might include historic features or monuments as well as landform. Where skylines are affected by development, e.g. through the presence of electricity pylons, the addition of solar panels/BESS units may lead to visual confusion due to differences in scale. Therefore, developed skylines might not necessarily indicate lower sensitivity.

2.46 This criterion also considers the role of the landscape, for example in forming the setting of a settlement, reinforcing settlement identity, or providing a gateway function, as perceived by residents at home and in their communities who are considered sensitive to changes in the view resulting from renewable energy development.

- **Low sensitivity:** An enclosed, self-contained landscape, or one with weak connections to neighbouring areas. A landscape in which skylines are not prominent, and there are no important landmark features on the skyline.
- **Low-medium sensitivity:** A landscape with limited connections to neighbouring areas, and/or where adjacent areas of landscape are not visually related. A landscape in which skylines are simple, flat or gently convex and/or there are very few landmark features – other skylines in adjacent LCTs may be more prominent.
- **Medium sensitivity:** A landscape which has some inter-visibility with neighbouring areas. A landscape with some prominent skylines, but these are not particularly distinctive – there may be some landmark features on the skyline.
- **Medium-high sensitivity:** A landscape which is intervisible with several areas, and/or where adjacent areas are strongly interrelated. A landscape with prominent skylines or slopes that may form an important backdrop to views from settlements or important viewpoints, and/or with important landmark features.
- **High sensitivity:** A landscape which has important visual relationships with one or more neighbouring areas. A landscape with prominent or distinctive undeveloped skylines, very exposed and visible slopes, or with important landmark features on skylines.

Perceptual and scenic qualities

2.47 A landscape that is relatively remote or tranquil tends to be more sensitive to solar PV/BESS development, since solar panels/BESS units may be perceived as intrusive. A landscape which is relatively free from overt human activity and disturbance, and which has a perceived naturalness or a strong traditional feel, will therefore be more sensitive. Qualities such as tranquillity can be found even in

settled areas, where the influence of overtly modern development is reduced. Solar PV/BESS development will generally be less intrusive in a landscape which is strongly influenced by modern development, including settlement, industrial and commercial development and infrastructure.

2.48 A landscape that has a high scenic quality will be more sensitive. Scenic qualities can include contrasts and combinations of landform and landcover. Scenic qualities are recorded in the Statement of Importance for Special Landscape Areas and noted from fieldwork.

- **Low sensitivity:** A landscape without attractive character, with no pleasing combinations of features, visual contrasts and/or dramatic elements, such as industrial areas or derelict land.
- **Low-medium sensitivity:** A landscape with much human activity and modern development, such as industrial areas. A landscape of limited attractive character, with few pleasing combinations of features, visual contrasts and/or dramatic elements.
- **Medium sensitivity:** A developed or less developed landscape with much human activity and dispersed modern development, such as settlement fringes. A landscape of intermittently attractive character, with occasional pleasing combinations of features, visual contrasts and/or dramatic elements.
- **Medium-high sensitivity:** A relatively undeveloped landscape, with some modern development and human activity, such as arable farmland. A landscape of attractive character, with some pleasing combinations of features, visual contrasts and/or dramatic elements.
- **High sensitivity:** A more naturalistic landscape and/or one with little modern human influence and development. A landscape of consistently attractive character, with pleasing combinations of features, visual contrasts and/or dramatic elements. All or the vast majority is designated for its scenic qualities. A tranquil landscape with little or no overt sign of modern human activity and development.

Making overall judgements on landscape sensitivity

2.49 As with all assessments based upon data and information which is to a greater or lesser extent subjective, some caution is required in its interpretation. This is to avoid the suggestion that certain landscape features or qualities can automatically be associated with certain sensitivities – the reality is that an assessment of landscape sensitivity to development is the result of a complex interplay of often unequally weighted variables (or ‘criteria’).

2.50 There may be one criterion that has a strong influence on landscape sensitivity in a particular LCT which increases the overall landscape sensitivity score (for example for solar PV this might be a landscape with a prominent/highly visible ridgeline or significant coverage of semi-natural habitats). There may also be criteria that produce conflicting scores. For example, a small-scale landscape with intact field patterns may also afford greater screening of panels from topography and a dense network of walls or hedgerows. A conflicting example for wind energy development could be in the context of a settled landscape. While the landscape would have greater human influence (indicating a lower sensitivity to new development), it would also contain more human-scale features that could be affected by large-scale wind turbines and a higher density of sensitive residential or recreational receptors (indicating a higher sensitivity). Conversely, a more remote landscape is likely to lack human-scale features but is likely to present a higher sensitivity from a perceptual point of view. In these situations, a professional judgement is made on overall landscape sensitivity, taking all criteria into account in the context of their importance to the landscape character and quality of the individual area.

2.51 Landscape sensitivity is expressed on five-level scale from low sensitivity to high sensitivity. A landscape of higher sensitivity is likely to experience a greater impact on landscape character as a result of a given development type/scale, and a landscape of lower sensitivity is likely to experience a lesser impact on landscape character.

2.52 Planning applications will be considered based on their own merits and the specific landscape within which they are proposed.

Presentation of results

2.53 The full landscape sensitivity assessments for each of the LCTs are presented in separate assessment profiles in **Appendix A**. These are structured as follows:

- A map of the LCT and representative photographs.
- An evaluation of the LCT against each of the assessment criteria.
- A landscape sensitivity assessment rating for both wind energy and solar PV/BESS development types against each criteria.
- Landscape sensitivity scores for wind energy and solar PV/BESS development within each of the different development scenarios, using the five-level scale from low to high sensitivity.

- A summary of the landscape sensitivity of the LCT to wind energy and solar PV/BESS developments, referencing particular features, attributes or locations which may be more or less sensitive.
- Discussion of any variations to the overall LCT scores within the LCT.
- The results presented in tabular form.

Summary and guidance

2.54 A comparative summary of overall landscape sensitivity within the local authority area for wind turbine/solar PV and BESS development is provided in **Chapter 3**, along with high level siting and design guidance in **Chapter 4**. Sensitivity maps are provided in **Appendix B**.

Chapter 3

Landscape Sensitivity Assessment Results and Guidance

3.1 The overall results of the landscape sensitivity assessment are set out in **Table 3.1** for wind energy development and **Table 3.2** for solar PV/BESS development.

3.2 The LCTs within Midlothian contain areas of higher and lower sensitivity that vary from the overall scores. It is therefore important to take note of the content of the individual assessment profiles, including any commentary which highlights areas which could be more sensitive to wind energy and/or solar PV/BESS developments.

Table 3.1: Overall landscape sensitivity to new wind energy development

LCT	Small-scale Wind Energy Development	Medium-scale Wind Energy Development	Large-scale Wind Energy Development	Very Large-scale Wind Energy Development
1: LCT 266 Plateau Moorland – Lothians	High	High	High	High
2: LCT 267 Plateau Grassland – Lothians	Medium	Medium-high	High	High
3: LCT 268 Upland Hills – Lothians	High	High	High	High
4a: LCT 269 Upland Fringes – Lothians (Auchencorth)	Medium-high	High	High	High
4b: LCT 269 Upland Fringes – Lothians (North Moorfoot)	Medium-high	High	High	High
4c: LCT 269 Upland Fringes – Lothians (North Lammermuir)	Medium-high	High	High	High
5a: LCT 270 Lowland River Valleys – Lothians (North Esk and Lower South Esk)	Medium-high	High	High	High
5b: LCT 270 Lowland River Valleys – Lothians (Upper South Esk and Tyne Valley)	High	High	High	High
6a: LCT 272 Lowland Hills and Ridges – Lothians (Mayfield Ridge)	Medium-high	High	High	High
6b: LCT 272 Lowland Hills and Ridges – Lothians (Rosewell Carrington Spur)	High	High	High	High
7: LCT 275 Lowland Farmed Plain – Lothians	Medium-high	High	High	High
8: Urban Area LCT	Medium	High	High	High

Table 3.2: Overall landscape sensitivity to new solar PV/BESS development

LCT	Small-scale Solar PV/BESS Development	Medium-scale Solar PV/BESS Development	Large-scale Solar PV/BESS Development
1: LCT 266 Plateau Moorland – Lothians	High	High	High
2: LCT 267 Plateau Grassland – Lothians	Medium	Medium-high	High
3: LCT 268 Upland Hills – Lothians	High	High	High
4a: LCT 269 Upland Fringes – Lothians (Auchencorth)	Medium	Medium-high	High
4b: LCT 269 Upland Fringes – Lothians (North Moorfoot)	Medium-high	High	High
4c: LCT 269 Upland Fringes – Lothians (North Lammermuir)	Medium-high	High	High
5a: LCT 270 Lowland River Valleys – Lothians (North Esk and Lower South Esk)	Medium	High	High
5b: LCT 270 Lowland River Valleys – Lothians (Upper South Esk and Tyne Valley)	Medium-high	High	High
6a: LCT 272 Lowland Hills and Ridges – Lothians (Mayfield Ridge)	Medium-high	High	High
6b: LCT 272 Lowland Hills and Ridges – Lothians (Rosewell Carrington Spur)	Medium-high	High	High
7: LCT 275 Lowland Farmed Plain – Lothians	Medium	Medium-high	High
8: Urban Area LCT	Low-medium	Medium	High

Chapter 4

Generic Siting and Design Guidance

4.1 The following section provides some generic guidance on siting renewable energy development in Midlothian, focussing on minimising landscape and visual effects and making developments an accepted feature of the environment. While it is recognised that schemes need to be sited and designed to ensure operational efficiency, this is a matter for developers, and needs to be balanced with adequate mitigation of adverse impacts. The siting and design of schemes is a key aspect of such mitigation.

4.2 All renewable energy development should aim to be sensitively sited.

- Site renewable energy development away from dramatic or rugged landforms or valued landform features. The most suitable sites are likely to be on large-scale smooth, convex or flat landforms. For example, site solar PV development on lower slopes/undulating lowlands, rather than upper slopes where they are more visually prominent.
- Select sites in a simple, regular landscape with extensive areas of consistent ground cover over a landscape with more complex or irregular land cover patterns, smaller field sizes and landscape with frequent human scale features (subject to satisfying other sensitivities).
- Seek to avoid areas with a concentration of semi-natural habitats.
- Seek to avoid renewable energy development where it could detract from the undeveloped areas free from human influence and perceived 'naturalness' or wildness (e.g. the more remote areas of moorland or mosses within the local authority).
- Consider locations in association with hard surfacing or built elements (e.g. larger business parks and reclaimed, industrial and a man-made landscape) where other landscape sensitivities are not compromised.
- Avoid siting renewable energy development on landscape with intrinsic historic landscape character significance or potential for preserved archaeological evidence (e.g. fields with a medieval historic character).
- Protect the character of conservation areas (including views integral to their character), the setting to listed buildings (where the character of the landscape is an important part of a listed building's setting), and GDLs and battlefields (including views to and from the heritage landscape, particularly designed views).

- Ensure siting of renewable energy development does not adversely affect the distinctive characteristics and special qualities of SLAs as set out in the SLA Statements of Importance.
- Significant effects on views from important viewpoints, popular tourist and scenic routes and settlements should be avoided where possible or minimised through careful siting.
- Avoid selecting sites on important undeveloped or distinctive skylines, or skylines with important cultural or historic landmark features.
- Consider the landscape effects of transmission infrastructure when siting development, aiming for sites that will minimise the need for above ground transmission infrastructure. Undergrounding cables may mitigate effects in sensitive locations.
- Consider sites where areas of existing vegetation, such as woodland or high hedgerows, or a framework of walls, could screen ground-level features of renewable energy developments (such as fencing, tracks and transformers) and solar PV panels rather than an open and unenclosed landscape. Since commercial scale wind turbines cannot be hidden, careful site selection as well as choice of turbine type and layout is the most effective way of minimising landscape and visual effects.
- Consider potential effects of transporting turbines and solar PV panels to site, and the possible limitations presented by winding narrow roads bounded by hedgerows and trees, or stone walls.
- Seek to keep developments within one landscape character type (particularly as perceived in sensitive views) so that the development does not span across marked changes in character on the ground, such as changes in topography. For example, set turbines back from breaks of slope, avoiding the effect of turbines ‘spilling’ into adjacent glens, or keep solar PV panels set back from the edges of a plateau landscape to minimise effects on the surrounding area.

Landscape enhancement

- Maximise opportunities for biodiversity enhancement and contribute towards strategic nature networks in line with NPF4, the Midlothian Local Biodiversity Action Plan and the Midlothian Nature Network Plan. Opportunities will depend on the baseline environment but may include, for example, peatland restoration or the creation of biodiverse grassland or meadow.

- Maximise habitat connectivity, by linking proposed planting with existing or proposed nature networks in proximity to the site where possible. Native tree or shrub species should be used for any planting.
- Provide enhanced management of landscape features, habitats and historic assets as part of a development, including contributing to wider landscape scale targets and projects in the Midlothian Council area.
- Setting development within an existing or enhanced landscape framework of walls, hedges, woodland/tree belts and stone walls is preferable to changing the landscape pattern.
- Screening or filtering views of development including solar PV panels and BESS is important, however letting hedgerows grow higher should only be employed where it fits with the local landscape character, and active management of hedgerows, or repair of walls, to fit with traditional approaches, should be continued.

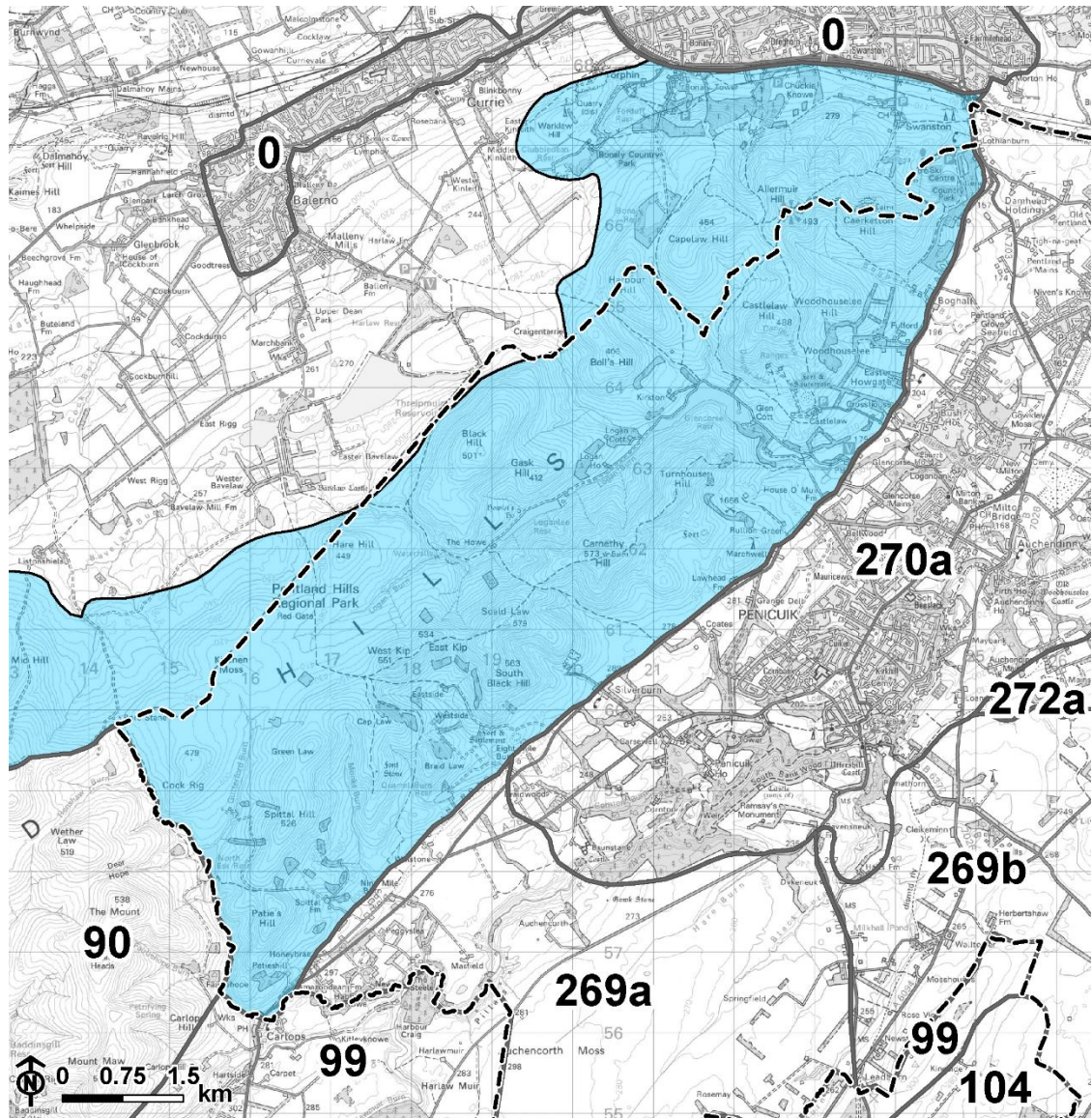
Appendix A

Landscape Sensitivity Profiles

A.1 This appendix contains the landscape sensitivity assessment profiles for the LCTs within Midlothian.

Landscape Character Type 268 Upland Hills – Lothians

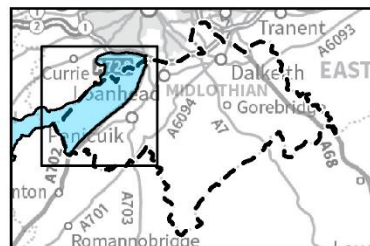
Figure A.1: Contextual map of the LCT



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Legend

- LCT268 - Upland Hills - Lothians
- Other Landscape Character Type
- Midlothian local authority boundary
- Main map frame extent



LCT landscape character overview

A.2 The Upland Hills – Lothians LCT is located in the north-west of the Midlothian local authority area. The LCT encompasses part of the Pentland Hills, which extend into the neighbouring City of Edinburgh and West Lothian local authority areas. The LSA focuses on the elements of the LCT which are within Midlothian.

A.3 The key characteristics of the LCT are described as follows (NatureScot, 2019):

- *“Visually sensitive north-facing (within Midlothian the Pentland Hills face south-east, overlooking Midlothian) escarpment overlooking Edinburgh and its predominantly flat surrounding area.*
- *Two parallel ridge lines separated by a deep internal valley.*
- *Visual containment of inner valleys and core areas.*
- *Diversity of landcover types, including heather moor, grassland, broadleaf woodland, open water and wetland.*
- *Drystone dykes and sheep stells on upper slopes.*
- *Rich variety of heritage assets, including cairns, forts and enclosures.*
- *Heavily used recreational resource, with network of footpaths and minor tracks linking important access points.*
- *Visual importance derived from dominant position within heavily populated lowland area.*
- *Forms a distinct and recognisable backdrop from many settlements within adjacent lowlands and Upland Fringes.*
- *Panoramic views from summits and ridges.”*

Designated landscapes

A.4 The whole of the LCT within Midlothian is within the Pentland Hills SLA. The reasons for designation (Midlothian LDP 2017 Supplementary Guidance – Special Landscape Areas) of relevance to the LCT are as follows:

- *“The highly scenic shapely peaks of the Pentland Hills which are seen widely across the Lothians, form key components of the landscape setting to Edinburgh and Midlothian and are also well-used for recreation.”*

Existing renewables development

A.5 There are no operational or under construction wind farms, solar PV or BESS developments in the LCT. There is a single domestic scale turbine at Spittal Farm in the south of the LCT.

A.6 Operational wind farms in neighbouring local authority areas are visible from the LCT, particularly its elevated summits. This includes a cluster of operational wind farms to the west which span the border between West Lothian and South Lanarkshire, including Harburnhead (22 turbines, 126m high), Pearie Law (6 turbines, 125m high), Pates Hill (7 turbines, 102m high), Longhill Burn (8 turbines, 200m high), Tormywheel (15 turbines, 102m high) and Muirhall (6 turbines, 125m high). Wind farms are also visible in the Moorfoot Hills to the south (in the Scottish Borders), including Bowbeat (24 turbines, 80m high) and Carcant (3 turbines, 105m high). A cluster of wind farms at Dun Law are visible to the south-east, including Dun Law (61 turbines, up to 75m high), Keith Hill (5 turbines, 76m high) and Pogbie (6 turbines, 76m high).

Figure A.2: Castlelaw Hill Fort



Figure A.3: Glencourse Reservoir



Figure A.4: North Esk Reservoir



Landscape Sensitivity Assessment

A.7 The following table sets out an assessment of sensitivity of the LCT in relation to each of the criteria set out in **Chapter 2**.

Table A.1: Landscape Sensitivity Assessment for LCT 268 Upland Hills – Lothians

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Landform and scale	<ul style="list-style-type: none"> ■ South-east facing hill slopes comprising two parallel ridgelines of “<i>highly scenic shapely peaks</i>”, separated by a deep internal valley. ■ The landform is large in scale, with the elevation of the hills (within Midlothian) ranging from approximately 250m AOD at Castlelaw to a maximum of 579m AOD at the summit of Scald Law. ■ Extensive heathland, grassland and woodland blocks reinforce the large scale character, especially on open ridges. 	High	High
Landcover (including field and settlement patterns)	<ul style="list-style-type: none"> ■ The Pentland Hills are characterised by their diversity of landcover types including moorland, grassland, broadleaf woodland, open water and wetland. ■ The primary landcover is rough grassland, with heath and heather moorland occurring near the ridgeline. Smaller tracts of broadleaf and coniferous woodland are found at irregular intervals, including in the north-east. ■ There are two SSSI sites extending into this area: Habbies Howe – Logan Burn SSSI, and North Esk valley (located near to the North Esk Reservoir). Within the North Esk valley, Gutterford Burn is geologically important for its large number of fossil species. ■ There is farmland in the lower-lying east of the area, and fields are large in scale and typically divided by stone walls or wire fences. The exception to this is in the north around Easter Howgate where fields are enclosed by hedgerows and shelterbelts. 	Medium-high	Medium-high

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Historic landscape character	<ul style="list-style-type: none"> ■ There is a rich variety of heritage assets including iron age hill forts such as Castlelaw Hill Fort, a Scheduled Monument managed by Historic Environment Scotland. ■ There are a number of Listed buildings associated with Woodhouselee estate, in the north of the area. ■ The site of the Battle of Rullion Green (1666) lies within the area and is listed on Scotland's Inventory of Historic Battlefields. 	Medium-high	Medium-high
Visual receptors	<ul style="list-style-type: none"> ■ Settlement is limited to properties and farms along the A702, particularly around Easter Howgate. There are a small number of properties and farms along Glen Corse, which separates the Pentland ridges, and properties around Eastside. ■ The area is valued for its recreational opportunities and the Pentland Hills are designated as a Regional Park, encouraging public use. A network of Core Paths provide access to its scenic and historic features. Other paths and minor roads provide vehicle access to viewpoints and small reservoirs in the area. Destination Hillend is a visitor attraction at the northern end of the area. 	High	High
Visual character (including skylines and intervisibility)	<ul style="list-style-type: none"> ■ The landscape is visually prominent from within the Lothians and Edinburgh. Its ridges and summits are visible from surrounding settlements, including adjacent lowlands and upland fringes. ■ Long, expansive and panoramic views are available from open plateaux and ridgelines, emphasising the large scale nature of the landform and reinforcing the sense of openness. 	High	High

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
	<ul style="list-style-type: none"> ■ Skylines are undeveloped, with distinct ridges and summits marking the horizons. The relative absence of vertical structures maintains the area's open and natural skyline. ■ A strong sense of enclosure is present within the internal glen and areas of woodland. In contrast, elevated hills and ridgetops are open and exposed. 		
Perceptual and scenic qualities	<ul style="list-style-type: none"> ■ The area forms part of the Pentland Hills SLA. Key reasons for this designation include the “<i>rugged and little modified character of the Pentland Hills which contributes to the distinct sense of wildness that can be experienced and contrasts with nearby urban areas</i>”. It is noted that in some areas, for example at the Castlelaw Ministry of Defence (MoD) site, the sense of wildness is reduced. ■ Perceptual characteristics are shaped by elevation, complex topography, narrow glens, and long-ranging views. These features create a sense of remoteness and tranquillity, with minimal intrusion from modern development despite the area’s proximity to urban areas. ■ The landscape has valued scenic qualities, arising from the contrast between open ridgetops, narrow glens, and the complex rolling landform at the foot of the hills, and transition to the North Esk valley. ■ The area retains a strongly natural and undeveloped character, with few modern vertical structures. 	High	High

Overall landscape sensitivity to wind energy development

A.8 The Upland Hills – Lothians LCT is of high sensitivity to all scales of wind energy development in terms of turbine tip height, including single turbines and groups of turbines. The reasoning for this is summarised below:

- The Pentland Hills form distinctive ridges with steep slopes and well-defined summits. Wind turbines located on steep slopes or at hill tops, potentially with associated lighting, would detract from these distinctive skyline features.
- There are narrow incised glens within the hills and a complex rolling landform at the foot of the hills at the transition with the North Esk valley. Although there is some visual containment in these glens and valleys, wind turbines would detract from the complex landform and dominate smaller-scale features including farmsteads and woodland.
- The Pentland Hills have a strong sense of time depth and form the setting to historical features including iron age hill forts, which increases sensitivity to wind energy development.
- The Pentland Hills provide a backdrop and setting to Edinburgh and the Lothians, and are widely intervisible with these areas. This increases sensitivity to wind energy development.
- The Pentland Hills are popular for recreation. This increases their visual sensitivity to wind energy development.
- The Pentland Hills have a strong sense of naturalness and seclusion, due to the varied landcover and lack of development. Wind turbines would detract from the experience of naturalness and remoteness.

Table A.2: Sensitivity scores to wind energy development in LCT 268 Upland Hills – Lothians

Wind Energy Development Scenario	Sensitivity Score
Small (less than 49.9m tip height)	High
Medium (50m to 99.9m tip height)	High
Large (100m to 149.9m tip height)	High
Very Large (over 150m tip height)	High

Variations in sensitivity at the LCT level

A.9 Open and elevated areas, including the ridgetops in the north and south-east of the area, have the highest sensitivity due to their rugged landform, naturalness, and intervisibility with areas of adjacent landscape.

A.10 There are smaller-scale enclosed valleys and woodland around Easter Howgate, along the Glencorse Burn and at Hillend Country Park. Fields are smaller scale and more enclosed at Easter Howgate than in the south of the area. Although vegetation would provide an opportunity to filter and screen views towards development, on balance these factors would increase sensitivity to wind energy development because wind turbines would contrast with human scale elements in the landscape.

Overall landscape sensitivity to solar PV/BESS development

A.11 The Upland Hills – Lothians LCT is of high sensitivity to all scales of solar PV/BESS development. The openness and elevation of the Pentland Hills would result in development being widely visible, to both recreational receptors in the Pentland Hills and from the wider landscape. Built development would detract from the strong sense of naturalness and seclusion experienced in many parts of the Pentland Hills.

Table A.3: Sensitivity scores to solar PV/BESS development in LCT 268 Upland Hills – Lothians

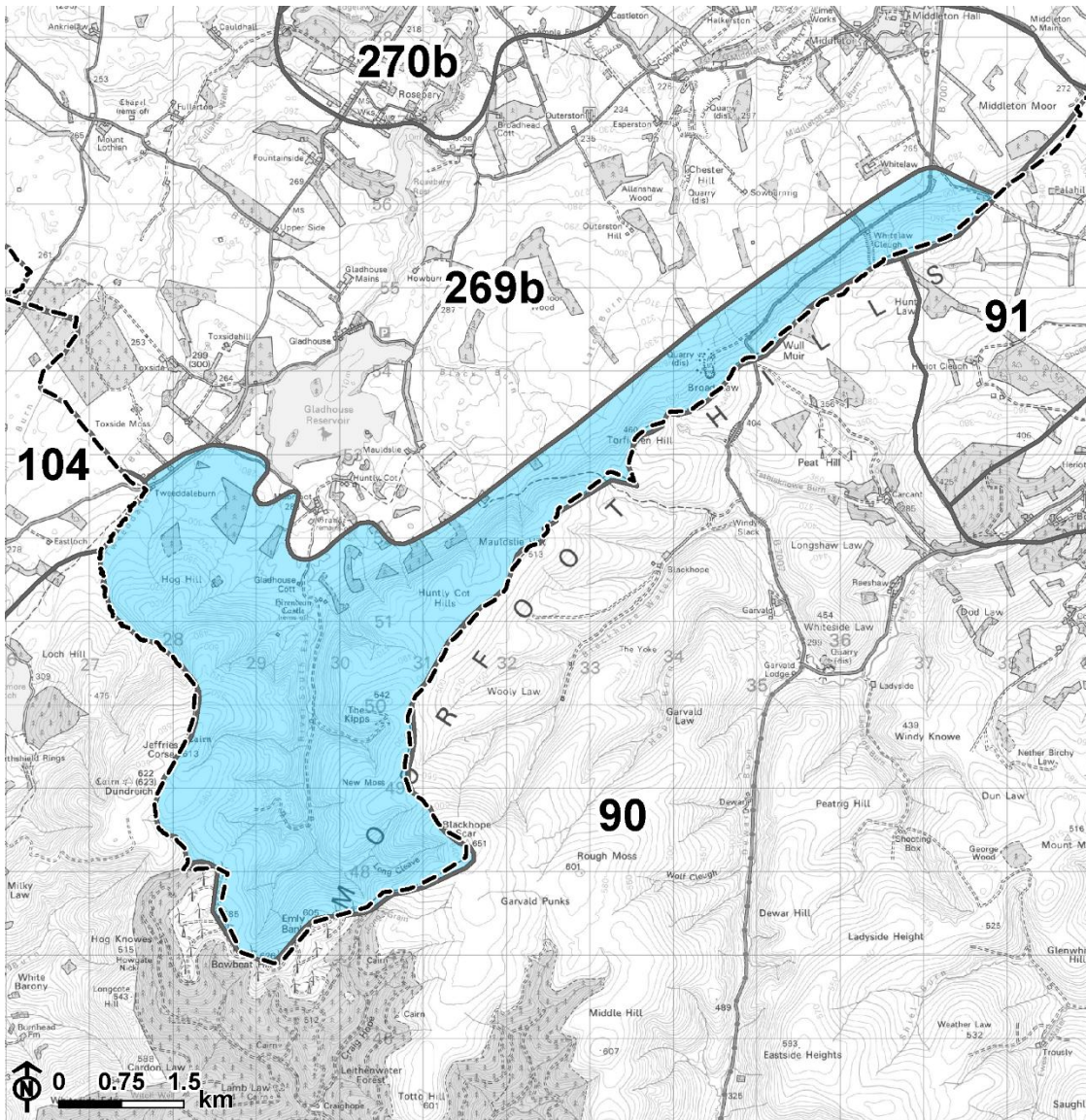
Solar PV/BESS Development Scenario	Sensitivity Score
Small (less than 4.9ha)	High
Medium (5ha to 9.9ha)	High
Large (10ha to 15ha)	High

Variations in sensitivity at the LCT level

A.12 There are smaller-scale enclosed valleys and woodland in the north of the area, around Easter Howgate, along the Glencorse Burn and at Hillend Country Park. Fields are smaller scale and more enclosed at Easter Howgate than in the south of the area. Although existing woodland and field boundary vegetation would help to integrate new development into the landscape and filter/screen views, overall sensitivity would remain high.

Landscape Character Type 266 Plateau Moorland – Lothians

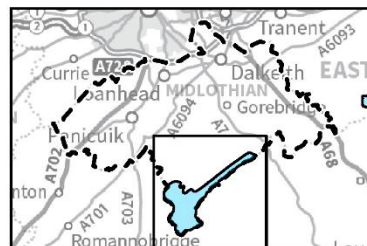
Figure A.5: Contextual map of the LCT



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Legend

- LCT266 - Plateau Moorland - Lothians
- Other Landscape Character Type
- Midlothian local authority boundary
- Main map frame extent



LCT landscape character overview

A.13 The Plateau Moorland – Lothians LCT is in the south of the Midlothian local authority area, along the boundary with the Scottish Borders. The LCT encompasses the northern edge of the Moorfoot Hills. The LCT also occurs in East Lothian along the Lammermuir Plateau. The LSA focuses on the elements of the LCT which are within Midlothian.

A.14 The key characteristics of the LCT of relevance to Midlothian are described as follows (NatureScot, 2019):

- *“Modest hills and moors forming broad plateaux with rounded.*
- *Smooth convex hill slopes dissected by a complex tracery of valley landforms which vary in scale and appearance, from minor burn narrow incised gullies to occasional wider flat-bottomed valleys of larger rivers.*
- *Medium to large scale landscape.*
- *Open upland character with sparse tree cover.*
- *Expanses of heather moorland, with rough grasses on upper slopes, with poor rough grassland and occasional improved pasture on lower slopes.*
- *Generally unenclosed, with some post and wire fences along roads and access tracks, and occasional stone sheep stells and walls around farmsteads.*
- *Sparsely inhabited, with scattered farmsteads in valleys.*
- *Historic human influences evident in the many enclosures, cairns, hill forts and stone circles.*
- *Steep north-facing scarps with spectacular panoramic views overlooking the coastal plain of Lothian to the north with views across the Firth of Forth.*
- *Forms the skyline when viewed from the lower land to the north.”*

Designated landscapes

A.15 The entirety of the LCT within Midlothian is within the Gladhouse Reservoir and Moorfoot Scarp SLA. The reasons for designation (Midlothian LDP 2017 Supplementary Guidance – Special Landscape Areas) of relevance to the LCT are as follows:

- *“The open and naturalistic character of Gladhouse Reservoir and its scenic juxtaposition with the dramatic scarp of the Moorfoot Hills and the deeply incised South Esk valley.”*

- *“The mix of trees and woodland, and well-managed farmland, moss and moorland surrounding Gladhouse Reservoir.”*
- *“Important panoramic views from the B7007 across Midlothian and the Forth Valley.”*

Existing renewables development

A.16 There are no operational or under construction wind energy, solar PV or BESS developments in the LCT.

A.17 Bowbeat Wind Farm (24 turbines, 80m high) is located along the southern boundary of the LCT within the Scottish Borders. Turbines within Bowbeat Wind Farm are visible on the skyline when viewed from lower areas of the LCT to the north. Other operational wind farms in neighbouring local authority areas are visible from the LCT, particularly its elevated summits. These include Carcant Wind Farm (3 turbines, 105m high), Falahill Farm (12 turbines, 24.9m high) and the more distant Dun Law (61 turbines, up to 75m high), Pogbie (6 turbines, 76m high) and Toddleburn (12 turbines, 125m high).

Figure A.6: The Moorfoot Hills from Blackhope Scar, with Bowbeat Wind Farm



Figure A.7: The Moorfoot Escarpment from Gladhouse Reservoir



Figure A.8: View from the B7007 looking north from the Moorfoot Escarpment towards the Pentland Hills



Figure A.9: Whitelaw Cleugh Burn (Midlothian Council)



Landscape Sensitivity Assessment

A.18 The following table sets out an assessment of sensitivity of the LCT in relation to each of the criteria set out in **Chapter 2**.

Table A.4: Landscape Sensitivity Assessment for LCT 266 Plateau Moorland – Lothians

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Landform and scale	<ul style="list-style-type: none"> ■ The LCT comprises the northern edge of the Moorfoot Hills with a steep, distinct north-west facing scarp rising from the undulating farmland to the north and transitioning into upland plateaux to the south. ■ The River South Esk rises in the Moorfoot Hills and forms a deeply incised valley running north from the Gladhouse Reservoir. ■ The landscape is medium to large in scale ranging from approximately 280m AOD near Gladhouse Reservoir to over 650m at its elevated summits in the south-west. Blackhope Scar (651m AOD) and Dundreich (622m AOD) are distinct high points in the Moorfoot Hills when viewed from the lower-lying settled farmland to the north. ■ Lower farmed hillslopes are banded with coniferous shelterbelts, and small scale coniferous plantations. 	High	High
Landcover (including field and settlement patterns)	<ul style="list-style-type: none"> ■ The landscape is generally unenclosed with some post and wire fences along roads and access tracks, and occasional stone sheep stells and walls around farmsteads. ■ There are expanses of heather moorland, with rough grasses on upper slopes. Dundreich Plateau in the upland areas of the Moorfoot Hills is a SSSI, and is biologically important as the largest and least disturbed example of upland blanket bog in Midlothian. The north-facing slopes of Torfichen Hill and Broad Law are part of a local biodiversity site. 	Medium-high	Medium-high

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
	<ul style="list-style-type: none"> ■ The plateau is dissected by steep-sided glens, including that of the River South Esk. The River South Esk and its tributaries are part of a local biodiversity site. ■ On lower slopes there is rough grassland and occasional improved pasture, typically enclosed by post and wire fences and shelterbelts. ■ Small and medium scale coniferous plantations are visually prominent on the north-facing scarp and on the lower slopes of the area, south of Gladhouse Reservoir. There are large areas of young plantation in the north-west of the area. 		
Historic landscape character	<ul style="list-style-type: none"> ■ The LCT is contains historic human influences evident in many enclosures, cairns, hill forts and stone circles. ■ Occasional circular stone sheep stells are important features of these uplands, two of which are listed structures on the lower slopes of the South Esk valley. ■ Hirendean Castle (scheduled monument) is a 16th century ruin located on a raised mound above the Hirendean Burn. 	Medium	Medium
Visual receptors	<ul style="list-style-type: none"> ■ The area is sparsely populated, with a small number of properties associated with incised glens, including Gladhouse Cottage, situated on the lower slopes of the South Esk valley. ■ The Moorfoot hills are popular with hillwalkers and there are Core Paths east of Dundreich (623m AOD) and along the lower reaches of the River South Esk, increasing visual sensitivity. 	Medium-high	Medium-high

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
	<ul style="list-style-type: none"> ■ The B7007/National Cycle Route 1 provides important panoramic views to the north, across Midlothian and the Firth of Forth. 		
Visual character (including skylines and intervisibility)	<ul style="list-style-type: none"> ■ The Moorfoot Hills form the skyline when viewed from the lower-lying settled farmland to the north. ■ The B7007 gently climbs the steep north-eastern escarpment, providing panoramic views over Midlothian to the north. ■ From the Moorfoot Hills, there are expansive, panoramic views towards the Pentland Hills and across Edinburgh towards the Firth of Forth and Fife. ■ Visual enclosure is created by narrow, incised valley of the River South Esk, offering a sense of seclusion and naturalness within the glen. ■ Turbines at Bowbeat Wind Farm are visible on the skyline when viewed from the lower slopes, reducing the sense of naturalness. 	Medium-high	Medium-high
Perceptual and scenic qualities	<ul style="list-style-type: none"> ■ The LCT forms part of the Gladhouse Reservoir and Moorfoot Scarp SLA. Key reasons for this designation include <i>“the open and naturalistic character of Gladhouse Reservoir and its scenic juxtaposition with the dramatic scarp of the Moorfoot Hills and the deeply incised South Esk valley”</i>. ■ A strong sense of naturalness and seclusion can be experienced when walking in the Moorfoot Hills. 	High	High

Overall landscape sensitivity to wind energy development

A.19 The Plateau Moorland – Lothians LCT is of high sensitivity to all scales of wind energy development in terms of turbine tip height, including single turbines and groups of turbines. The reasoning for this is summarised below:

- The LCT forms part of the Gladhouse Reservoir and Moorfoot Scarp SLA, designated for its open, naturalistic character and striking juxtaposition of the steep scarp against the reservoir and surrounding valley.
- The Moorfoot Hills form a defining skyline when viewed from the north and are widely intervisible with surrounding areas of landscape.
- The deeply cut glen of the South Esk valley provides a sense of seclusion and naturalness, though existing turbines at Bowbeat Wind Farm, which are visible on the skyline, diminish this quality to some degree.
- The landscape is generally unenclosed, characterised by expanses of heather moorland and blanket bog in upland areas and rough grasses with sparse tree cover on lower slopes. Coniferous plantations and shelterbelts provide some enclosure on lower slopes including south of Gladhouse Reservoir.
- There are narrow incised valleys within the hills and complex rolling landform at the foot of the hills at the transition with the South Esk valley. Although there is some visual containment within the valley, sensitivity to wind turbine development remains high.
- The Moorfoot Hills are popular for recreation and hill-walking, with the steep north-facing scarp, B7007/NCN Route 1 and elevated summits providing panoramic views north across Midlothian to the Firth of Forth and beyond.

Table A.5: Sensitivity scores to wind energy development in LCT 266 Plateau Moorland – Lothians

Wind Energy Development Scenario	Sensitivity Score
Small (less than 49.9m tip height)	High
Medium (50m to 99.9m tip height)	High
Large (100m to 149.9m tip height)	High
Very Large (over 150m tip height)	High

Variations in sensitivity at the LCT level

A.20 The open and elevated plateau and steep-sided scarp of the Moorfoot Hills is of higher sensitivity. This distinctive landform is prominent within the wider landscape and new wind energy development would be widely visible, with the potential to diminish the perceived scale of the hills. The narrow South Esk valley is of higher sensitivity due to its small scale landform and perceptions of naturalness and remoteness.

A.21 More settled areas of the lower slopes of the LCT are of lower sensitivity to small scale turbines (less than 49.9m high), where coniferous plantations and shelterbelts would provide opportunities to filter and screen views.

Overall landscape sensitivity to solar PV/BESS development

A.22 The Plateau Moorland – Lothians LCT is of high sensitivity to all scales of solar PV / BESS development. This is because built development would contrast with its open and naturalistic character, and would potentially be widely visible due to the elevation of the underlying hills. In lower-lying areas south of Gladhouse Reservoir built development would detract from the scenic composition.

Table A.6: Sensitivity scores to solar PV/BESS development in LCT 266 Plateau Moorland – Lothians

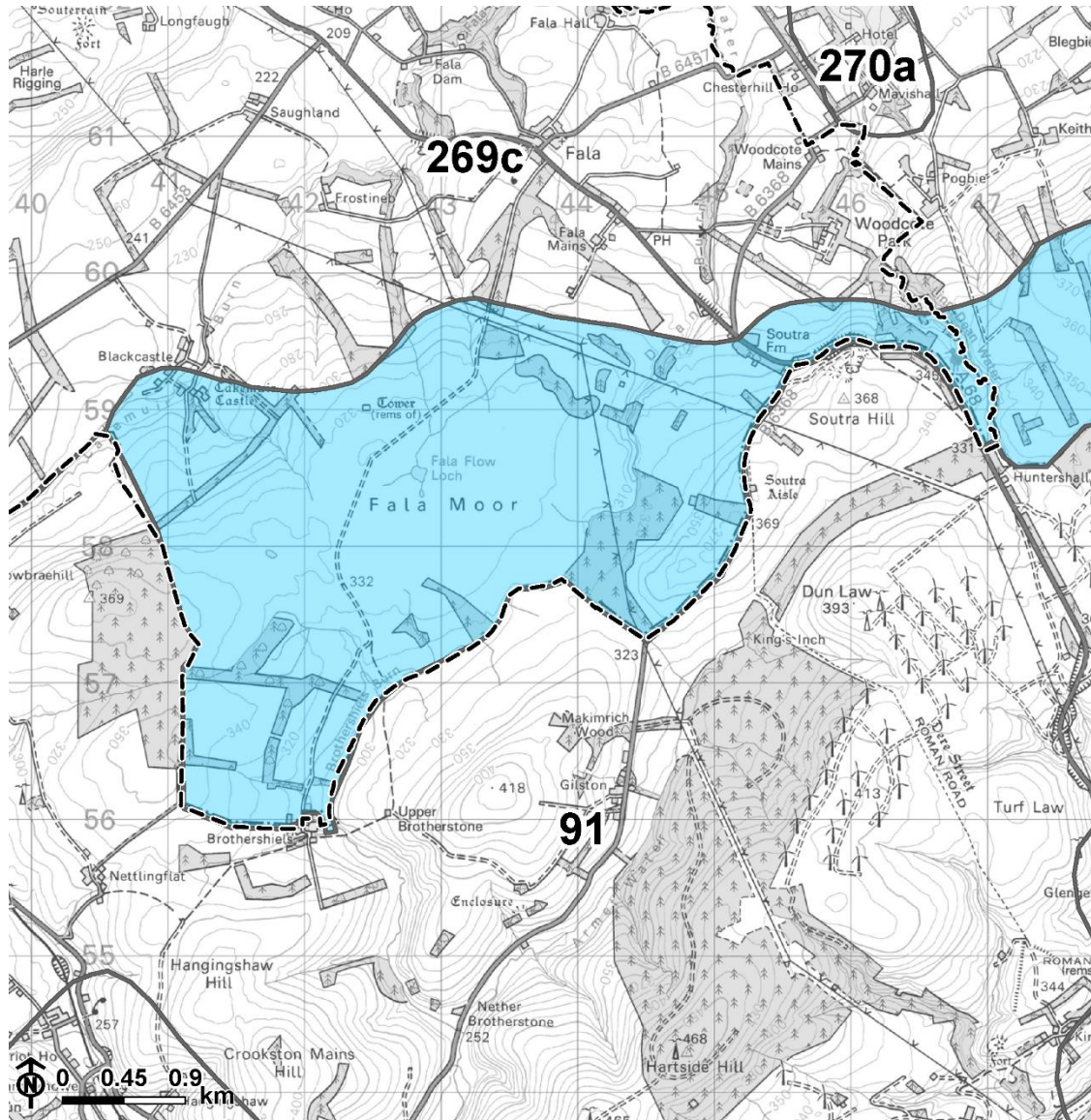
Solar PV/BESS Development Scenario	Sensitivity Score
Small (less than 4.9ha)	High
Medium (5ha to 9.9ha)	High
Large (10ha to 15ha)	High

Variations in sensitivity at the LCT level

A.23 The lower slopes of the LCT may be less sensitive to development of small scale solar PV/BESS development. Existing coniferous plantations and shelterbelts are highly visible on the scarp face and reduce perceived naturalness of the landscape. Although existing coniferous plantations would provide opportunities to filter and screen views towards development, the overall sensitivity of the LCT would remain high due to the relatively undeveloped and open nature of the landscape.

Landscape Character Type 267 Plateau Grassland – Lothians

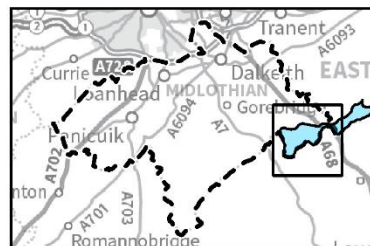
Figure A.10: Contextual map of the LCT



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Legend

- LCT267 - Plateau Grassland - Lothians
- Other Landscape Character Type
- Midlothian local authority boundary
- Main map frame extent



LCT landscape character overview

A.24 The Plateau Grasslands – Lothians LCT is in the south-east of the Midlothian local authority area, and extends into East Lothian to the east. The area encompasses Fala Moor, an open area of upland moorland forming a transition between the larger-scale uplands to the south in the Scottish Borders and the smaller-scale settled farmland in Midlothian to the north.

A.25 The key characteristics of the LCT are described as follows (NatureScot, 2019):

- *“Extensive, smooth, level moorland plateau contrasting with the encircling rounded farmed hill slopes at its edges.*
- *Numerous small stream courses, deeply incised in upper reaches.*
- *Uninterrupted, grass-flecked blanket bog and heather moorland on flat plateau.*
- *Improved pasture on hill slopes, with marshy grassland at the edges of the moorland and in damp hollows.*
- *Distinctive and abundant shelterbelts and woodland areas which are predominantly coniferous on hill slopes and along moor edges.*
- *Post and wire fence field boundaries with sparse low stone walls and hedgerows.*
- *Scattered farmsteads and minor roads and tracks on lower slopes.*
- *Diversity of landcover on hill slopes.*
- *High degree of tranquillity, except adjacent to the busy A68.*
- *Extensive unobstructed views over agricultural plains northwards and eastwards towards Edinburgh, the River Forth and the Fife coast.*
- *Forms the skyline when viewed from the lower land to the north.*
- *Simple, secluded landscape.”*

Designated landscapes

A.26 The western half of the LCT forms the Fala Moor SLA. The reasons for designation (Midlothian LDP 2017 Supplementary Guidance – Special Landscape Areas) of relevance to the LCT are as follows:

- *“The rarity of this secluded and natural upland moorland in Midlothian”;* and
- *“Extensive open views from the moor across the Lothians.”*

A.27 A small area in the east of the LCT (east of the A68) is within the Fala Rolling Farmland and Policies SLA. The reasons for designation of relevance to the LCT are as follows:

- *“The rolling landform of this landscape which is cut by densely wooded burns and strongly patterned by woodlands, hedges and roadside trees.”*

Existing renewables development

A.28 There are no operational or under construction solar PV or BESS developments in the LCT. There are two small scale wind turbines (22.9m high) located at Dere Street Farm near Soutra Mains Wood in the east of the LCT.

A.29 Operational wind farms in neighbouring local authority areas are visible from the LCT, particularly from the A68 in the east of the LCT, where it crosses to the east of Soutra Hill (368m AOD). This includes a cluster of operational wind farms which span the border between the Scottish Borders and East Lothian, comprising Dun Law Wind Farm (61 turbines, up to 75m high) in the Scottish Borders, and Pogie Wind Farm (12 turbines, 76m high) and Keith Hill Wind Farm (5 turbines, 76 m high) in East Lothian. Dun Law Wind Farm is visible from elevated areas along the southern LCT boundary, including part of the B6368 and in the south-west of the LCT.

Figure A.11: View from Dere Street Farm/B6368



Figure A.12: View of Fala Moor from North Wood



Figure A.13: View south to Dun Law Wind Farm from Fala Moor



Figure A.14: View north-east from Brothershiel Farm



Landscape Sensitivity Assessment

A.30 The following table sets out an assessment of sensitivity of the LCT in relation to each of the criteria set out in **Chapter 2**.

Table A.7: Landscape Sensitivity Assessment for LCT 267 Plateau Grassland – Lothians

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Landform and scale	<ul style="list-style-type: none"> ■ Fala Moor forms the main part and central area of this LCT. It is a relatively flat, expansive and open plateau. ■ The landform slopes upwards from Fala Moor to the gently rolling, farmed lower hillslopes of Soutra Hill (368m AOD), Brotherstone Hill (418m AOD) and Cowbraehill (369m AOD) which encircle the LCT (in the neighbouring Scottish Borders). ■ The moor forms a transition between the larger scale Lammermuir uplands to the south and the smaller scale farmland landscape of Midlothian to the north. 	Medium	Medium
Landcover (including field and settlement patterns)	<ul style="list-style-type: none"> ■ Human scale features include farmsteads on lower slopes, coniferous plantations and overhead lines, the latter of which cross the area east of Fala Moor. ■ Fala Moor itself is open and comprises an uninterrupted expanse of “<i>grass-flecked blanket bog, a regionally scarce and declining habitat type, and heather moorland</i>”. At the centre of the LCT, Fala Flow Loch occupies a “<i>minor, unobtrusive depression in the otherwise level expanse of the moor</i>”. The natural heritage value of Fala Moor is recognised through Fala Flow SPA, SSSI and Ramsar site designations. ■ Surrounding hillslopes which fringe the plateau have a diversity of land cover, including blocks of small and medium scale coniferous plantations, marshy grassland and improved pasture, separated by coniferous shelterbelts. There is a small area of arable farmland in proximity to Cakemuir Castle. Brothershiels Marsh along the Brothershiels Burn is a local biodiversity site. 	Medium-high	Medium-high

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
	<ul style="list-style-type: none"> ■ Blocks of long-established plantation woodland are present to the north of Fala Moor, with some remnants of semi-natural woodland near Cakemuir Castle. ■ The A68 trunk road and overhead lines cross the eastern part of the LCT. 		
Historic landscape character	<ul style="list-style-type: none"> ■ The remains of Fala Luggie Tower (a scheduled monument) create a visually prominent focal point against the open, uninterrupted plateau of Fala Moor. ■ Cakemuir Castle is a mid-16th century tower house in the north-west of the LCT. There are a number of listed buildings associated with the castle including the castle tower, stables and walled gardens. The castle is surrounded by ornamental planting and mature woodlands. ■ Soutra Aisle historic chapel and remains of the medieval hospital complex (a scheduled monument), lies on the south-eastern boundary of the LCT, mainly within the Scottish Borders. There is a strong visual relationship with Fala Moor and the Lothians from the B6368 at Soutra Aisle. 	Medium	Medium
Visual receptors	<ul style="list-style-type: none"> ■ Settlement in the LCT is limited to a small number of properties along the A68 and farms on the hillslopes surrounding Fala Moor (Dere Street Farm and Brothershiels Farm). ■ Fala Moor is crossed by the Fala Moor Road Core Path (part of an old road network until the mid-20th Century), which offers extensive panoramic views north towards Edinburgh and the Firth of Forth. 	Medium	Medium

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Visual character (including skylines and intervisibility)	<ul style="list-style-type: none"> ■ Fala Moor is an open and seemingly remote landscape largely contained from views from the surrounding area by landform and coniferous plantations. Areas of higher ground along the lower slopes of hills in the neighbouring Scottish Borders form the skyline when viewed from lower ground to the north. ■ Higher areas of the LCT offer extensive panoramic views north over the Lothians and the distant Firth of Forth including from the B6368 and the Core Path which crosses Fala Moor. ■ Dun Law Wind Farm, sited in the adjacent Scottish Borders, is visible on the skyline above the moor. Intervening landform and coniferous plantations provide some screening of nearby wind farms from some areas of the LCT. ■ Two overhead lines cross the east of the LCT, interrupting the otherwise undeveloped nature of the plateau. 	Medium-high	Medium-high
Perceptual and scenic qualities	<ul style="list-style-type: none"> ■ A strong sense of seclusion and naturalness is experienced in the area, particularly from Fala Moor. ■ Coniferous plantations, overhead lines and traffic along the A68 reduce perceived naturalness and tranquillity in the east of the area. 	Medium-high	Medium-high

Overall landscape sensitivity to wind energy development

A.31 The Plateau Grasslands – Lothians LCT is of high sensitivity to large and very large scales of wind energy development and medium-high sensitivity to medium scale wind energy development, in terms of turbine tip height. This includes single turbines and groups of turbines. The reasoning for this is summarised below:

- Fala Moor is sensitive to all scales of development, due to its simple composition, openness and expansiveness of the plateau.
- Fala Moor has a strong sense of naturalness and seclusion, due to the simple, expansive and uninterrupted landscape and lack of development.
- Fala Moor and the B6368 offer extensive, panoramic views north over the Lothians, towards Edinburgh and the Firth of Forth.
- The area is of high natural heritage value with the plateau of blanket bog and moorland forming a rare habitat of high ecological value, recognised by the Fala Flow SPA, SSSI and Ramsar designation.
- Historic features are pronounced against the otherwise uninhabited landscape.
- Surrounding hillslopes offer some opportunities for screening from landform, coniferous shelterbelts and plantations.

A.32 The Plateau Grasslands – Lothians LCT is of medium sensitivity to small scales of wind energy development in terms of turbine tip height. This is because the higher containing hills in the west (Cowbraehill and Brotherstone Hill) and coniferous shelterbelts would provide an opportunity to screen smaller single turbines or smaller groups of turbines.

Table A.8: Sensitivity scores to wind energy development in LCT 267 Plateau Grassland – Lothians

Wind Energy Development Scenario	Sensitivity Score
Small (less than 49.9m tip height)	Medium
Medium (50m to 99.9m tip height)	Medium-high
Large (100m to 149.9m tip height)	High
Very Large (over 150m tip height)	High

Variations in sensitivity at the LCT level

A.33 Fala Moor in the centre of the LCT is of higher sensitivity due to its open, expansive nature, sense of remoteness and natural landcover of moorland and wetland, which is underpinned by its designation as SPA, SSSI and Ramsar site.

A.34 Eastern areas of the LCT are influenced by existing overhead lines and the presence of Dun Law Wind Farm on the skyline to the east, as well as coniferous plantations which reduces perceived naturalness. Although these aspects reduce sensitivity, overall sensitivity to wind energy development remains high as the area forms a backdrop in views from lower-lying settled farmland to the north. Proximity to Soutra Aisle increases sensitivity.

A.35 Hillslopes fringing Fala Moor, such as in the south-west of the LCT are sparsely settled and contain coniferous plantations and shelterbelts. Landform and vegetation would provide an opportunity to integrate new development into the landscape and filter/screen views for smaller-scale turbines.

Overall landscape sensitivity to solar PV/BESS development

A.36 The Plateau Grasslands – Lothians LCT is of medium-high sensitivity to medium and scales of solar PV/BESS development and high sensitivity to large scales. Built development would be widely visible due to the openness of the landscape and would detract from the sense of naturalness experienced, particularly within Fala Moor. Sensitivity to small scales of development is medium because it could be more easily accommodated in the landscape, particularly in areas where the undulating landform and coniferous plantations would provide enclosure.

Table A.9: Sensitivity scores to solar PV/BESS development in LCT 267 Plateau Grassland – Lothians

Solar PV/BESS Development Scenario	Sensitivity Score
Small (less than 4.9ha)	Medium
Medium (5ha to 9.9ha)	Medium-high
Large (10ha to 15ha)	High

Variations in sensitivity at the LCT level

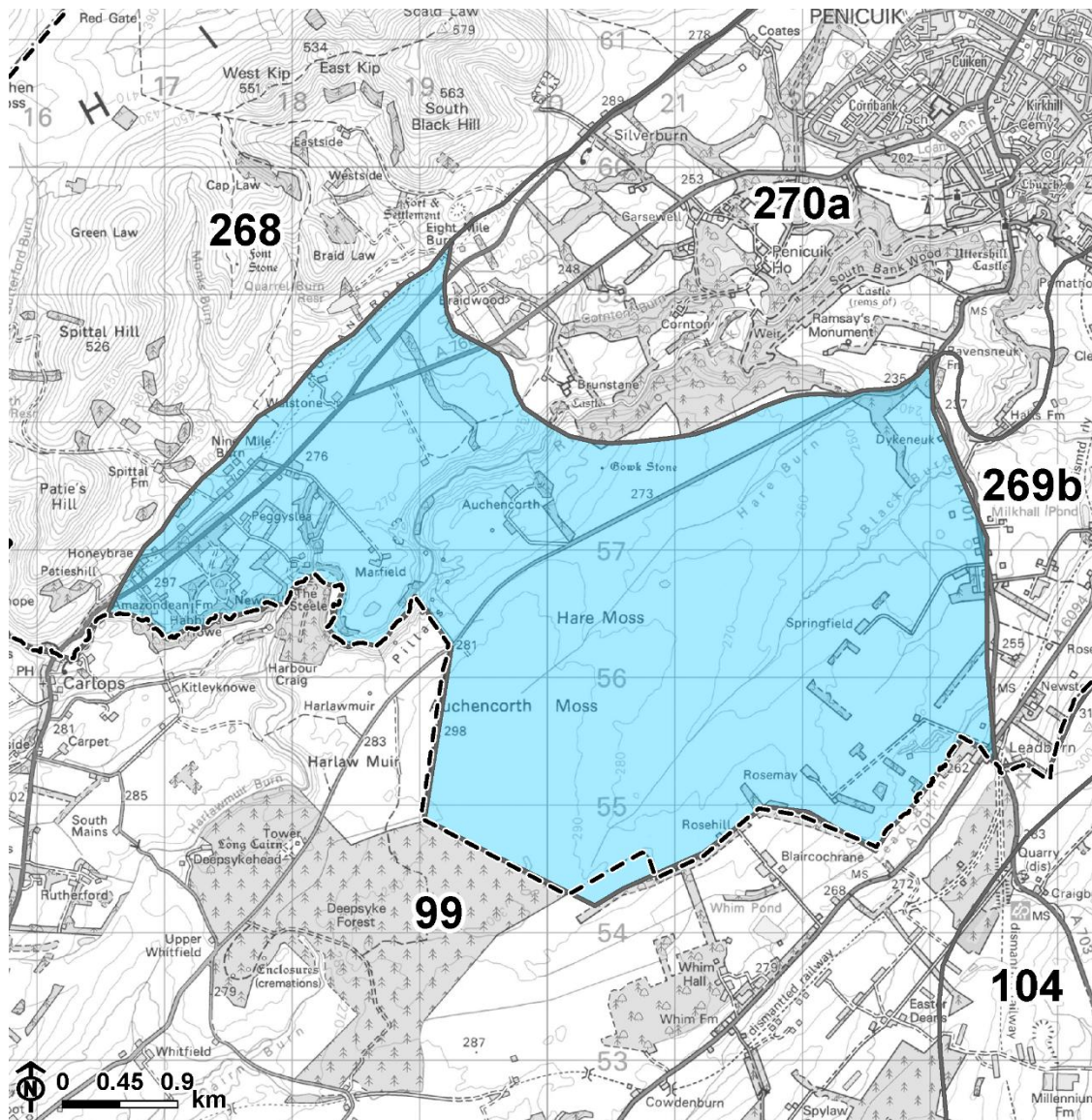
A.37 The open expanse of Fala Moor itself is of higher sensitivity to all types of development, due to its open, expansive and undeveloped character. This would be adversely affected by modern solar PV/BESS development.

A.38 Gently undulating hillslopes which surround Fala Moor offer some areas of visual containment due to landform, shelterbelts and coniferous plantations, including in the south-west of the LCT near Brothershiels Farm. These factors would decrease sensitivity to small scale solar PV and BESS development as existing features would help to integrate new development into the landscape and filter/screen views.

A.39 Although coniferous plantations and overhead lines in the east of the LCT reduce the sense of naturalness, overall sensitivity would remain high due to intervisibility with adjacent areas of landscape and proximity to Soutra Aisle.

Landscape Character Type 269 Upland Fringes – Lothians (Auchencorth)

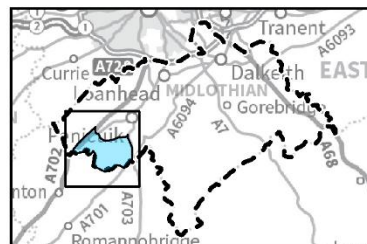
Figure A.15: Contextual map of the LCT



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Legend

- LCT269a - Upland Fringes - Lothians
- Other Landscape Character Type
- Midlothian local authority boundary
- Main map frame extent



LCT landscape character overview

A.40 The Upland Fringes – Lothians LCT comprises a smaller area located north-west of the Pentland Hills (mainly within Edinburgh and West Lothian) and a larger, more linear area that makes up much of the southern half of Midlothian. This larger area spans from west to east, forming the transition between the uplands to the south and the lowland settled farmland to the north. The LCT continues north-eastwards into East Lothian along the north side of the Lammermuir Hills.

A.41 The key characteristics of the LCT are described as follows (NatureScot, 2019):

- *“Broadly undulating landforms forming a series of smooth rounded hills and slopes, some steep-sided and some gently sloping, shelving gradually from the Uplands northward to merge with rolling farmlands.*
- *Occasional hills where underlying geology incorporates harder strata.*
- *Varied scale, openness and land use reflecting transitional nature between upland and lowland.*
- *Incised watercourses have etched v-shaped valleys into the slopes, often forming deep cleughs.*
- *Occasional larger rivers flow through similar, but larger-scale, v-shaped channels.*
- *Remnant heather moorland and rough grassland on high ground gives way to improved grassland and then to arable land on the lowest elevations, with a parallel transition from post and wire fence and walls to beech and hawthorn hedges.*
- *Some areas of extensive coniferous forest, but tree cover is more frequent in the form of shelterbelts.*
- *Deciduous woodland is restricted to steeper land in river channels, though this includes some important ancient woodlands.*
- *Dispersed settlement pattern of farmsteads and clusters of cottages, with occasional small villages.*
- *Distinctive character of rural road network, dense in places, including local features such as fords and bridges.*
- *Quarries, overhead lines and busy A roads which have localised influence in some parts of the landscape.*
- *Clearly transitional landscape between lowland and upland characters.*

- *Views across the lowland, and to the coast in the east, backed by the ridge lines of the hills to the south.”*

A.42 For the purposes of the assessment, the unit was divided into three geographically distinct areas which share common landscape characteristics: Auchencorth; North Moorfoot; and North Lammermuir. This section describes the Auchencorth area.

Designated landscapes

A.43 Auchencorth Moss is within the Pentland Hills SLA, which encompasses the hills, part of the wooded North Esk valley around Penicuik House and Auchencorth Moss.

Existing renewables development

A.44 There are no operational or under construction solar PV or BESS developments in the LCT. There are two domestic scale turbines at Springfield Farm.

A.45 Operational wind farms in neighbouring local authority areas are visible from the LCT, particularly from areas of higher ground. These include: Bowbeat (24 turbines, 80m high); Carcant (3 turbines, 105m high); and the cluster of wind farms in the western Lammermuir Hills comprising Dun Law (61 turbines, up to 75m high), Keith Hill (5 turbines, 76m high), Pogbie (6 turbines, 76m high) and Pogbie Extension (6 turbines, 74m high).

Figure A.16: Auchencorth Moss looking towards the Pentland Hills



Figure A.17: Auchencorth Moss looking towards the Moorfoot Hills



Landscape Sensitivity Assessment

A.46 The following table sets out an assessment of sensitivity of the LCT in relation to each of the criteria set out in **Chapter 2**.

Table A.10: Landscape Sensitivity Assessment for LCT 269 Upland Fringes – Lothians (Auchencorth)

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Landform and scale	<ul style="list-style-type: none"> ■ The flat and low-lying Auchencorth Moss is simple, open and expansive, which strongly contrasts with hills and their fringes in neighbouring LCTs. ■ The River North Esk runs through a deeply incised V-shaped cleugh. 	Medium-high	Medium-high
Landcover (including field and settlement patterns)	<ul style="list-style-type: none"> ■ There are frequent human scale features at the fringes of the moss where mixed farmland predominates, including farms, woodlands, and fields enclosed by hedgerows and shelterbelts. Fields are large and geometric east of Auchencorth Moss, with a more irregular pattern and greater enclosure to the west around Peggyslea. ■ Auchencorth Moss and Hare Moss lie at the heart of the area and comprise grass and heather moorland, part of which is designated as a biological SSSI and much of which is a local biodiversity site. ■ The moss is fringed with grassland, pasture and some small areas of arable farmland, with some woodland particularly in the west along the River North Esk (a local biodiversity site). ■ There is some broadleaved woodland in the west including at Habbie's Howe along the River North Esk. Habbie's Howe is both a Local Geodiversity Site and geological SSSI. 	Medium-high	Medium-high
Historic landscape character	<ul style="list-style-type: none"> ■ The North Esk valley forms the setting for Newhall GDL, which is densely wooded with ornamental gardens at its core. There are numerous listed buildings within the estate, including Newhall House. 	Medium	Medium

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Visual receptors	<ul style="list-style-type: none"> ■ There are properties and farms at the fringes of the Moss, particularly along the A701 and A702. ■ There are Core Paths around the wooded Newhall Estate, with connections into the neighbouring Pentland Hills. A small part of the LCT is within the Pentland Hills Regional Park. 	Medium	Medium
Visual character (including skylines and intervisibility)	<ul style="list-style-type: none"> ■ The wide, open, relatively flat expanses of moorland at Auchencorth Moss and Hare Moss contrast with the Pentland Hills, increasing their perceived height and creating scenic compositions. ■ These moorlands are visible from sensitive upland areas such as the Pentland Hills SLA. ■ This area is in the foreground to extensive views from the Pentland Hills. 	High	High
Perceptual and scenic qualities	<ul style="list-style-type: none"> ■ The relatively large areas of moorland at Auchencorth are unusual within the context of the lowlands and provide a sense of naturalness. ■ There are visible signs of human development in the areas of farmland either side of the moorland, including scattered settlement along the A701 and A702, where tranquillity is locally reduced. ■ Auchencorth Moss has a strong visual relationship with the Pentland Hills. 	Medium-high	Medium-high

Overall landscape sensitivity to wind energy development

A.47 The LCT is of high sensitivity to medium, large and very large scales of wind energy development and of medium-high sensitivity to small scales of wind energy development, in terms of turbine tip height. This applies to single turbines and groups of turbines.

A.48 These areas of flat to gently domed moorland are predominantly open and have an expansive scale. While these are landscape characteristics which generally reduce sensitivity to larger wind turbines, these distinctively flat, low-lying and very open moorlands are important in the contrast they provide to the Pentland Hills, which immediately backdrop them, and which rise dramatically to create a highly scenic landscape composition. The simple character of these largely uncluttered moorlands contrasts with adjacent well-settled and areas of more visually diverse landscape within Midlothian. Moorland is an unusual landscape in a lowland context, and a sense of naturalness is associated with these areas. These moorlands provide an open foreground to extensive views to and from the Moorfoot and Pentland Hills.

A.49 While larger turbines could relate to more extensive areas of subtly undulating pasture and grass moorland with a more simple and open character, the proximity of this landscape to the Pentland Hills is a key constraint, increasing sensitivity to larger typologies. This is because larger turbines would diminish the appreciation of the vertical scale and distinct profile of these hills which are viewed from this adjacent open lowland area. They would conflict with the scale of much of this landscape, which is influenced by a flat and gently falling landform, small buildings and walled fields. More complex deeply cut, scenic valleys and knolly landform form additional constraints to development.

Table A.11: Sensitivity scores to wind energy development in LCT 269 Upland Fringes – Lothians (Auchencorth)

Wind Energy Development Scenario	Sensitivity Score
Small (less than 49.9m tip height)	Medium-high
Medium (50m to 99.9m tip height)	High
Large (100m to 149.9m tip height)	High
Very Large (over 150m tip height)	High

Variations in sensitivity at the LCT level

A.50 The open and expansive moorland in the east of the area is of higher sensitivity to wind energy development due to its simple character, sense of naturalness and relationship with the Pentland Hills.

A.51 The wooded valley of the River North Esk in the west of the area is of higher sensitivity due to its distinctive deeply incised landform, proximity to the Pentland Hills, the historic character of Newhall Estate and presence of human scale features.

A.52 Farmland to the east of Auchencorth Moss is of lower sensitivity due to its relative distance from the Pentland Hills, relatively flat landform and large scale geometric fields.

Overall landscape sensitivity to solar PV/BESS development

A.53 The LCT is of medium sensitivity to small-scale solar PV/BESS development, medium-high sensitivity to medium scale development and high sensitivity to large scale development. The landscape is relatively flat with a simple composition, which reduces sensitivity to development, although the open nature and naturalness of Auchencorth Moss increases sensitivity to development. In areas of farmland, field patterns vary, with some larger scale geometric fields in the east and smaller-scale traditional field patterns in the west.

Table A.12: Sensitivity scores to solar PV/BESS development in LCT 269 Upland Fringes – Lothians (Auchencorth)

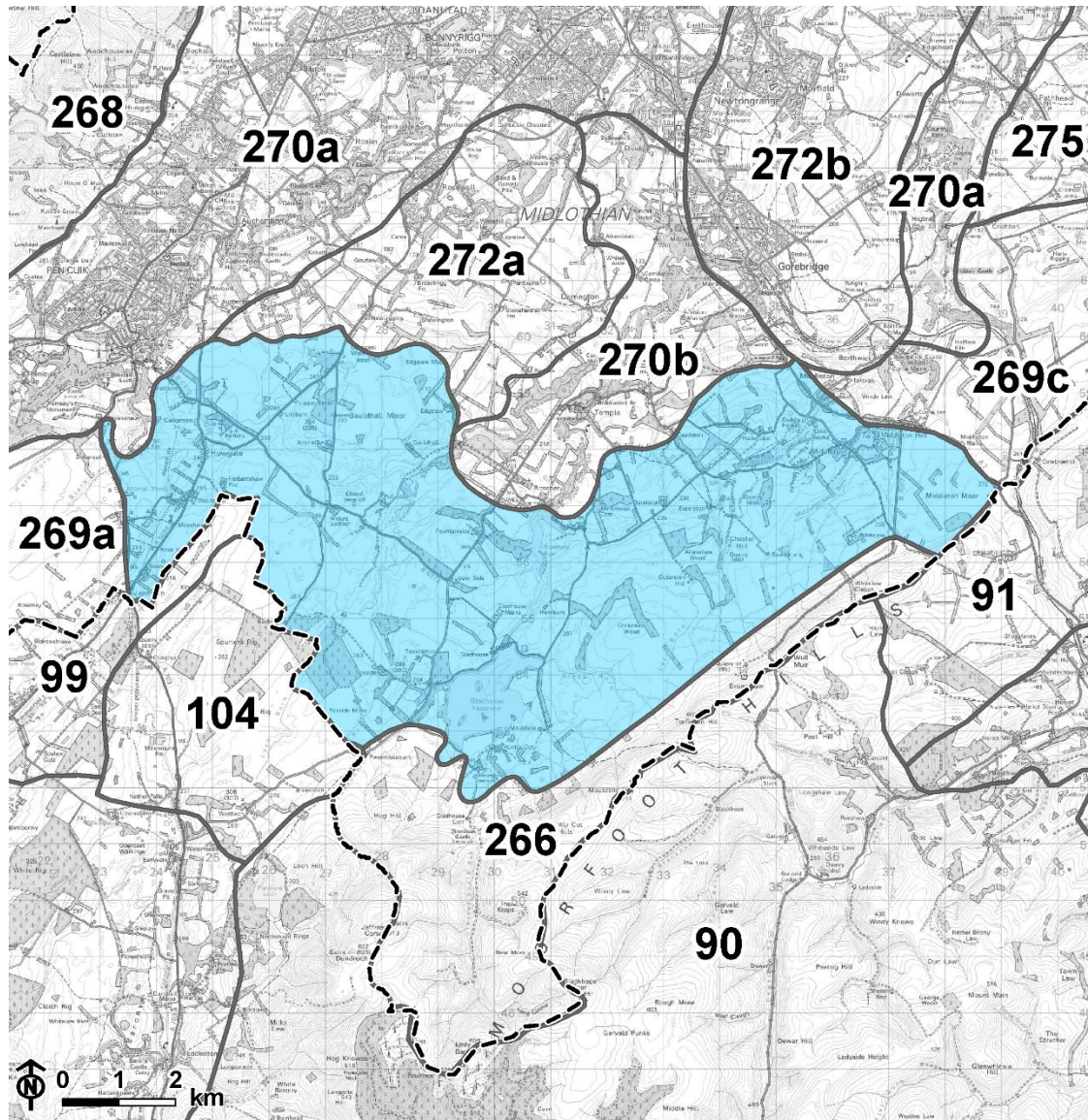
Solar PV/BESS Development Scenario	Sensitivity Score
Small (less than 4.9ha)	Medium
Medium (5ha to 9.9ha)	Medium-high
Large (10ha to 15ha)	High

Variations in sensitivity at the LCT level

A.54 Farmland to the east of Auchencorth Moss is of lower sensitivity due to its relative distance from the Pentland Hills, relatively flat landform and large scale geometric fields with occasional shelterbelts.

Landscape Character Type 269 Upland Fringes – Lothians (North Moorfoot)

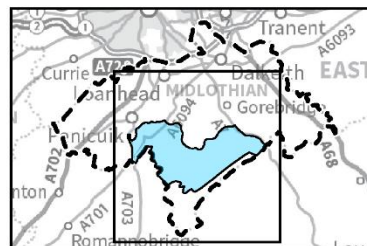
Figure A.18: Contextual map of the LCT



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Legend

- LCT269b - Upland Fringes - Lothians
- Other Landscape Character Type
- Midlothian local authority boundary
- Main map frame extent



LCT landscape character overview

A.55 The Upland Fringes – Lothians LCT comprises a smaller area located north-west of the Pentland Hills (mainly within Edinburgh and West Lothian) and a larger, more linear area that makes up much of the southern part of Midlothian. The larger area spans from west to east, forming the transition between the uplands to the south and the lowland settled farmland to the north. The LCT continues north-eastwards into East Lothian along the north side of the Lammermuir Hills.

A.56 The key characteristics of the LCT are described as follows (NatureScot, 2019):

- *“Broadly undulating landforms forming a series of smooth rounded hills and slopes, some steep-sided and some gently sloping, shelving gradually from the Uplands northward to merge with rolling farmlands.*
- *Occasional hills where underlying geology incorporates harder strata.*
- *Varied scale, openness and land use reflecting transitional nature between upland and lowland.*
- *Incised watercourses have etched v-shaped valleys into the slopes, often forming deep cleughs.*
- *Occasional larger rivers flow through similar, but larger-scale, v-shaped channels.*
- *Remnant heather moorland and rough grassland on high ground gives way to improved grassland and then to arable land on the lowest elevations, with a parallel transition from post and wire fence and walls to beech and hawthorn hedges.*
- *Some areas of extensive coniferous forest, but tree cover is more frequent in the form of shelterbelts.*
- *Deciduous woodland is restricted to steeper land in river channels, though this includes some important ancient woodlands.*
- *Dispersed settlement pattern of farmsteads and clusters of cottages, with occasional small villages.*
- *Distinctive character of rural road network, dense in places, including local features such as fords and bridges.*
- *Quarries, overhead lines and busy A roads which have localised influence in some parts of the landscape.*
- *Clearly transitional landscape between lowland and upland characters.*

- *Views across the lowland, and to the coast in the east, backed by the ridge lines of the hills to the south.”*

A.57 For the purposes of the assessment the area was divided into three geographically distinct areas which share common landscape characteristics: Auchencorth; North Moorfoot; and North Lammermuir. This section describes the North Moorfoot area.

Designated landscapes

A.58 Part of the North Moorfoot area is within the Gladhouse Reservoir and Moorfoot Scarp SLA, around Gladhouse Reservoir. The area contains smaller parts of the South Esk and Carrington Farmland SLA (south of Temple) and Tyne Water Valley SLA (at Middleton Hall).

Existing renewables development

A.59 There are no operational or under construction solar PV or BESS developments in the LCT. There is a single turbine near Loanstone (35m high).

A.60 Operational wind farms in neighbouring local authority areas are visible from the LCT, particularly from areas of higher ground. These include: Bowbeat (24 turbines, 80m high); Carcant (3 turbines, 105m high); and the cluster of wind farms in the western Lammermuir Hills comprising Dun Law (61 turbines, up to 75m high), Keith Hill (5 turbines, 76m high), Pogbie (6 turbines, 76m high) and Pogbie Extension (6 turbines, 74m high).

Figure A.19: Gladhouse Reservoir, looking towards the Moorfoot Hills



Figure A.20: Pasture at Middleton, looking towards the Moorfoot Hills (Midlothian Council)



Figure A.21: View towards the Moorfoot Hills from Cauldhall Moor



Landscape Sensitivity Assessment

A.61 The following table sets out an assessment of sensitivity of the LCT in relation to each of the criteria set out in **Chapter 2**.

Table A.13: Landscape Sensitivity Assessment for LCT 269 Upland Fringes – Lothians (North Moorfoot)

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Landform and scale	<ul style="list-style-type: none"> ■ Subtly undulating pasture and moorland with a simple and open character, lying to the north of the Moorfoot Hills. Includes the distinctive swathe of open moorland at the foot of the Moorfoot escarpment. ■ The openness of the landscape results in domestic and farm buildings being small but prominent features. ■ More complex deeply cut valley and knolly landform at Gladhouse Reservoir. ■ Smaller-scale close to the South Esk valley, where the more rolling landform and strong pattern of woodland increase containment. ■ The intimately scaled Rosebery Reservoir is strongly contained by woodland and gently folded hills. 	Medium-high	Medium-high
Landcover (including field and settlement patterns)	<ul style="list-style-type: none"> ■ There is a swathe of open moorland to the north of the Moorfoot escarpment. ■ Well managed farmland, often enclosed by stone walls. ■ More diverse landcover around Gladhouse Reservoir and the South Esk valley, comprising a mix of trees and woodland, and well-managed farmland, moss and moorland. ■ Gladhouse Reservoir has fringing wetlands, mixed woodlands and small wooded islands. 	Medium-high	Medium-high

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Historic landscape character	<ul style="list-style-type: none"> ■ The small settlement of Howgate, originally a farming community, forms part of a conservation area. ■ Middleton Hall is an 18th century country house with policy woodlands, parkland and ornamental plantings, located along a tributary of the Tyne Water. ■ Hirendeane Castle in the neighbouring LCT is a notable feature to the south of Gladhouse Reservoir. 	Medium	Medium
Visual receptors	<ul style="list-style-type: none"> ■ There is a dispersed settlement pattern of farmsteads and clusters of cottages, with occasional small villages including at Howgate and Middleton, ■ There is a network of Core Paths including around Gladhouse Reservoir, and NCN Link Route 1 passes through the area. 	Medium	Medium
Visual character (including skylines and intervisibility)	<ul style="list-style-type: none"> ■ The height and drama of the Moorfoot Hills and Pentland Hills is emphasised by their juxtaposition with this lower-lying and open landscape. ■ There are close views to wind farms associated with the upland moorland landscape to the south, including Bowbeat Wind Farm. ■ The fringes of the Moorfoot Hills scarp forms the foreground to important panoramic views to and from the hills. ■ Open and expansive views from this landscape to both the Moorfoot Hills and the Pentland Hills and across the Lothians to the Firth of Forth. 	High	High

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Perceptual and scenic qualities	<ul style="list-style-type: none"> ■ Diverse areas of heather moorland, water bodies, broadleaved woodlands/scrub, intact stone-walled pastures and an absence of recent development which contributes to the sense of naturalness and seclusion associated with parts of this landscape. ■ Gladhouse Reservoir has an open and naturalistic character and is a key focus within this landscape especially when seen together with the backdrop of the steep northern scarp of the Moorfoot Hills, cut by the glen of the upper South Esk. ■ There is small scale opencast mining north of Cauldhall Moor, although contained by woodland and has limited intervisibility with the surrounding landscape. 	High	High

Overall landscape sensitivity to wind energy development

A.62 The area is of high sensitivity to the medium, large and very large scales of wind energy development, in terms of turbine tip height. This applies to single turbines and groups of turbines. This is due to the effect turbines of this size would have on the appreciation of the perceived scale of the Pentland and Moorfoot Hills. Larger scale turbines would contrast with human scale features in the landscape including small buildings, walled fields and woodland. Larger turbines would detract from the scenic composition of parts of the landscape, particularly around Gladhouse Reservoir and the South Esk valley, affecting key views to the Moorfoot Hills.

A.63 The LCT is of medium-high sensitivity to small scale turbines, which could be accommodated in the central parts of the landscape, away from the dramatic scarp of the Moorfoot Hills. Smaller scale turbines would be less likely to diminish the perceived scale of the Moorfoot and Pentland Hills. Smaller turbines would be less likely to affect key views across Midlothian from the edge of the Moorfoot scarp.

Table A.14: Sensitivity scores to wind energy development in LCT 269 Upland Fringes – Lothians (North Moorfoot)

Wind Energy Development Scenario	Sensitivity Score
Small (less than 49.9m tip height)	Medium-high
Medium (50m to 99.9m tip height)	High
Large (100m to 149.9m tip height)	High
Very Large (over 150m tip height)	High

Variations in sensitivity at the LCT level

A.64 The swathe of open and expansive moorland at the foot of the Moorfoot Hills, to the east of Gladhouse Reservoir, is of higher sensitivity due to the context it provides to the pronounced northern scarp of the Moorfoot Hills which rises dramatically to the south. Wind turbines would detract from this scenic composition and diminish the perceived scale of the Moorfoot Hills. Wind turbines, potentially with associated lighting, would detract from the sense of naturalness experienced within this undeveloped landscape.

A.65 The areas around Gladhouse Reservoir, a very popular recreational area, and the South Esk valley are of higher sensitivity, as turbines would conflict with the intimate scale and diversity of landcover.

Overall landscape sensitivity to solar PV/BESS development

A.66 The area is of high sensitivity to medium and large scales of solar PV/BESS development. This is due to its relative lack of development and strong sense of naturalness, particularly around Gladhouse Reservoir and the swathe of moorland at the foot of the Moorfoot escarpment. Larger scales of solar PV/BESS development would introduce uncharacteristic features and have the potential to be widely visible in key views to and from the distinctive Moorfoot escarpment. The area is of medium-high sensitivity to small scale development which could use the rolling topography and woodland cover in parts of the LCT for screening.

Table A.15: Sensitivity scores to solar PV/BESS development in LCT 269 Upland Fringes – Lothians (North Moorfoot)

Solar PV/BESS Development Scenario	Sensitivity Score
Small (less than 4.9ha)	Medium-high
Medium (5ha to 9.9ha)	High
Large (10ha to 15ha)	High

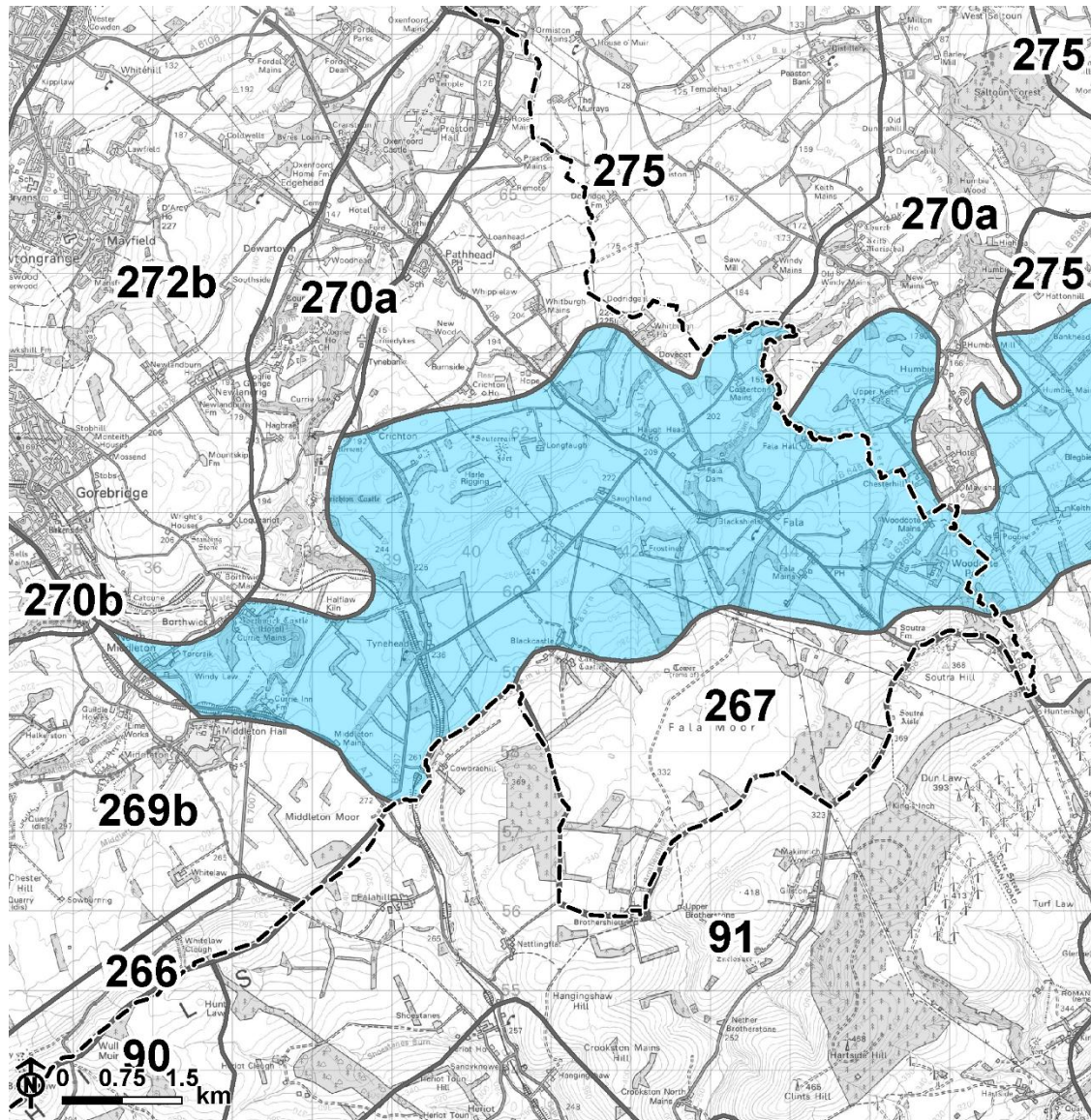
Variations in sensitivity at the LCT level

A.67 The moorland at the foot of the Moorfoot Hills is of higher sensitivity due to the context it provides to the pronounced northern scarp of the Moorfoot Hills which rises dramatically to the south. Solar PV/BESS development would introduce uncharacteristic features, detracting from the sense of naturalness experienced.

A.68 The lower-lying northern parts of the LCT are of lower sensitivity due to the rolling landform and higher proportion of woodland which provides opportunities to screen smaller-scale development.

Landscape Character Type 269 Upland Fringes – Lothians (North Lammermuir)

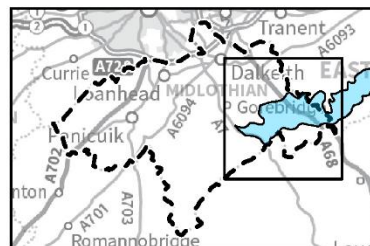
Figure A.22: Contextual map of the LCT



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Legend

- LCT269c - Upland Fringes - Lothians
- Other Landscape Character Type
- Midlothian local authority boundary
- Main map frame extent



LCT landscape character overview

A.69 The Upland Fringes – Lothians LCT comprises a smaller area located north-west of the Pentland Hills (mainly within Edinburgh and West Lothian) and a larger, more linear area that makes up much of the southern half of Midlothian. This larger area spans from west to east, forming the transition between the uplands to the south and the lowland settled farmland to the north. The LCT continues north-eastwards into East Lothian along the north side of the Lammermuir Hills.

A.70 The key characteristics of the LCT are described as follows (NatureScot, 2019):

- *“Broadly undulating landforms forming a series of smooth rounded hills and slopes, some steep-sided and some gently sloping, shelving gradually from the Uplands northward to merge with rolling farmlands.*
- *Occasional hills where underlying geology incorporates harder strata.*
- *Varied scale, openness and land use reflecting transitional nature between upland and lowland.*
- *Incised watercourses have etched v-shaped valleys into the slopes, often forming deep cleughs.*
- *Occasional larger rivers flow through similar, but larger-scale, v-shaped channels.*
- *Remnant heather moorland and rough grassland on high ground gives way to improved grassland and then to arable land on the lowest elevations, with a parallel transition from post and wire fence and walls to beech and hawthorn hedges.*
- *Some areas of extensive coniferous forest, but tree cover is more frequent in the form of shelterbelts.*
- *Deciduous woodland is restricted to steeper land in river channels, though this includes some important ancient woodlands.*
- *Dispersed settlement pattern of farmsteads and clusters of cottages, with occasional small villages.*
- *Distinctive character of rural road network, dense in places, including local features such as fords and bridges.*
- *Quarries, overhead lines and busy A roads which have localised influence in some parts of the landscape.*
- *Clearly transitional landscape between lowland and upland characters.*

- *Views across the lowland, and to the coast in the east, backed by the ridge lines of the hills to the south.*

A.71 For the purposes of the assessment the area was divided into three geographically distinct areas which share common landscape characteristics: Auchencorth; North Moorfoot; and North Lammermuir. This section describes the North Lammermuir area.

Designated landscapes

A.72 Parts of the North Lammermuir area are within the Tyne Water Valley SLA (between Crichton and the A7) and Fala Rolling Farmland and Policies SLA. A small part of Fala Moor SLA (north of Cakemuir Castle) is within the area.

A.73 The reasons for designation (Midlothian LDP 2017 Supplementary Guidance – Special Landscape Areas) of relevance to the LCT are as follows:

- Tyne Water Valley SLA:
 - *“The rich diversity of the Tyne Water Valley which is characterised by extensive designed landscapes and farmland patterned with woodlands and field trees.”*
 - *“The more naturalistic upper valleys of the Tyne and Gore Waters which provide the setting for a number of landmark historic features.”*
- Fala Rolling Farmland and Policies SLA:
 - *“The rich diversity of the Tyne Water Valley which is characterised by extensive designed landscapes and farmland patterned with woodlands and field trees.”*
 - *“The more naturalistic upper valleys of the Tyne and Gore Waters which provide the setting for a number of landmark historic features.”*

Existing renewables development

A.74 There are no operational or under construction wind farms, solar PV or BESS developments in the LCT.

A.75 Operational wind farms in neighbouring local authority areas are visible from the LCT, particularly from areas of higher ground. These include: Bowbeat (24 turbines, 80m high); Carcant (3 turbines, 105m high); and the cluster of wind farms in the western Lammermuir Hills comprising Dun Law (61 turbines, up to 75m high), Keith

Hill (5 turbines, 76m high), Pogbie (6 turbines, 76m high) and Pogbie Extension (6 turbines, 74m high).

Figure A.23: View towards Cowbraehill from Middleton Mains



Figure A.24: View towards Borthwick Parish Church (Midlothian Council)



Figure A.25: View from B6458 looking towards Dun Law Wind Farm on the horizon



Landscape Sensitivity Assessment

A.76 The following table sets out an assessment of sensitivity of the LCT in relation to each of the criteria set out in **Chapter 2**.

Table A.16: Landscape Sensitivity Assessment for LCT 269 Upland Fringes – Lothians (North Lammermuir)

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Landform and scale	<ul style="list-style-type: none"> ■ A medium scale landscape comprising a band of undulating farmland and hill slopes along the foot of the Moorfoot and Lammermuir Hills. ■ Greater complexity of landform and enclosure in the narrow incised valleys which cut through the landscape including the Middleton South Burn (a tributary of the River North Esk), Linn Dean Water and Fala Dam Burn. 	Medium-high	Medium-high
Landcover (including field and settlement patterns)	<ul style="list-style-type: none"> ■ Distinctive pattern of rolling landform, small buildings, and strongly enclosed fields (arable and pasture) with field trees and policy woodlands. ■ There is a higher proportion of woodland along the narrow valleys of burns which cut through the landscape, some of which is ancient woodland and/or local biodiversity sites. 	Medium-high	Medium-high
Historic landscape character	<ul style="list-style-type: none"> ■ Historic buildings and structures, including Borthwick Castle, form landmark features within this landscape. Borthwick Castle is part of the Borthwick and Crichton conservation area in the west of the area, which encompasses policy woodland. ■ Rich architectural heritage of mansion houses and small villages contribute to the diversity of this landscape and include Fala and Fala Dam (designated as conservation areas). ■ There is a notable circular fort at Longfaugh, east of Crichton (a scheduled monument). 	Medium-high	Medium-high

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
	<ul style="list-style-type: none"> ■ There are views to the distinctive Cakemuir Castle and Crichton Castle in the neighbouring LCTs. 		
Visual receptors	<ul style="list-style-type: none"> ■ There is a dispersed settlement pattern of farmsteads and clusters of cottages, with occasional small villages including North Middleton and Fala. ■ There is a network of Core Paths, including around Borthwick and Fala. 	Medium	Medium
Visual character (including skylines and intervisibility)	<ul style="list-style-type: none"> ■ The area provides the foreground to views to and from the Lammermuir Plateau from roads such as the A68 and from more open and elevated parts of Midlothian to the north. ■ Wind farms at Dun Law (in neighbouring local authorities) are clearly visible on the skyline of hills which back this landscape character area, including from the B6458 and from other more open and elevated areas. 	Medium-high	Medium-high
Perceptual and scenic qualities	<ul style="list-style-type: none"> ■ The area forms part of the setting of the higher Moorfoot and Lammermuir Hills. ■ The area has a sense of rural tranquillity, particularly away from the busy A68. ■ Areas in the west, around Middleton and Crichton, form part of the Tyne Water Valley SLA, which is notable for its naturalistic valleys, extensive designed landscapes with policy woodland and landmark historic features. ■ Areas in the east, around Fala, are within the Fala Rolling Farmland and Policies SLA, which is notable for its rolling landform cut by densely wooded burns and rich architectural heritage of mansion houses and small villages. 	High	High

Overall landscape sensitivity to wind energy development

A.77 The area is of medium-high sensitivity to small scale wind turbines and high sensitivity to medium, large and very large scales of wind turbines, in terms of turbine tip height. This applies to single turbines and groups of turbines. The area is characterised by an often rolling landform, small buildings, strongly enclosed fields and woodlands. More complex landform features including the narrow, incised valleys which cut through the landscape would be sensitive to wind turbine development. The area provides the foreground to extensive views to and from the Lammermuir Plateau from roads such as the A68 and from more open and elevated parts of Midlothian to the north. Larger turbines would intrude on these views and would be likely to have significant cumulative effects with established wind farms in upland landscapes to the south-east.

Table A.17: Sensitivity scores to wind energy development in LCT 269 Upland Fringes – Lothians (North Lammermuir)

Wind Energy Development Scenario	Sensitivity Score
Small (less than 49.9m tip height)	Medium-high
Medium (50m to 99.9m tip height)	High
Large (100m to 149.9m tip height)	High
Very Large (over 150m tip height)	High

Variations in sensitivity at the LCT level

A.78 More gently undulating hill slopes with a simpler land cover pattern in the central part of this landscape are of lower sensitivity. The more naturalistic wooded valleys in the east and west, with historic estate landscapes and villages are of higher sensitivity.

Overall landscape sensitivity to solar PV/BESS development

A.79 The area is of medium-high sensitivity to small scale solar PV/BESS development and high sensitivity to medium and large scales of development. The area is a tranquil, rural landscape and development would introduce uncharacteristic built elements. Development would be visible in key views to and from the Lammermuir and Moorfoot hills. Although the landscape is more wooded and incised in the east and west, which would help to screen development, solar PV/BESS development would affect the sense of intimacy and conflict with historic elements of the landscape.

Table A.18: Sensitivity scores to solar PV/BESS development in LCT 269 Upland Fringes – Lothians (North Lammermuir)

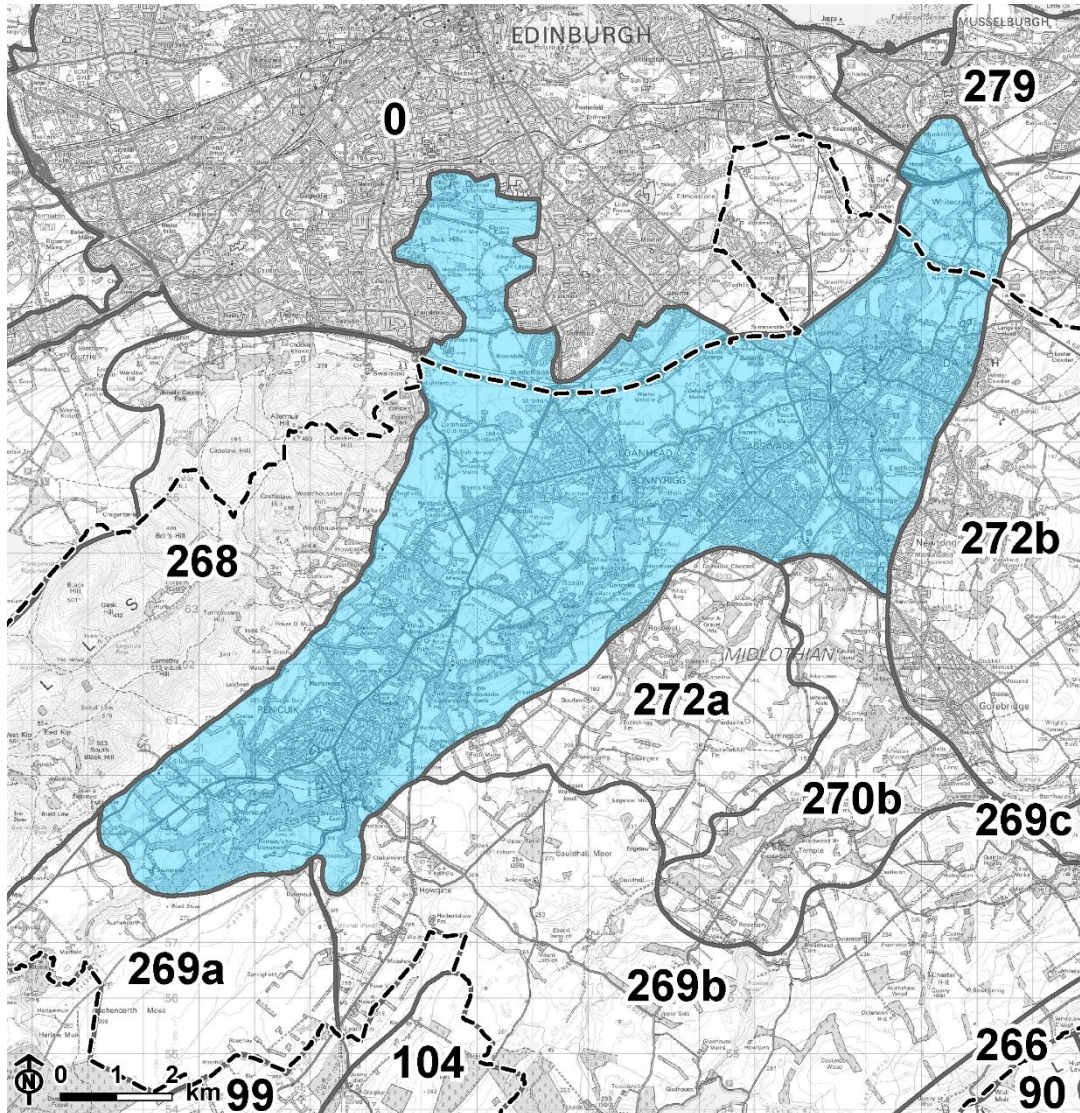
Solar PV/BESS Development Scenario	Sensitivity Score
Small (less than 4.9ha)	Medium-high
Medium (5ha to 9.9ha)	High
Large (10ha to 15ha)	High

Variations in sensitivity at the LCT level

A.80 More gently undulating hill slopes with a simpler land cover pattern in the central part of this landscape are of lower sensitivity. The more naturalistic wooded valleys in the east and west, with historic estate landscapes and villages are of higher sensitivity.

Landscape Character Type 270 Lowland River Valleys – Lothians (North Esk and Lower South Esk)

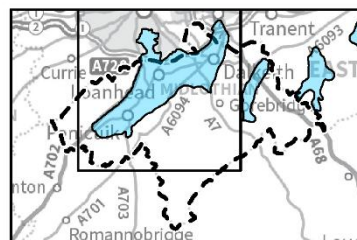
Figure A.26: Contextual map of the LCT



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Legend

- LCT270a - Lowland River Valleys - Lothians
- Other Landscape Character Type
- Midlothian local authority boundary
- Main map frame extent



LCT landscape character overview

A.81 The Lowland River Valleys – Lothians LCT is located in the northern part of Midlothian along the Rivers North Esk, South Esk and Tyne. The North Esk and Lower South Esk area is located between the Pentland Hills and the north-eastern boundary of the Midlothian local authority area. In the north-east, the LCT extends into the neighbouring City of Edinburgh and East Lothian local authority areas. The LSA focuses on the elements of the LCT which are within Midlothian.

A.82 The key characteristics of the LCT are described as follows (NatureScot, 2019):

- *“Meandering rivers and tributary streams flowing northward from the hills.*
- *Predominantly incised river valleys, enclosed and often narrow, though with landform ranging from sections of broader floodplain to very narrow gorges with distinctive rock exposures, although the lower North and South Esk are more open in character.*
- *Well wooded with extensive deciduous riparian woodland, and mature mixed policy woodlands associated with the numerous estates.*
- *Scrub and pasture within open areas of valley sides, giving way to arable land with shelterbelts on upper slopes and fringes.*
- *Large number of significant historic buildings, including vernacular cottages, 18th and 18th Century farmsteads, churches (often with highly visible spires), industrial architecture, castles and towerhouses. Large country houses, often with extensive designed landscapes.*
- *Remnants of the coal mining industry are evident around the North and South Esk, where rolling farmland, settlement, transport infrastructure, light industry and business uses, also illustrate the diversity of land uses.*
- *Views are generally contained by enclosed topography and dense woodland, opening out on the farmed and settled upper slopes which give longer distance views to the Pentland Hills to the west. Many valleys are rural and tranquil, whilst quiet and secluded locations occur within all the valleys.”*

Designated landscapes

A.83 There are two locally designated areas of landscape within the area: part of the North Esk valley around Penicuik House is within the Pentland Hills SLA, and the North Esk Valley SLA follows the course of the river between Auchendinny and Dalkeith Country Park. The reasons for designation (Midlothian LDP 2017

Supplementary Guidance – Special Landscape Areas) of relevance to the LCT are as follows:

- The Pentland Hills SLA:
 - *“The rich diversity of the upper North Esk Valley, lying at the foot of the Pentland Hills, which forms the focus for the well-wooded designed landscapes of Penicuik House and Newhall.”*
- The North Esk Valley SLA:
 - *“The densely wooded and often dramatically incised North Esk Valley which accommodates a number of designed landscapes and is of high nature conservation interest.*
 - *The rich cultural interest of this landscape and its popularity for recreation which is increased by its close proximity to urban areas.”*

Existing renewables development

A.84 There are operational solar meadows at Edinburgh College in Eskbank and at Easter Bush. There are no other operational or under construction wind energy, solar PV or BESS developments in the LCT.

A.85 There is limited visibility of wind farm development located in neighbouring authorities due to a combination of distance and the screening provided by landform and woodland.

Figure A.27: View from Roslin Chapel looking across Roslin Glen



Figure A.28: Dalkeith Country Park (Midlothian Council)



Figure A.29: View from the A702 at Silverburn with the Moorfoot Hills on the horizon



Figure A.30: View from farmland north of Bilston, looking towards the Pentland Hills



Landscape Sensitivity Assessment

A.86 The following table sets out an assessment of sensitivity of the LCT in relation to each of the criteria set out in **Chapter 2**.

Table A.19: Landscape Sensitivity Assessment for LCT 270 Lowland River Valleys – Lothians (North Esk and Lower South Esk)

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Landform and scale	<ul style="list-style-type: none"> ■ The North Esk and Lower South Esk LCT unit is characterised by deeply incised, narrow river valleys, with meandering rivers flowing northward from the hills. The valleys are more open around the North Esk. ■ Within Midlothian, elevation ranges from a maximum of approximately 300m AOD at the edge of the Pentland Hills near Eight Mile Burn to approximately 30m AOD towards the northern boundary in Dalkeith Country Park. ■ A strong sense of enclosure is created by the incised valleys, dense woodland and settlement. ■ The broader shoulders above the valleys are flatter and more open but well-developed with settlements, industrial and commercial buildings and roads infrastructure in the north-east on the fringes of Loanhead, Bonnyrigg and Lasswade. 	Medium-high	Medium
Landcover (including field and settlement patterns)	<ul style="list-style-type: none"> ■ The area is characterised by an intricate pattern of mixed policy woodlands covering steep side slopes, semi-natural riparian woodlands, small rolling pastures enclosed by hedges and occasional field trees and areas of parkland. ■ Much of the area's woodland is found in the lower valleys of the North Esk and South Esk rivers and surrounding burns. The policy woodlands are associated with a number of areas of designed landscape. 	Medium	Medium

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
	<ul style="list-style-type: none"> ■ The confined nature of this landscape, with small scale buildings and woodland providing ready scale references. The scale of the landscape increases in the north-east and north-west where there are fewer woodlands and a flatter topography. ■ In the south-west, policy woodland extends onto gently rolling small scale farmland in the upper valleys. Arable land in the north-east and north-west is larger in scale with a less intricate pattern of woodland. ■ There are four SSSI sites found within the LCT for biology. Three of the sites have value stemming from woodland (Dalkeith Oakwood, Bilston Burn, and Roslin Glen). Black Burn is noted for its fen meadow and grassland, while Dalkeith Oakwood is notable for beetles and lichen assembly. 		
Historic landscape character	<ul style="list-style-type: none"> ■ There is a strong sense of time depth in the area, with notable geological features and signs of settlement dating to medieval times in Roslin Glen. As a result of being a long-settled area, the LCT is rich with listed buildings, designated Battlefield Inventory Boundaries, designated Gardens and Designed Landscapes (GDL), conservation areas and scheduled monuments. ■ Woodlands surrounding the valleys contributes to the historic character of the area. Much of it is tied to historic estates, many of which include listed buildings or are part of designated GDLs. This includes Dalkeith House (Palace), Newbattle Abbey, Melville Castle, Mavisbank, Roslin Glen And Hawthornden Castle, and Penicuik. The estates are included in the North Esk SLA and South Esk and Carrington Farmland SLA, which recognise the cultural interest in the area and how it contributes to recreation. 	High	High

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
	<ul style="list-style-type: none"> ■ There are fewer designations of historic importance towards the western boundary of the LCT, in proximity to the Pentland Hills. There are listed buildings surrounding Glencorse. ■ Erosion in the valleys exposes geology, adding to time depth. Hewan Bank SSSI is a geological site of national importance for its Quaternary period glacial sediment deposits. Bilston Burn SSSI is recognised for its exposures showing a succession of Lower Carboniferous coal and limestone beds. 		
Visual receptors	<ul style="list-style-type: none"> ■ The most populous settlements in Midlothian sit within the boundaries of this area, including the towns of Bonnyrigg, Penicuik and Dalkeith. Settlement outside of towns is concentrated in the north-west, off of major roadways including the A768, A701, and A702. ■ A network of Core Paths connects the North Esk and South Esk river valleys including around Dalkeith Country Park. ■ Woodland within the valleys provides recreation opportunities and has natural and cultural value. The accessibility of recreation and its natural character is recognised in the Pentland Hills and North Esk Valley SLAs. 	Medium-high	Medium-high
Visual character (including skylines and intervisibility)	<ul style="list-style-type: none"> ■ The skyline is dominated by woodland within the lower valleys, creating a strong sense of visual enclosure. In the upper valley, the south-west has a more open character with patches of woodland on the skyline. In the north-west, there are no dominant features on the skyline. 	Medium-high	Medium-high

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
	<ul style="list-style-type: none"> ■ There are minimal existing vertical structures along the skyline of the area, except in the north-east where electricity transmission lines are visible. ■ There is intervisibility with the Upland Hills LCT, with the Pentland Hills forming a dramatic backdrop to the upper valley sides. Long views are available from roads, including the A702, and open arable land. ■ The North Esk and Lower South Esk valleys are visible from the Pentland Hills, including summits at lower elevation, e.g. Castle Law. ■ Views over longer distances and on to the Pentland hills are available from open farmland and the settled upper slopes of the area. ■ The landscape provides a role in preventing settlement coalescence. 		
Perceptual and scenic qualities	<ul style="list-style-type: none"> ■ Parts of the area have a strong sense of naturalness in contrast to nearby settlements and urban areas. The wooded, narrow valleys of the North Esk and South Esk have an intimate scale that contributes to a sense of tranquillity. ■ Parts of the area are urban in character. In the south-west, the area retains a more natural character, with few modern vertical structures and limited settlement. 	Medium	Medium

Overall landscape sensitivity to wind energy development

A.87 The LCT is of medium-high sensitivity to small scale wind energy development and high sensitivity to medium, large and very large scales, in terms of turbine tip height. This applies to single turbines and groups of turbines. The reasoning for this is summarised below:

- The North Esk and Lower South Esk is characterised by its complex rolling landform with meandering rivers and predominant, incised river valleys. Any wind energy development within the valleys would be highly visible. Where the valley shoulders are flatter and more open in the north, sensitivity to smaller scale turbines is reduced.
- The intricate pattern of the landcover increases sensitivity to wind energy development. In the north, where farmland is more open and the landcover pattern is less intricate, the landscape may be less sensitive to wind energy development, particularly where it can be associated with existing industrial infrastructure.
- The area has a strong sense of time depth, with geologic and historic interest found around the river valleys. Wind energy development would affect the setting of historic features.
- Skylines are relatively undeveloped, with some vertical structures in the north-east. There is intervisibility with the Upland Hills LCT and long-distance views in the upper valleys. This increases sensitivity to wind development.
- The North Esk and Lower South Esk are popular for recreation, increasing sensitivity to wind energy development.
- The tranquil, intimate and natural perception of the North Esk and South Esk river valleys would be highly sensitive to the development of wind energy.

Table A.20: Sensitivity scores to wind energy development in LCT 270 Lowland River Valleys – Lothians (North Esk and Lower South Esk)

Wind Energy Development Scenario	Sensitivity Score
Small (less than 49.9m tip height)	Medium-high
Medium (50m to 99.9m tip height)	High
Large (100m to 149.9m tip height)	High
Very Large (over 150m tip height)	High

Variations in sensitivity at the LCT level

A.88 The lower valleys of the North Esk and South Esk are of higher sensitivity due to their complex landform, recreational value and intervisibility with surrounding landscapes.

A.89 Sensitivity is lower in the north of the area which has a more developed character than the surrounding landscape, with an urban fringe function.

Overall landscape sensitivity to solar PV/BESS development

A.90 The LCT is of high sensitivity to medium and large scales of solar PV/BESS development and of medium sensitivity to small scales. The reasoning for this is summarised below:

- The North Esk and Lower South Esk part of the Lowland Valleys – Lothian LCT is characterised by its enclosed nature from narrow valleys and meandering rivers, resulting in a high sensitivity to PV/BESS development. The upper slopes of the North Esk that border the Upland Hills LCT are visible from surrounding settlements, increasing its sensitivity to development.
- The intricate pattern of the landcover increases sensitivity to wind energy development. In the north, where farmland is more open and the landcover pattern is less intricate, the landscape may be less sensitive to solar PV/BESS development, particularly where it can be associated with existing industrial infrastructure.
- The LCT has a strong sense of time depth, with geologic and historic interest found around the river valleys. The numerous, designated estates are highly valued for their natural and historic interest. Solar PV/BESS development would reduce the sense of time depth and affect the setting of historic sites.
- The wooded river valley's intimate and natural perception would be affected by solar PV/BESS development. The river valleys are valued for their tranquillity despite proximity to urban areas.
- Skylines are relatively undeveloped, with some vertical structures in the north-east. There is intervisibility with the Upland Hills LCT and long-distance views in the upper valleys. This increases sensitivity to PV/BESS development.
- The tranquil character of the area would cause it to be highly sensitive to development. The strong sense of naturalness in the area contrasts the surrounding settled and urban areas. The area is highly valued for the ease of access to recreation it provides to nearby settlements. This increases the area's sensitivity to solar PV/BESS.

Table A.21: Sensitivity scores to solar PV/BESS development in LCT 270 Lowland River Valleys – Lothians (North Esk and Lower South Esk)

Solar PV/BESS Development Scenario	Sensitivity Score
Small (less than 4.9ha)	Medium
Medium (5ha to 9.9ha)	High
Large (10ha to 15ha)	High

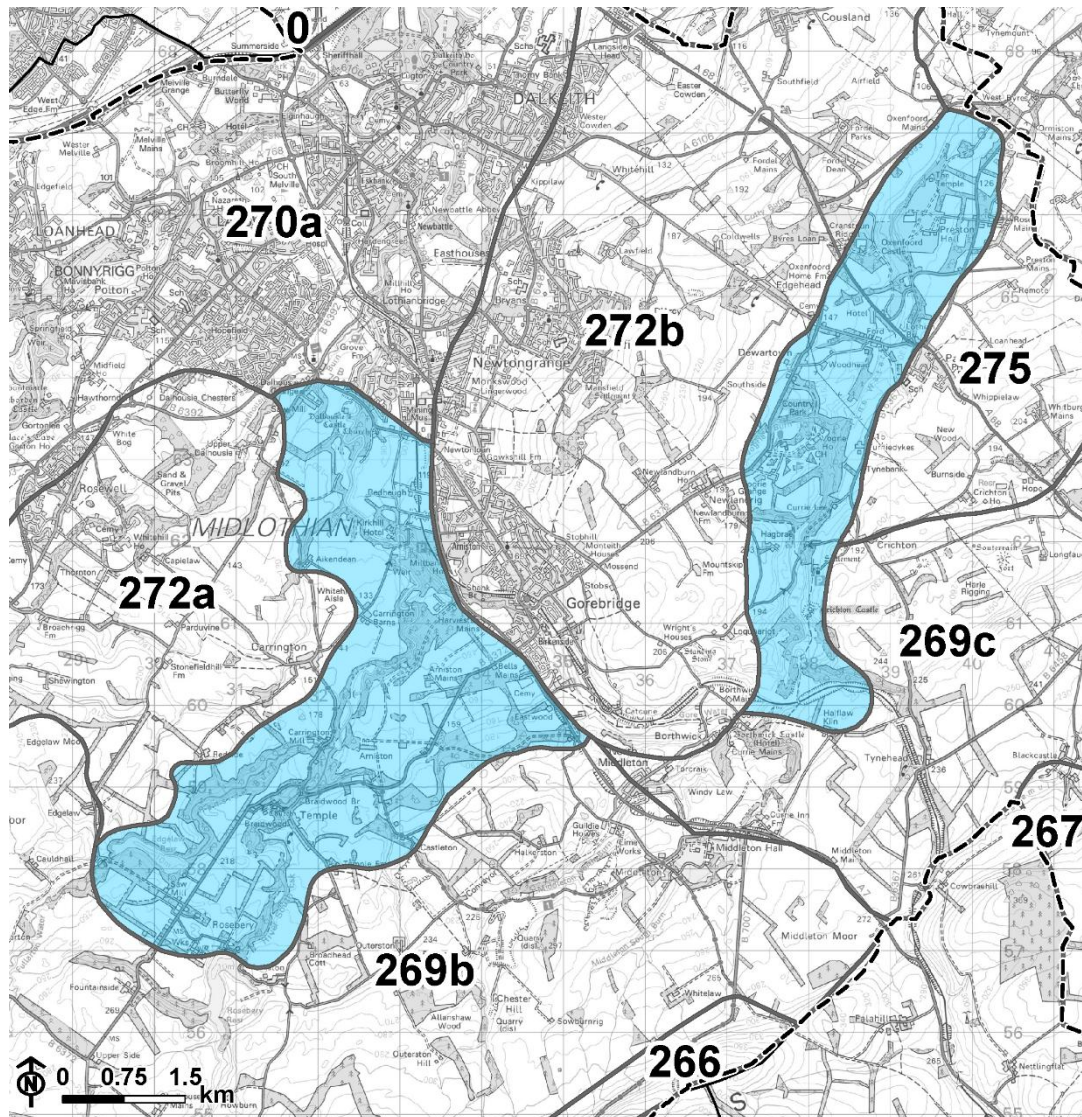
Variations in sensitivity at the LCT level

A.91 The lower valleys of the North Esk and South Esk are of higher sensitivity due to their complex landform, recreational value and intervisibility with surrounding landscapes.

A.92 Sensitivity is lower in the north of the area which has a more developed character than the surrounding landscape, with an urban fringe function.

Landscape Character Type 270 Lowland River Valleys – Lothians (Upper South Esk and Tyne Valley)

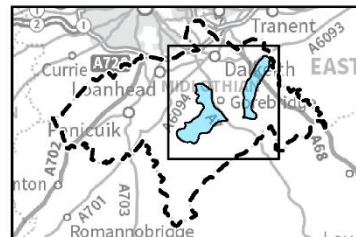
Figure A.31: Contextual map of the LCT



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Legend

- LCT270b - Lowland River Valleys - Lothians
- Other Landscape Character Type
- Midlothian local authority boundary
- Main map frame extent



LCT landscape character overview

A.93 The Lowland River Valleys – Lothians LCT is located in the northern part of Midlothian along the Rivers North Esk, South Esk and Tyne. The LSA focuses on the Upper South Esk and Tyne valley areas. This area encompasses the upper South Esk and Tyne valleys which are entirely within Midlothian.

A.94 The key characteristics of the LCT are described as follows (NatureScot, 2019):

- *“Meandering rivers and tributary streams flowing northward from the hills.*
- *Predominantly incised river valleys, enclosed and often narrow, though with landform ranging from sections of broader floodplain to very narrow gorges with distinctive rock exposures, although the lower North and South Esk are more open in character.*
- *Well wooded with extensive deciduous riparian woodland, and mature mixed policy woodlands associated with the numerous estates.*
- *Scrub and pasture within open areas of valley sides, giving way to arable land with shelterbelts on upper slopes and fringes.*
- *Large number of significant historic buildings, including vernacular cottages, 18th and 18th Century farmsteads, churches (often with highly visible spires), industrial architecture, castles and towerhouses. Large country houses, often with extensive designed landscapes.*
- *Remnants of the coal mining industry are evident around the North and South Esk, where rolling farmland, settlement, transport infrastructure, light industry and business uses, also illustrate the diversity of land uses.*
- *Views are generally contained by enclosed topography and dense woodland, opening out on the farmed and settled upper slopes which give longer distance views to the Pentland Hills to the west. Many valleys are rural and tranquil, whilst quiet and secluded locations occur within all the valleys.”*

Designated landscapes

A.95 The Upper South Esk and Tyne valley areas contain two SLAs: South Esk and Carrington Farmland SLA, and the Tyne Water Valley SLA. The reasons for designation (Midlothian LDP 2017 Supplementary Guidance – Special Landscape Areas) of relevance to the LCT are as follows:

- South Esk and Carrington Farmland SLA:

- *“The densely wooded South Esk Valley which accommodates a number of designed landscapes and is of high nature conservation interest.”*
- Tyne Water Valley SLA:
 - *“The rich diversity of the Tyne Water Valley which is characterised by extensive designed landscapes and farmland patterned with woodlands and field trees.*
 - *The more naturalistic upper valleys of the Tyne and Gore Waters which provide the setting for a number of landmark historic features.”*

Existing renewables development

A.96 There are no operational or under construction wind farms, solar PV or BESS developments in the LCT.

A.97 There is limited visibility of wind farm development located in neighbouring areas due to the screening provided by landform and woodland although Dun Law Wind Farm (61 turbines, up to 75m high) in the Plateau Grassland LCT is visible from more open upper valley sides.

Figure A.32: View to Crichton Castle across the wooded Tyne Valley



Figure A.33: Farmland and coniferous plantations above Temple



Figure A.34: Preston Hall Gates



Landscape Sensitivity Assessment

A.98 The following table sets out an assessment of sensitivity of the LCT in relation to each of the criteria set out in **Chapter 2**.

Table A.22: Landscape Sensitivity Assessment for LCT 270 Lowland River Valleys – Lothians (Upper South Esk and Tyne Valley)

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Landform and scale	<ul style="list-style-type: none"> ■ The upper valleys of the South Esk and Tyne Water are characterised by a predominantly incised valley landform, with meandering rivers flowing northwards from the hills. ■ The valleys of the South Esk and Tyne Water have a complex, knolly landform that borders gentler farmed slopes with extensive areas of policy landscape with woodland and parkland, creating a small scale and a strong sense of enclosure. ■ Within Midlothian, elevation ranges from approximately 250m AOD in the south near Temple to approximately 90m AOD towards the northern boundary near Newtongrange. 	High	Medium-high
Landcover (including field and settlement patterns)	<ul style="list-style-type: none"> ■ The small scale of this character type is reinforced by the steep valley sides, strong field patterns, woodlands, and small settlements. ■ The South Esk and Tyne Water valleys are characterised by significant areas of policy woodland and parkland in its valleys, with farmland on the upper sides of the valley. Many of the woodlands and parklands are associated with designed landscapes. ■ The farmed upper sides of the valleys are less contained by landform but have a strong enclosure pattern with many woodlands and mature field trees. At the southern boundary of the area, the Edgelaw Reservoir is densely forested and secluded from surrounding farmland. 	Medium-high	Medium-high

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Historic landscape character	<ul style="list-style-type: none"> ■ Large parts of the area are conservation areas, designated by Midlothian for their historic and architectural interest. The largest of these areas are Temple and Arniston, Borthwick and Crichton, and Pathhead and Ford, which contribute to a strong sense of time depth. ■ There are three designated GDLs: Arniston, Oxenfoord Castle and Prestonhall. There are a number of listed buildings associated with these areas of landscape that further contribute to the historic character of the area. ■ There are three scheduled monuments that contribute to time depth, including the 14th century Crichton Castle which occupies a strategic position on the upper side of the Tyne valley. 	High	High
Visual receptors	<ul style="list-style-type: none"> ■ There is a dispersed settlement pattern with occasional small villages including at Temple. ■ A network of Core Paths connect the river valleys and provide access to historic estates, providing recreational value, including within Vogrie Country Park. 	Medium	Medium
Visual character (including skylines and intervisibility)	<ul style="list-style-type: none"> ■ There is limited intervisibility within the enclosed valleys, although long-distance views towards the Pentland Hills, Moorfoot Hills and Mayfield Ridge are available through gaps in roadside vegetation on the upper valley sides. There is intervisibility between the Moorfoot Hills and Crichton, and between Pathhead and across the Tyne valley. ■ Views over the Tyne valley are available from elevated settlements in the neighbouring LCT 272 and the A68. 	High	High

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
	<ul style="list-style-type: none"> ■ Strong visual enclosure is created by the valleys and woodlands of this LCT, giving it a confined nature. Skylines are dominated by woodland and largely undeveloped. ■ There is some existing development on the skyline including electricity transmission lines which cross the Tyne Water valley. 		
Perceptual and scenic qualities	<ul style="list-style-type: none"> ■ The combination of landform, historic features and woodland found throughout the LCT gives it a tranquil and remote quality. ■ The intimate scale created by the valleys and woodlands is referenced in both the SLAs as a valued quality of the LCT. This adds to its tranquil character. ■ The farmlands within the LCT have a strong rural character, which is amplified by the mature oak and ash trees aligning fields and roadside boundaries. Stone walls add to this rural character. ■ There is a contrast between the rural and historic character of the LCT and the developed settlements in neighbouring LCTs, including Newtongrange and Lasswade. 	High	High

Overall landscape sensitivity to wind energy development

A.99 The LCT is of high sensitivity to all scales of wind energy development, in terms of turbine tip height. This applies to single turbines and groups of turbines. The reasoning for this is summarised below:

- The Upper South Esk and Tyne valleys have a strong sense of enclosure and a complex, knolly landform with steep valleys with border gentler, farmed slopes. Wind turbines would dominate the small scale of this landform.
- The intricate pattern of the landcover – including policy woodlands covering steep side slopes, semi-natural riparian woodlands, and small rolling pastures enclosed by hedges – increases sensitivity to wind energy development. Wind turbines of any size would conflict with the LCTs characteristic small scale features.
- The LCT is notable for its historic character, resulting from designed landscapes with associated policy woodlands, historic settlements and scheduled monuments. Wind energy development would detract from the setting of these historic features.
- The Upper South Esk and Tyne valleys are popular for recreation, which increases the sensitivity of the LCT.
- There is a strong perception of contrast between the tranquillity in the valleys and the ruralness of the farmland on its upper sides. Wind turbines, potentially with associated lighting, would detract from the relative tranquillity.

Table A.23: Sensitivity scores to wind energy development in LCT 270 Lowland River Valleys – Lothians (Upper South Esk and Tyne Valley)

Wind Energy Development Scenario	Sensitivity Score
Small (less than 49.9m tip height)	High
Medium (50m to 99.9m tip height)	High
Large (100m to 149.9m tip height)	High
Very Large (over 150m tip height)	High

Variations in sensitivity at the LCT level

A.100 LCT 270 – The valleys immediately surrounding the South Esk and Tyne rivers have the highest sensitivity due to their steep, complex landform, small scale, tranquillity and historic estates.

Overall landscape sensitivity to solar PV/BESS development

A.101 LCT 270 Lowland River Valleys – Lothians (South Esk and Tyne Valleys) is of high sensitivity to medium and large scale solar PV/BESS development and medium-high sensitivity to small scales of development. The reasoning for this is summarised below:

- The Upper South Esk and Tyne valleys have a strong sense of enclosure and a complex, knolly landform with steep valleys with border gentler, farmed slopes. The small scale, intimate nature of this landform increases sensitivity to solar PV/BESS.
- The intricate landcover pattern – including policy woodlands and small, irregular rolling pastures – further contribute to a small scale. This increases sensitivity as solar PV/BESS may dilute the historic settlement patterns.
- The historic nature of this landscape, with its number of designed landscapes and associated listed buildings and policy woodlands, results in a high sensitivity to solar PV/BESS. Development would create a modern contrast that reduces this character.
- While there is limited intervisibility between this LCT and surrounding areas of landscape, where the undeveloped skylines within the landscape form a backdrop to the historic estates and tranquil river valleys there is a higher sensitivity to solar PV/BESS development.
- The Upper South Esk and Tyne valleys are popular for recreation, which increases the sensitivity of the LCT.
- There is a strong perception of naturalness within the Upper South Esk and Tyne valleys, due to an enclosed landform and significant woodland. Solar PV/BESS would detract from this perception of naturalness.

Table A.24: Sensitivity scores to solar PV/BESS development in LCT 270 Lowland River Valleys – Lothians (Upper South Esk and Tyne Valley)

Solar PV/BESS Development Scenario	Sensitivity Score
Small (less than 4.9ha)	Medium-high
Medium (5ha to 9.9ha)	High
Large (10ha to 15ha)	High

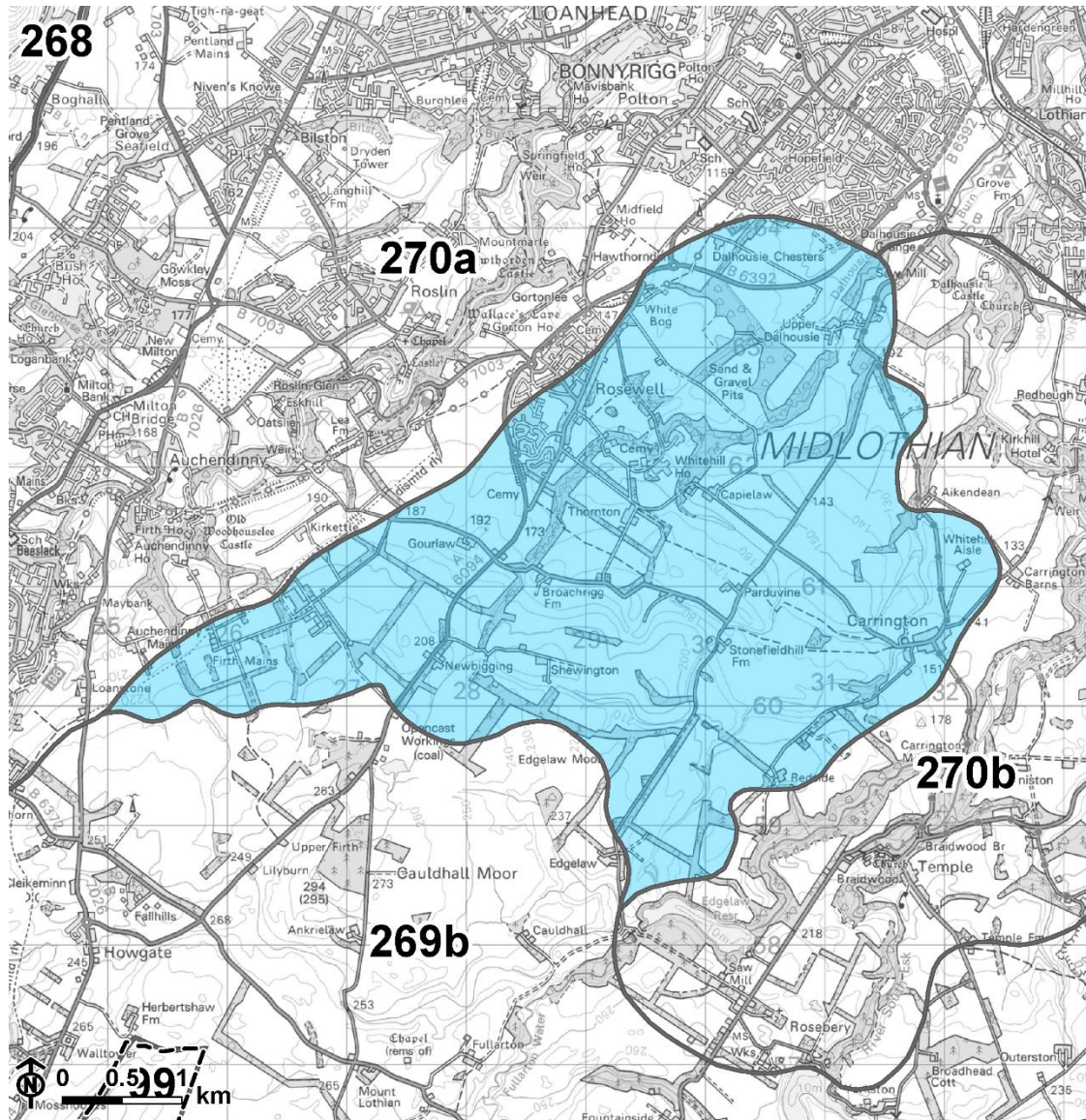
Variations in sensitivity at the LCT level

A.102 The valleys immediately surrounding the South Esk and Tyne rivers are of higher sensitivity due to their steep, complex landform, small scale, tranquillity and historic estates.

A.103 The farmland in the south-west of the LCT surrounding Edgelaw Reservoir is of lower sensitivity due to screening provided by woodland and limited intervisibility with historic landscapes and neighbouring character types.

Landscape Character Type 272 Lowland Hills and Ridges – Lothians (Rosewell Carrington Spur)

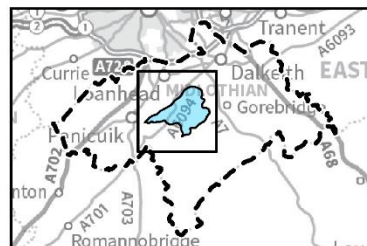
Figure A.35: Contextual map of the LCT



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Legend

- LCT272a - Lowland Hills and Ridges - Lothians
- Other Landscape Character Type
- Midlothian local authority boundary
- Main map frame extent



LCT landscape character overview

A.104 The Lowland Hills and Ridges – Lothians LCT is located in the centre and north-east of Midlothian, and separates the valleys of the Rivers North Esk, South Esk and Tyne. The LSA focuses on the Rosewell Carrington Spur area of the Lowland Hills and Ridges – Lothians LCT. This area is located in the centre of the Midlothian local authority area.

A.105 The key characteristics of the LCT are described as follows (NatureScot, 2019):

- *“Hills with distinctive profiles and occasional rock outcrops.*
- *Arable landcover giving way to pasture and some areas of rough grazing on the highest ground.*
- *Small farm woodlands and mixed shelterbelts, with deciduous woodlands along steeper slopes...*
- *Small traditional villages within the hills, characterised by local stone...*
- *Hill forts and other historical features create time depth in the landscape, with a more recent legacy of quarrying in certain areas.*
- *Recreational access to hilltop viewpoints and landmarks.*
- *Visual focal points from the surrounding landscapes, providing outward views over the plains, and beyond.”*

Designated landscapes

A.106 The eastern part of the area is within the South Esk Valley and Carrington Farmland SLA. The reasons for designation (Midlothian LDP 2017 Supplementary Guidance – Special Landscape Areas) of relevance to the area are as follows:

- *“The surrounding farmland [of the densely wooded South Esk Valley] is largely open, gently rolling and sparsely settled, patterned with extensive policy woodlands and field trees.”*

Existing renewables development

A.107 There are no operational or under construction wind farms, solar PV or BESS developments in the LCT.

A.108 Operational wind farms in neighbouring local authority areas are visible from the LCT; particularly from roads above open farmland. A cluster of wind farms at Dun Law are visible to the south-east, including Dun Law (61 turbines, up to 75m high), Keith Hill (5 turbines, 76m high) and Pogbie (6 turbines, 76m high).

Figure A.36: View from Minor Road above Carrington, looking across the South Esk Valley towards the Mayfield Ridge



Figure A.37: View from the Minor Road near Gourlaw, looking towards the Pentland Hills



Landscape Sensitivity Assessment

A.109 The following table sets out an assessment of sensitivity of the LCT in relation to each of the criteria set out in **Chapter 2**.

Table A.25: Landscape Sensitivity Assessment for LCT 272 Lowland Hills and Ridges – Lothians (Rosewell Carrington Spur)

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Landform and scale	<ul style="list-style-type: none"> ■ An elevated area between the North and South Esk rivers, with an open, softly rolling landscape that becomes more undulating in the south-west. ■ There are steeper slopes along tributary burns of the River North Esk, including along the wooded Dalhousie Burn. ■ The landform is small in scale, with a gradually increasing elevation that ranges from approximately 102m AOD at the northern edge of the LCT near Upper Dalhousie to over 240m AOD at the southern border near Newbigging. 	Medium-high	Medium
Landcover (including field and settlement patterns)	<ul style="list-style-type: none"> ■ The LCT is characterised by its predominantly arable landcover with some smaller areas of pasture. ■ The small scale of the landscape is amplified by human scale features including areas of woodland and hedgerows. ■ Dalhousie and Shiel Burn, which connect and run the central length of the LCT, are surrounded by dense, long-established woodlands. ■ Open fields in the east of the LCT are medium to large in scale, with woodland creating a stronger sense of enclosure around smaller fields to the north and west. 	Medium-high	Medium-high
Historic landscape character	<ul style="list-style-type: none"> ■ There are several estate houses including Whitehill House in Rosewell, which contains a number of category A listed structures. 	Medium	Medium

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
	<ul style="list-style-type: none"> ■ There is some evidence of prehistoric enclosure, recognised as scheduled monuments. ■ The small estate village of Carrington, known for its 18th century church, forms part of a conservation area in the south-east. The church tower is seen from more open parts of the landscape and adds to the historic character of the LCT. ■ Part of the Arniston GDL borders Carrington, further contributing to the historic nature of this area of LCT (although the majority of the GDL is within the neighbouring LCT). 		
Visual receptors	<ul style="list-style-type: none"> ■ There is settlement around the villages of Rosewell and Carrington with additional settlement located along the A6094 and at Upper Dalhousie. ■ There is a well-developed network of Core Paths throughout the area. NCN Route 196 passes through the north of the area. 	Medium	Medium
Visual character (including skylines and intervisibility)	<ul style="list-style-type: none"> ■ The smooth skyline is marked with blocks of woodland and is relatively undeveloped, emphasising the rural character of the area. ■ The elevated nature of the LCT provides intervisibility with surrounding LCTs, including the South Esk valley in LCT 270. The north-western edge of this LCT is visible from popular views above Roslin Glen, including Rosslyn Castle. ■ Some long-distance views towards the Pentland Hills, Arthur's Seat and Mayfield Ridge are available from roads and open, arable land throughout the landscape. Views are often filtered and screened by woodland and hedgerows. 	High	Medium-high

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Perceptual and scenic qualities	<ul style="list-style-type: none"> ■ The area is sparsely settled and rural. The rolling landform, with its human scale woodlands and field trees contributes to a sense of intimacy and tranquillity, particularly in the east. ■ The area forms part of the South Esk Valley and Carrington Farmland SLA, which is noted for its “<i>extensive policy woodlands and field trees and... strong rural character</i>”. ■ The contrast of the open rolling farmland, with the surrounding enclosed and wooded North Esk and South Esk valleys, contributes to the scenic quality of the landscape. ■ The rural character of the area is locally reduced by opencast coal mine operations in the south-west of the landscape and sand and gravel extraction in the north, although the development is typically small in scale and screened by woodlands. 	Medium-high	Medium-high

Overall landscape sensitivity to wind energy development

A.110 The LCT is of high sensitivity to all scales of wind energy development, in terms of turbine tip height. This applies to single turbines and groups of turbines. The reasoning for this is summarised below:

- The area is characterised by its open, elevated, rolling landform, which becomes more enclosed and undulating towards its south-western border.
- The elevated nature of this LCT would result in wind development having greater intervisibility with the surrounding landscape, increasing sensitivity.
- The LCT is small in scale, resulting from a strong pattern of policy woodland enclosing farmland and small settlements. This increases sensitivity as the landscape and its human scale features would be dominated by wind turbines. Sensitivity would be reduced in the south-west of the LCT though, where the scale of the landscape is increased through larger field sizes and a weaker woodland pattern.
- Rosewell Carrington Spur's historic character benefits from Carrington Village and its church spire, which can be seen from high points throughout the LCT. This increases sensitivity to wind development as it would affect views to historic elements of the landscape.
- There is a strong rural character to the Rosewell Carrington Spur, which sits in contrast to surrounding settlements, including Bonnyrigg. The landscape has a sense of tranquillity, which would be reduced by wind energy development.

Table A.26: Sensitivity scores to wind energy development in LCT 272 Lowland Hills and Ridges – Lothians (Rosewell Carrington Spur)

Wind Energy Development Scenario	Sensitivity Score
Small (less than 49.9m tip height)	High
Medium (50m to 99.9m tip height)	High
Large (100m to 149.9m tip height)	High
Very Large (over 150m tip height)	High

Variations in sensitivity at the LCT level

A.111 Sensitivity to wind energy development would be highest in the north, west and east of the LCT where there is a strong pattern of woodland enclosing arable land, a small scale, historic character and intervisibility with other areas of the landscape.

A.112 The south of the area is of lower sensitivity as there is more open arable land and a less intricate landcover pattern, although intervisibility with adjacent landscapes would be a key consideration for development.

Overall landscape sensitivity to solar PV/BESS development

A.113 LCT 272 Lowland Hills and Ridges – Lothians (Rosewell Carrington Spur) is of high sensitivity to medium and large scale solar PV/BESS development and of medium-high sensitivity to small scale development. The reasoning for this is summarised below:

- The area is characterised by its rolling, open landform, which becomes more enclosed towards its southern boundary. Sensitivity to solar PV/BESS would be highest in the open areas of the landform.
- The large scale, open fields in the east of Rosewell Carrington Spur, interspersed with woodland would have increased sensitivity to solar PV/BESS development due to their undeveloped nature and sparse settlement pattern. More enclosed field to the north would have a high sensitivity due to their small scale. The south-west may be less sensitive to solar PV/BESS as there is pre-existing development and opportunities for screening through woodland.
- Localised views connected to historic sites in the LCT and Carrington Village would have a higher sensitivity to solar PV/BESS development as it would disrupt the historic character.
- While its skyline is not particularly distinctive, the elevated nature of the area increases its sensitivity to solar PV/BESS.
- The strong rural character of the LCT, particularly within the South Esk Valley and Carrington Farmland SLA, would be highly sensitive to the development of solar PV/BESS.

Table A.27: Sensitivity scores to solar PV/BESS development in LCT 272 Lowland Hills and Ridges – Lothians (Rosewell Carrington Spur)

Solar PV/BESS Development Scenario	Sensitivity Score
Small (less than 4.9ha)	Medium-high
Medium (5ha to 9.9ha)	High
Large (10ha to 15ha)	High

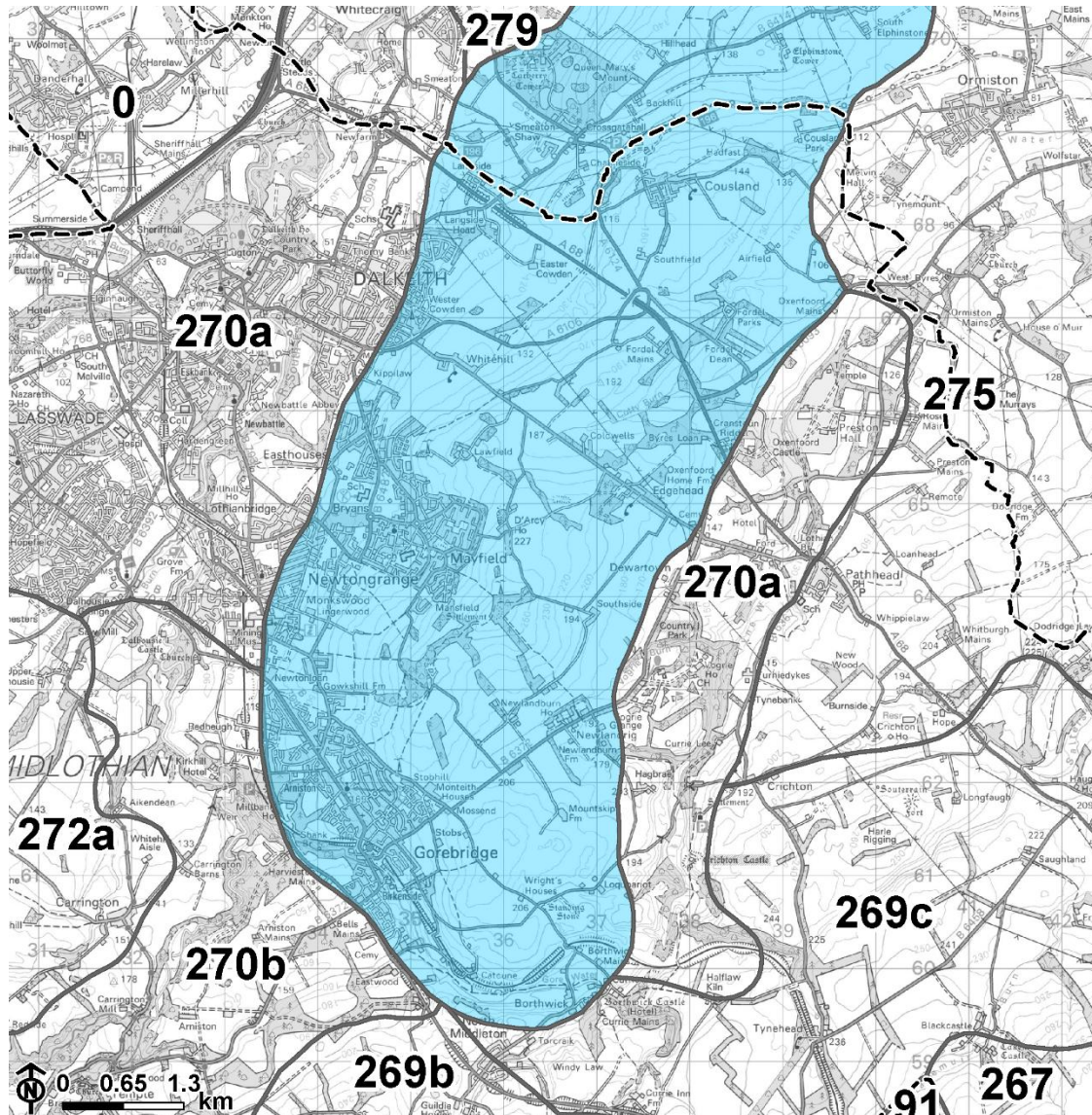
Variations in sensitivity at the LCT level

A.114 Sensitivity to solar PV/BESS would be highest in the north – where there is a strong pattern of policy woodland enclosing arable land and a small scale – and in the east where open farmland contributes to a strong rural character that is intervisible with historic areas including Carrington.

A.115 The south of the area is of lower sensitivity due to the sense of enclosure, existing development and opportunities for woodland screening.

Landscape Character Type 272 Lowland Hills and Ridges – Lothians (Mayfield Ridge)

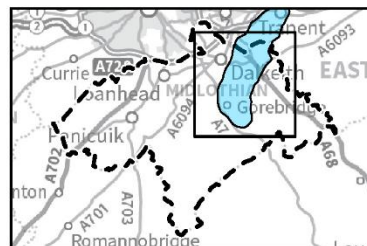
Figure A.38: Contextual map of the LCT



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Legend

- LCT272b - Lowland Hills and Ridges - Lothians
- Other Landscape Character Type
- Midlothian local authority boundary
- Main map frame extent



LCT landscape character overview

A.116 The Lowland Hills and Ridges – Lothians LCT is located in the centre and north-east of the Midlothian local authority area. The Mayfield Ridge is located in the north-east and extends into the neighbouring East Lothian local authority area. The LSA focuses on the elements of the LCT which are within Midlothian.

A.117 The key characteristics of the LCT are described as follows (NatureScot, 2019):

- *“Hills with distinctive profiles and occasional rock outcrops.*
- *Arable landcover giving way to pasture and some areas of rough grazing on the highest ground.*
- *Small farm woodlands and mixed shelterbelts, with deciduous woodlands along steeper slopes...*
- *Small traditional villages within the hills, characterised by local stone, with larger expanded settlements in the Mayfield...area.*
- *Hill forts and other historical features create time depth in the landscape, with a more recent legacy of quarrying in certain areas.*
- *Recreational access to hilltop viewpoints and landmarks.*
- *Visual focal points from the surrounding landscapes, providing outward views over the plains, and beyond.”*

Designated landscapes

A.118 The Tyne Water Valley SLA extends into the eastern area of the LCT, across the upper slopes of the Tyne valley. The reasons for designation (Midlothian LDP 2017 Supplementary Guidance – Special Landscape Areas) of relevance to the LCT are as follows:

- *“The rich diversity of the Tyne Water Valley which is characterised by extensive designed landscapes and farmland patterned with woodlands and field trees.*
- *The more naturalistic upper valleys of the Tyne and Gore Waters which provide the setting for a number of landmark historic features.”*

Existing renewables development

A.119 There are no operational or under construction solar PV or BESS developments in the LCT. There are two wind turbines at Cousland (48m high) in the north of the LCT.

A.120 Operational wind farms in neighbouring local authority areas are visible from the LCT, particularly its elevated summits. This includes a cluster of operational wind farms which span the border between the Scottish Borders and East Lothian, comprising Dun Law Wind Farm (61 turbines, up to 75m high) in the Scottish Borders, and Pogbie Wind Farm (12 turbines, 76m high) and Keith Hill Wind Farm (5 turbines, 76m high) in East Lothian.

Figure A.39: View from the A6106 north of Easter Cowden



Figure A.40: Wind turbines near Cousland



Figure A.41: View from Minor Road east of Mayfield, looking east towards the Lammermuir Hills



Landscape Sensitivity Assessment

A.121 The following table sets out an assessment of sensitivity of the LCT in relation to each of the criteria set out in **Chapter 2**.

Table A.28: Landscape Sensitivity Assessment for LCT 272 Lowland Hills and Ridges – Lothians (Mayfield Ridge)

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Landform and scale	<ul style="list-style-type: none"> ■ Distinct but low undulating ridge, with broad and gently rising slopes. Elevation ranges from a maximum of approximately 270m AOD east of Mayfield to approximately 90m AOD in the north of the LCT. ■ The outer slopes of the ridge are more open in character, whilst the interior of the ridge is more contained, with a rolling landform and woodland reducing scale. ■ A sense of enclosure is experienced along tributary valleys and in wooded areas. The Gore Water valley in the south is intimately scaled, with steep slopes creating a strong sense of enclosure. 	High	Medium-high
Landcover (including field and settlement patterns)	<ul style="list-style-type: none"> ■ The LCT is predominantly arable landcover, with small farm woodlands and shelterbelts. Areas of grazing are primarily found in the south and south-east along valley sides, and in the north near Cousland. ■ The farmed upper valley sides are less contained by landform but have a strong enclosure pattern with many woodlands and mature field trees increasing diversity. Small building and shelterbelts associated with the arable land reduce its scale. 	High	Medium-high
Historic landscape character	<ul style="list-style-type: none"> ■ The historic character of the area benefits from the time depth and interest created by five enclosures, three forts and a barrow, which are all scheduled monuments. Camp Wood and Fordel Mains forts are located on summits with views to the surrounding landscape. 	Medium-high	Medium-high

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
	<ul style="list-style-type: none"> ■ Part of the Oxenfoord Castle GDL and conservation area extends into this LCT and within it there are six listed buildings. Additional listed buildings are found throughout the LCT, particularly near the Newlandrig, Edgehead and Borthwick and Crichton conservation areas. These areas are recognised for the interest created by their architectural and historic qualities. ■ Smaller settlements in the LCT are characterised by their use of local stone, adding to the historic character. 		
Visual receptors	<ul style="list-style-type: none"> ■ The western side of the ridge is well-settled, with the settlements of Newtongrange/Mayfield, Gorebridge and the edge of Dalkeith. Elsewhere there are small villages including Cousland in the north. ■ Core Paths throughout the LCT provide access to viewpoints, historic sites and woodlands. NCN Route 196 follows a minor road which forms part of the northern boundary of the LCT. 	Medium-high	Medium-high
Visual character (including skylines and intervisibility)	<ul style="list-style-type: none"> ■ There is intervisibility between this LCT and surrounding areas. The long, low Mayfield Ridge is prominent in views from both Edinburgh and Midlothian, including from the Pentland, Moorfoot and Lammermuir Hills. ■ The steeper north-west facing slopes of the ridge are visually prominent from parts of Edinburgh and transport routes including the A1 and A720 (City of Edinburgh Bypass). ■ The south-eastern slopes of the ridge form the backdrop to the Tyne valley, which is an SLA, and features a distinct pattern of field trees and woodlands. 	High	High

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
	<ul style="list-style-type: none"> ■ Electricity transmission lines and the A68 are prominent on the north-west slopes of the ridge. 		
Perceptual and scenic qualities	<ul style="list-style-type: none"> ■ The west of the LCT is settled and has some urban fringe influences. The eastern, interior of the ridge has a more rural and tranquil perception. ■ The Hadfast valley, east of Cousland, is a popular bird watching area and is a designated SSSI site for breeding bird assemblage and scrub. ■ The eastern portion of the LCT is within the Tyne Water Valley SLA. The LCT is recognised for the recreational value provided by its woodlands and river valley path network. Additional scenic value stems from the LCTs historic landmarks, settlements and designed landscapes. 	High	High

Overall landscape sensitivity to wind energy development

A.122 The LCT is of high sensitivity to medium, large and very large scales of wind energy development and medium-high sensitivity to small scale wind energy development, in terms of turbine tip height. This applies to single turbines and groups of turbines. The reasoning for this is summarised below:

- The Mayfield Ridge is characterised by its open outer hills and contained interior landform, with rolling hills and woodland. Due to the high visibility of the outer hills and the reduced scale of the inner hills, the LCT would be highly sensitive to the development of wind energy.
- The ridge’s undulating interior has ready scale references through its woodlands and small buildings. This, along with a strong sense of enclosure in the Gore Water valley, would cause wind turbines to dominate in the landscape.
- The Mayfield Ridge has a number of features that contribute to its historic character, a number of which are intervisible with the surrounding landscape. Wind turbines would be disruptive to the sense of time depth in the LCT.
- The Mayfield Ridge serves as a backdrop to the Tyne valley and its form is visible on the skyline from the Lothians and Edinburgh. As a result of its intervisibility, even small scale turbines may have a significant impact on views from adjacent areas of landscape.
- The rural perception of the LCT, resulting from its open farmland and small settlements would be sensitive to wind energy development.
- Where the landscape is more developed and has urban fringe influences, sensitivity would be reduced. The potential for cumulative effects with existing domestic wind energy developments and energy transmission lines would increase sensitivity to larger scale developments.

Table A.29: Sensitivity scores to wind energy development in LCT 272 Lowland Hills and Ridges – Lothians (Mayfield Ridge)

Wind Energy Development Scenario	Sensitivity Score
Small (less than 49.9m tip height)	Medium-high
Medium (50m to 99.9m tip height)	High
Large (100m to 149.9m tip height)	High
Very Large (over 150m tip height)	High

Variations in sensitivity at the LCT level

A.123 Sensitivity to wind energy development would be highest where there is intervisibility with the surrounding landscape, including the ridgetop. The east of Mayfield Ridge would be highly sensitive due to its role as a backdrop to the Tyne valley.

A.124 East of Cousland would be less sensitive to wind energy development. Small, domestic scale turbines could be developed, particularly where wind turbines could be associated with existing structures and or screened by woodlands and hollows. Cumulative effects would need to be accommodated.

Overall landscape sensitivity to solar PV/BESS development

A.125 The area is of medium-high sensitivity to small scales of solar PV/BESS development and high sensitivity to medium and large scales. The reasoning for this is summarised below:

- The Mayfield Ridge is characterised by its open outer hills and contained interior landform, with rolling hills and woodland. Due to the high visibility of the outer hills and the reduced scale of the inner hills, the LCT would be sensitive to solar PV/BESS development.
- The south-eastern slope forms a backdrop to the Tyne valley with distinct patterns of woodland and grassland. The visibility of the landform's rolling hills would cause them to be highly sensitive to PV/BESS development.
- The mixture of predominantly arable land, with policy woodlands, create a strong field enclosure pattern on the south-east facing slopes. This pattern, along with its historic settlements, gives the LCT a tranquil, rural nature that would be disrupted by the development of solar PV/BESS.
- The sense of time-depth from the area's traditional villages, hilltop forts, and GDLs further increase the landscape's sensitivity to solar PV/BESS development, particularly for the visual relationships these historic features have with the surrounding landscape.
- The Mayfield Ridge serves as a backdrop to the Tyne valley and is visible on the skyline from the Lothians and Edinburgh. As a result of its intervisibility, the landscape would be more sensitive to solar PV/BESS.
- The rural perception of the LCT, resulting from its open farmland and small settlements, increases sensitivity to solar PV/BESS. The naturalistic perception of the Gore Water's intimately scaled upper valleys increases sensitivity.

- Parts of the northern and western boundary of the LCT have a stronger visual relationship to settlements and an urban fringe perception, reducing their sensitivity.

Table A.30: Sensitivity scores to solar PV/BESS development in LCT 272 Lowland Hills and Ridges – Lothians (Mayfield Ridge)

Solar PV/BESS Development Scenario	Sensitivity Score
Small (less than 4.9ha)	Medium-high
Medium (5ha to 9.9ha)	High
Large (10ha to 15ha)	High

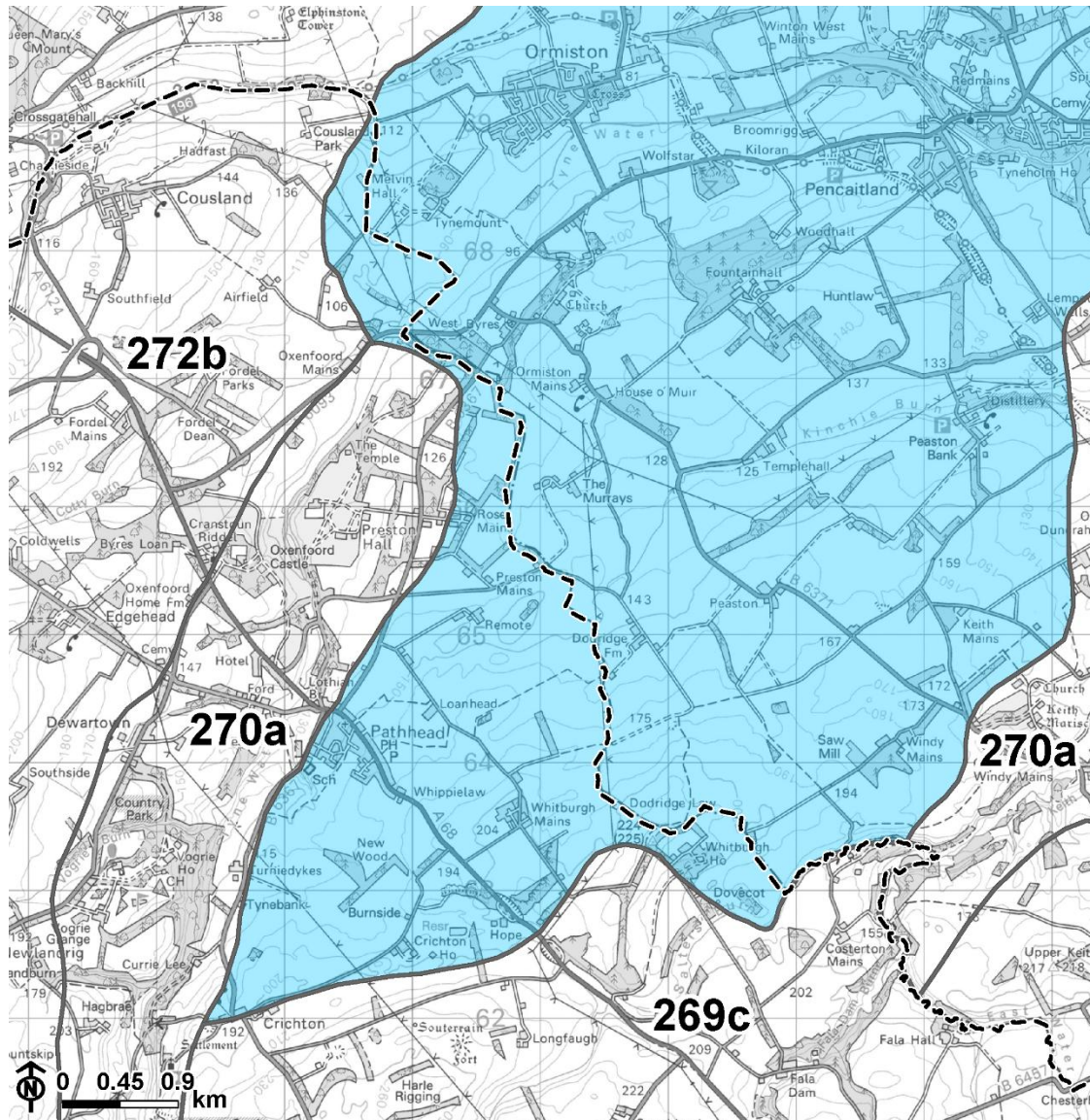
Variations in sensitivity at the LCT level

A.126 Sensitivity to solar PV/BESS development would be highest on the upper slopes of the ridge where development would have the potential to be widely visible from parts of Edinburgh and the Lothians. The east-facing side of the ridge is more sensitive as it forms part of the Tyne Water valley which is a small scale, intimate valley with a strong sense of time-depth.

A.127 The lower slopes on the west-facing side of the Mayfield ridge are of lower sensitivity due to settlement including some urban fringe land uses, and existing woodland which would provide an opportunity to integrate small scale development.

Landscape Character Type 275 Lowland Farmed Plain – Lothians

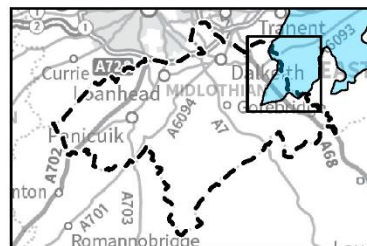
Figure A.42: Contextual map of the LCT



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Legend

- LCT275 - Lowland Farmed Plain - Lothians
- Other Landscape Character Type
- Midlothian local authority boundary
- Main map frame extent



LCT landscape character overview

A.128 A relatively small part of the Lowland Farmed Plain – Lothians LCT is within Midlothian. The majority extends north-eastwards into East Lothian. The LSA description focuses on elements of the LCT which are within Midlothian.

A.129 The key characteristics of the LCT are described as follows (NatureScot, 2019):

- *“Smoothly rolling, large-scale arable plain landforms with occasional igneous intrusions forming local landmarks.*
- *Small streams forming shallow breaks in the smooth slopes, feeding into the broad meandering valley of the River Tyne.*
- *High quality agricultural land, divided into a chequerboard pattern of fields with historic field pattern being retained in some areas. Field boundaries defined by clipped hedges, scattered hedgerow trees, post and wire fences and occasional stone walls.*
- *Occasional small-scale woodlands and shelterbelts relate to watercourses and reinforce field pattern.*
- *Policy woodlands, estate houses and, buildings and boundary walls of several estates throughout the area create a historic character.*
- *Numerous conservation villages spread throughout the Landscape Character Type with a scattering of farmsteads and small housing clusters...*
- *Open views across the landscape to Edinburgh, the coast to the north, and hills to the south.”*

Designated landscapes

A.130 The majority of the LCT within Midlothian is in the Tyne Water Valley SLA and a small part of the LCT around Whitburgh House is in the Fala Rolling Farmland and Policies SLA. The reasons for designation (Midlothian LDP 2017 Supplementary Guidance – Special Landscape Areas) of relevance to the LCT are as follows:

- *“The rich diversity of the Tyne Water Valley which is characterised by extensive designed landscapes and farmland patterned with woodlands and field trees.”*

Existing renewables development

A.131 There are no operational or under construction wind energy, solar PV or BESS developments in the LCT.

A.132 Views of operational wind farms in the Lammermuir and Moorfoot Hills are restricted as this landscape comprises north-west facing slopes above the Tyne Water valley which are orientated away from these developments.

Figure A.43: Rolling farmland near Whitburgh Mains



Landscape Sensitivity Assessment

A.133 The following table sets out an assessment of sensitivity of the LCT in relation to each of the criteria set out in **Chapter 2**.

Table A.31: Landscape Sensitivity Assessment for LCT 275 Lowland Farmed Plain – Lothians

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Landform and scale	<ul style="list-style-type: none"> ■ A medium scale landscape comprising gently undulating farmed slopes which gradually descend north-westwards towards the Tyne Water valley. ■ A relatively open landscape of large fields, with some shelterbelts, small woodland blocks, clipped hedges, scattered hedgerow trees, and occasional stone walls. 	Medium	Medium
Landcover (including field and settlement patterns)	<ul style="list-style-type: none"> ■ Simple pattern of large fields. ■ There is some ancient woodland, particularly in the north and south of the area. 	Medium	Medium
Historic landscape character	<ul style="list-style-type: none"> ■ The gentle farmed slopes of this landscape form the wider setting to the adjacent Tyne Water valley and a backdrop to the designed landscapes of Oxenfoord Castle and Vogrie. ■ Pathhead and Ford conservation areas contain numerous listed buildings. ■ A small part of Prestonhall GDL is within the area. 	Medium-high	Medium-high
Visual receptors	<ul style="list-style-type: none"> ■ Settlement includes scattered farmsteads and the small settlement of Pathhead. ■ There is a network of Core Paths including around Pathhead. 	Medium	Medium
Visual character (including	<ul style="list-style-type: none"> ■ The area forms the backdrop to the Tyne Water valley and the designed landscapes of Oxenfoord Castle and Vogrie. 	Medium	Medium

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
skylines and intervisibility)	<ul style="list-style-type: none"> ■ The landscape is prominent in views from settlements including Pathhead and from the A68. ■ Views out of the LCT are contained to the middle distance by the rising landform of the Mayfield Ridge to the north-west and Fala Moor to the south-east. ■ The LCT forms part of the views from Fala Moor SLA and Fala Rolling Farmland and Policies SLA. 		
Perceptual and scenic qualities	<ul style="list-style-type: none"> ■ Forms the immediate and complementary setting to the scenic Tyne Water valley and designed landscapes of Oxenford and Vogrie. ■ A relatively tranquil and rural landscape away from the busy A68. 	Medium-high	Medium-high

Overall landscape sensitivity to wind energy development

A.134 The area is of medium-high sensitivity to small scale wind turbines and high sensitivity to medium, large and very large scale wind turbines, in terms of turbine tip height. This applies to single turbines and groups of turbines. Although the gently undulating landform and medium scale of the landscape indicate lower sensitivity, the landscape is complementary to the Tyne Water valley and forms part of the setting of historic landscapes at Prestonhall, Oxenfoord and Vogrie. The area is intervisible with the Mayfield ridge and parts of Fala Moor, which increases sensitivity.

Table A.32: Sensitivity scores to wind energy development in LCT 275 Lowland Farmed Plain – Lothians

Wind Energy Development Scenario	Sensitivity Score
Small (less than 49.9m tip height)	Medium-high
Medium (50m to 99.9m tip height)	High
Large (100m to 149.9m tip height)	High
Very Large (over 150m tip height)	High

Variations in sensitivity at the LCT level

A.135 The western part of the area is of higher sensitivity as it forms the immediate setting to the smaller scale Tyne Water valley including the designed landscapes at Oxenfoord, Prestonhall and Vogrie.

Overall landscape sensitivity to solar PV/BESS development

A.136 The area is of medium sensitivity to small scale solar PV/BESS development, medium-high sensitivity to medium scale development and high sensitivity to large scale development. Although the gently undulating landform, medium scale of the landscape and presence of shelterbelts and woodland indicate lower sensitivity, the landscape is complementary to the Tyne Water valley and forms part of the setting of historic landscapes at Prestonhall, Oxenfoord and Vogrie. The area is intervisible with the Mayfield ridge and parts of Fala Moor, which increases sensitivity.

**Table A.33: Sensitivity scores to solar PV/BESS development in LCT 275
Lowland Farmed Plain – Lothians**

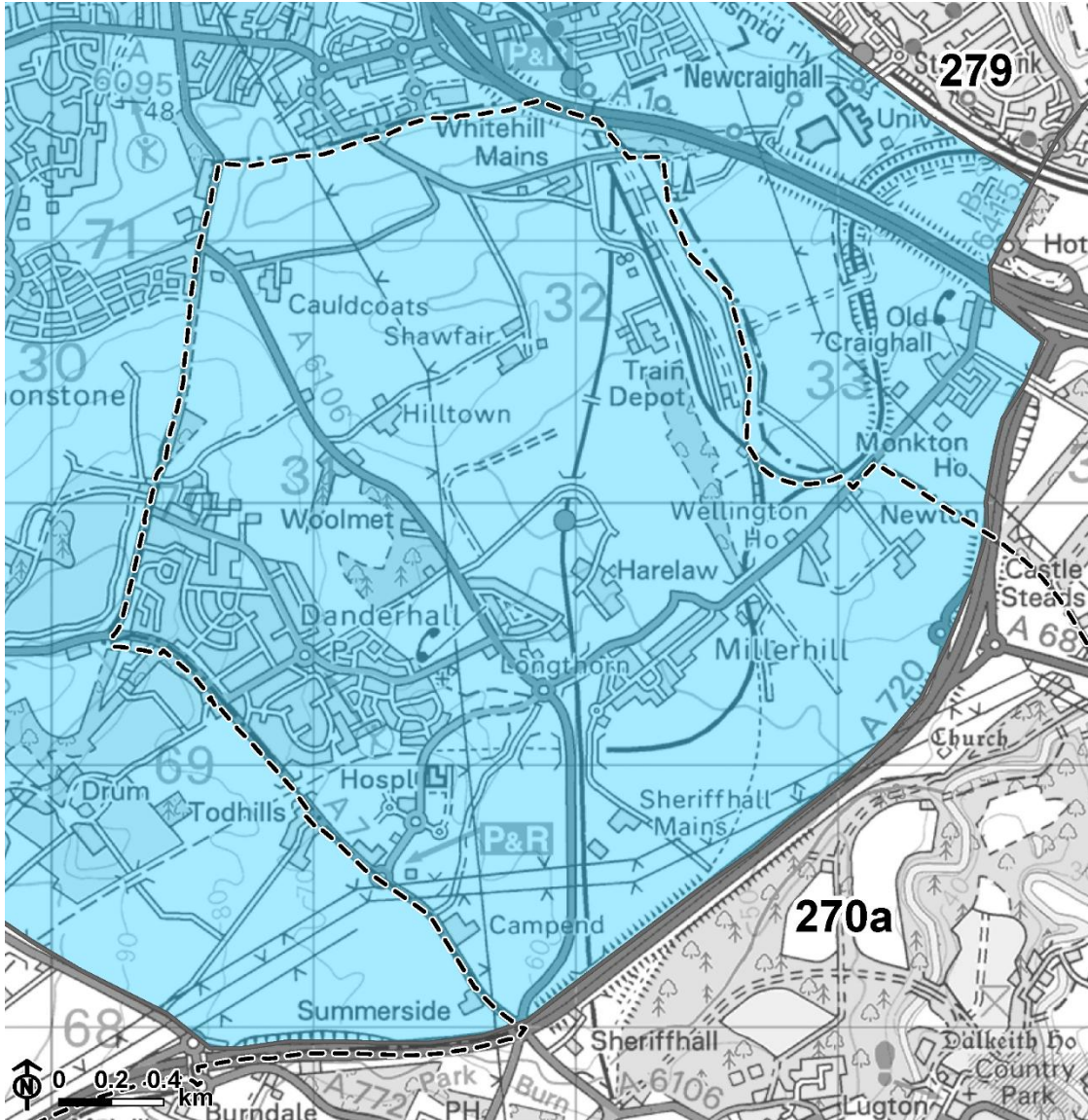
Solar PV/BESS Development Scenario	Sensitivity Score
Small (less than 4.9ha)	Medium
Medium (5ha to 9.9ha)	Medium-high
Large (10ha to 15ha)	High

Variations in sensitivity at the LCT level

A.137 The western part of the area is of higher sensitivity as it forms the immediate setting to the smaller scale Tyne Water valley including the designed landscapes at Oxenfoord, Prestonhall and Vogrie.

Urban Area Landscape Character Type

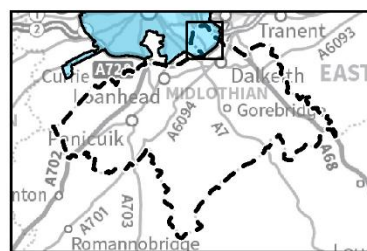
Figure A.44: Contextual map of the LCT



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Legend

- LCT0 - Urban
- Other Landscape Character Type
- Midlothian local authority boundary
- Main map frame extent



LCT landscape character overview

A.138 The Urban Area LCT is located in the north-east of the Midlothian local authority area, on the boundary with the City of Edinburgh. The LCT is located to the north of the A720 (City of Edinburgh Bypass) and encompasses the settlement of Danderhall, new housing development, commercial and industrial areas at Shawfair and Shawfair Park, and surrounding farmland.

A.139 The key characteristics of the LCT are described as follows:

- Flat to gently undulating topography, modified in places by railway and road cuttings and embankments, with some steeper ridges.
- Urban influences are prevalent and include the former mining village of Danderhall, new housing, and commercial/industrial development at Shawfair and Shawfair Park, roads, railways and overhead lines. Some areas are under construction.
- Farmland is mainly arable, with some smaller areas of pasture around Cauldcoats and Monkton House. Fields are medium to large in scale and typically enclosed by hedgerows or shelterbelts, with some small areas of woodland and a larger wooded area along the railway line. There are some new areas of woodland around recent residential development.
- There are remnants of estate landscapes including at Newton House, with garden walls and doocot date from the late-17th and early-18th century and the enclosed parkland from the mid-18th century.
- There are views towards the Edinburgh skyline including Arthur's Seat from roads and settlement, including from Cauldcoats and the A720 (City of Edinburgh Bypass). There are long views south-east to the Mayfield ridge and more distant Lammermuir Hills.

Designated landscapes

A.140 The LCT is not within any designated landscape.

Existing renewables development

A.141 There are no operational or under construction wind farms, solar PV or BESS developments in the LCT.

Figure A.45: Farmland near Old Craighall and Monkton House, looking towards the Mayfield Ridge



Figure A.46: A6106 looking across Danderhall to the Mayfield Ridge and more distant Lammermuir Hills



Landscape Sensitivity Assessment

A.142 The following table sets out an assessment of sensitivity of the LCT in relation to each of the criteria set out in **Chapter 2**.

Table A.34: Landscape Sensitivity Assessment for Urban Area LCT

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Landform and scale	<ul style="list-style-type: none"> ■ Flat to gently undulating topography, modified in places by road and rail infrastructure. 	Medium	Low-medium
Landcover (including field and settlement patterns)	<ul style="list-style-type: none"> ■ Frequent human-scale features including settlements, woodland, trees and hedges increase sensitivity to wind energy. ■ Urban influences including residential, commercial and industrial development and road and rail infrastructure are prevalent. These features increase sensitivity to wind energy development. ■ Areas of farmland are fragmented by urban development. Fields are medium to large in scale and enclosed by hedgerows. 	Medium-high	Low-medium
Historic landscape character	<ul style="list-style-type: none"> ■ Danderhall is a former mining settlement. ■ There are remnants of estate landscapes at Newton House and Monkton House, including listed structures. 	Low-medium	Low-medium
Visual receptors	<ul style="list-style-type: none"> ■ The area is relatively densely populated with established settlements and extensive new development centred around Shawfair. ■ There is a nucleated former mining settlement at Danderhall. 	Medium-high	Medium-high

Landscape Sensitivity Criterion	Criteria Description	Overall Sensitivity Score: Wind Energy	Overall Sensitivity Score: Solar PV/BESS
Visual character (including skylines and intervisibility)	<ul style="list-style-type: none"> ■ Existing built development and woodland/trees along road and rail infrastructure provide sense of enclosure. ■ Built development including pylons is notable on the skyline, contributing to visual confusion. ■ There are views towards the Edinburgh skyline including Arthurs Seat, including across the area from the A720 (City of Edinburgh Bypass). ■ There are views towards the Firth of Forth from the north of the area. ■ A network of Core Paths connect Danderhall and Shawfair. 	High	Medium
Perceptual and scenic qualities	<ul style="list-style-type: none"> ■ Urban influences including road and rail infrastructure are prevalent. ■ Farmland prevents the coalescence of settlements. 	Medium	Medium

Overall landscape sensitivity to wind energy development

A.143 The Urban Area LCT is of high sensitivity to medium, large and very large scale wind turbines, in terms of turbine tip height. Although the flat to gently undulating topography reduces sensitivity, larger turbines would dominate the limited extent of available open space and would contrast with domestic-scale features including buildings, trees and hedgerows. Larger turbines would further fragment the landscape and increase the discordant clutter of built elements on the skyline. Larger turbines would interrupt views across the LCT towards the Edinburgh skyline, potentially affecting the setting of the city. The LCT is of medium sensitivity to small scale turbines which would present less of a contrast with domestic-scale features in the landscape and would be less visible from the City of Edinburgh. Sensitivity would be higher for groups of small scale turbines.

Table A.35: Sensitivity scores to wind energy development in Urban Area LCT

Wind Energy Development Scenario	Sensitivity Score
Small (less than 49.9m tip height)	Medium
Medium (50m to 99.9m tip height)	High
Large (100m to 149.9m tip height)	High
Very Large (over 150m tip height)	High

Variations in sensitivity at the LCT level

A.144 No variations were identified.

Overall landscape sensitivity to solar PV/BESS development

A.145 The Urban Area LCT is of high sensitivity to large scales of solar PV/BESS development, medium sensitivity to medium scale development and low-medium sensitivity to small scale development e.g. solar meadows. Solar PV/BESS development would be less easily perceived due to the flat landform and presence of woodland, trees and hedgerows which would be able to provide screening and filtering of views. Solar PV/BESS development would need to be carefully sited to avoid discordance with other built elements including pylons. Large scale development could cause further fragmentation of areas of open farmland.

Table A.36: Sensitivity scores to solar PV/BESS development in Urban Area LCT

Solar PV/BESS Development Scenario	Sensitivity Score
Small (less than 4.9ha)	Low-medium
Medium (5ha to 9.9ha)	Medium
Large (10ha to 15ha)	High

Variations in sensitivity at the LCT level

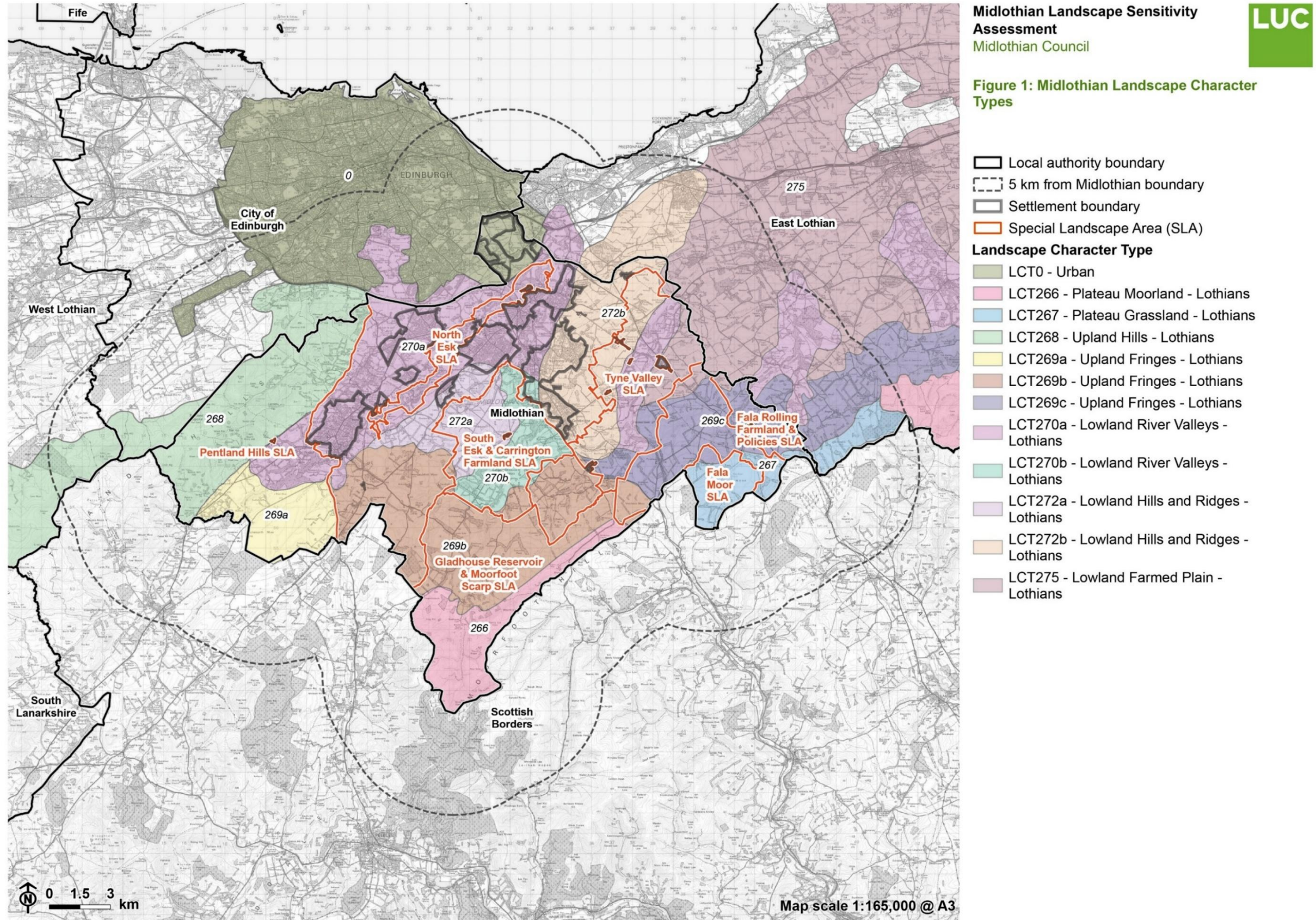
A.146 No variations were identified.

Appendix B

Figures

B.1 This appendix contains Figures 1 to 10.

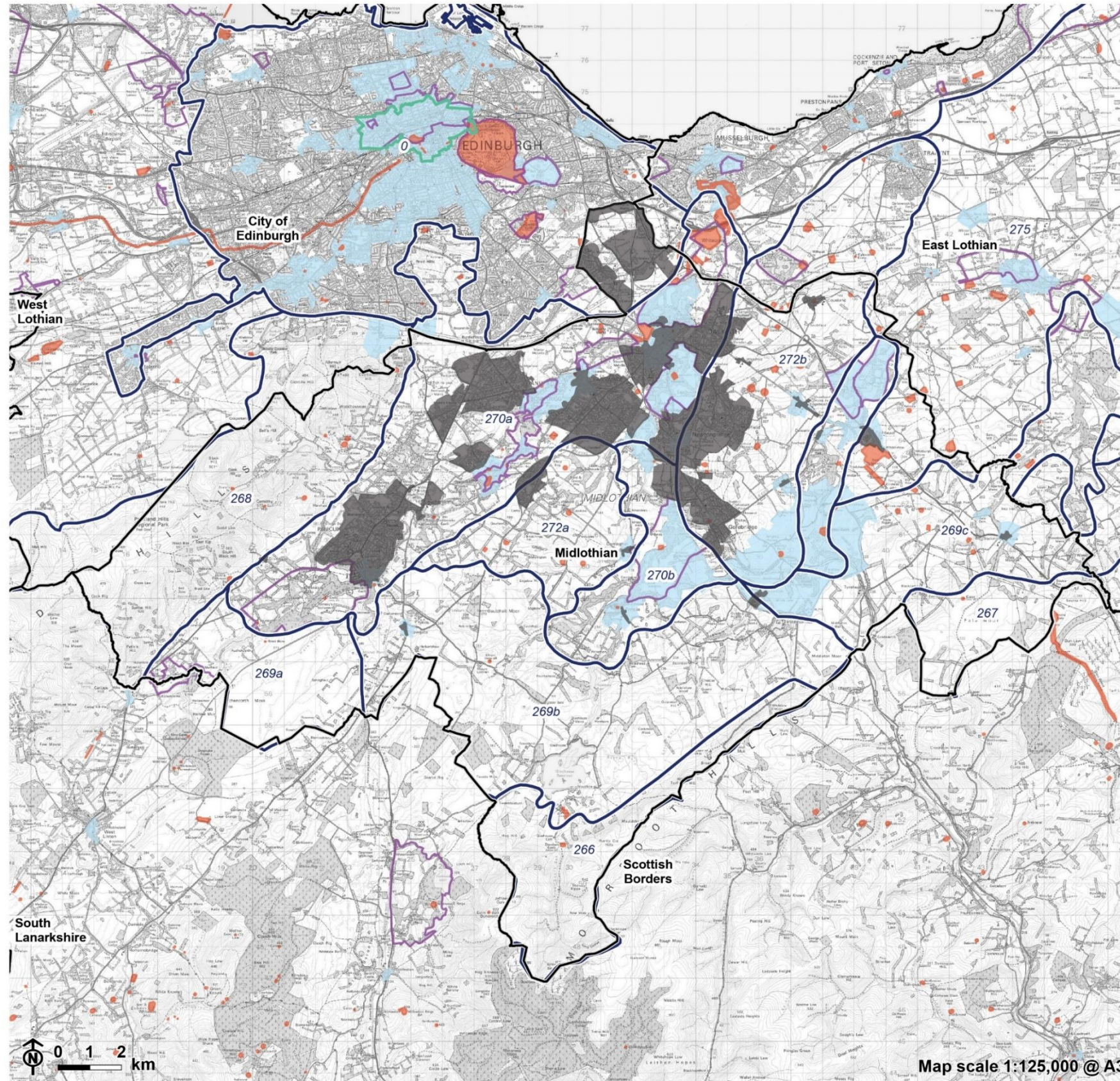
Figure B.1: Midlothian Landscape Character Types



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Figure B.2: Cultural heritage designations



Midlothian Landscape Sensitivity Assessment
Midlothian Council



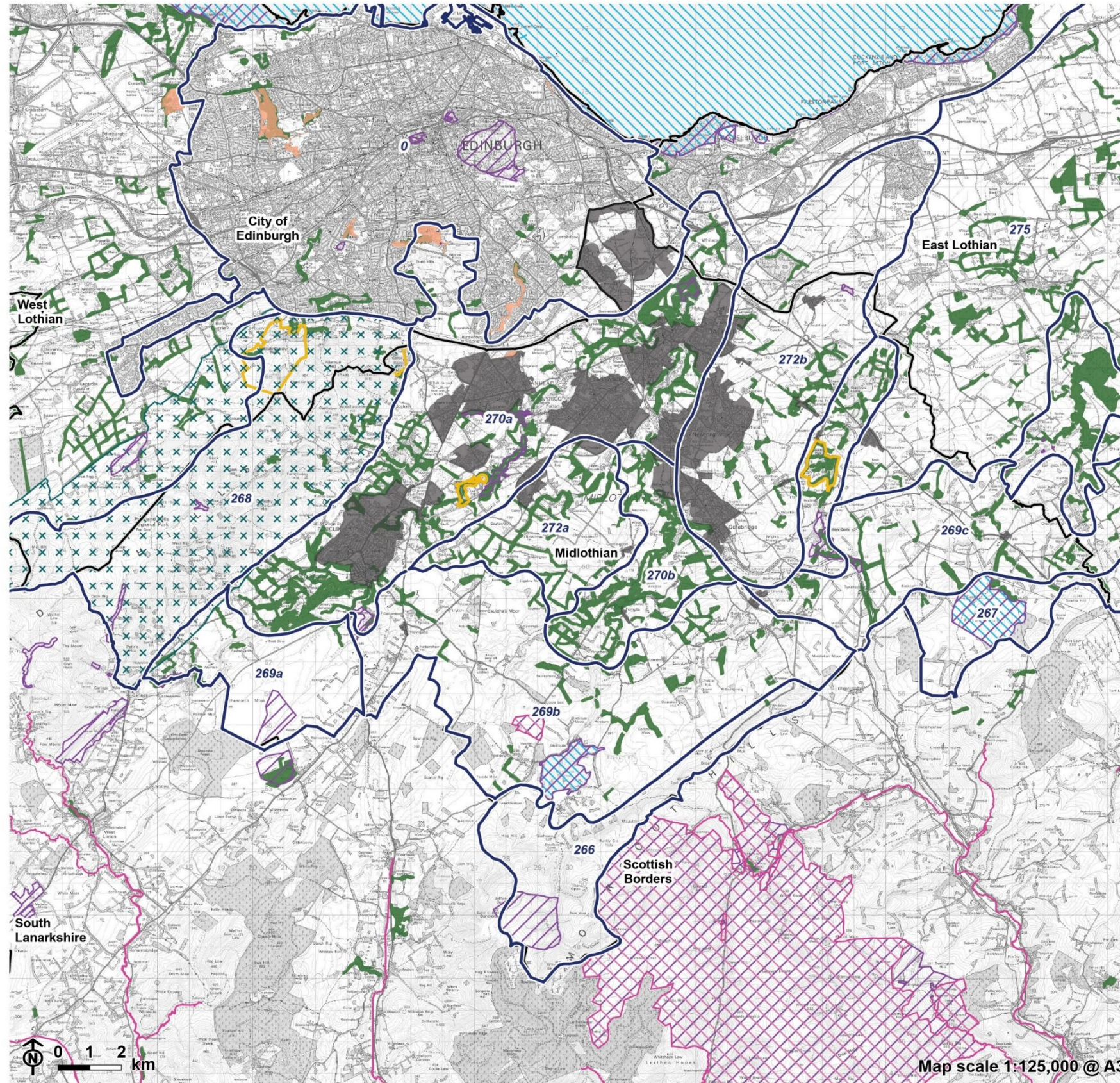
Figure 2: Cultural heritage designations

- Settlement boundary
- ▭ Local authority boundary
- ▭ Landscape Character Type
- ▭ World Heritage Site
- ▭ Gardens and Designed Landscapes
- ▭ Scheduled monument
- ▭ Conservation area

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Figure B.3: Natural designations



Midlothian Landscape Sensitivity Assessment
Midlothian Council



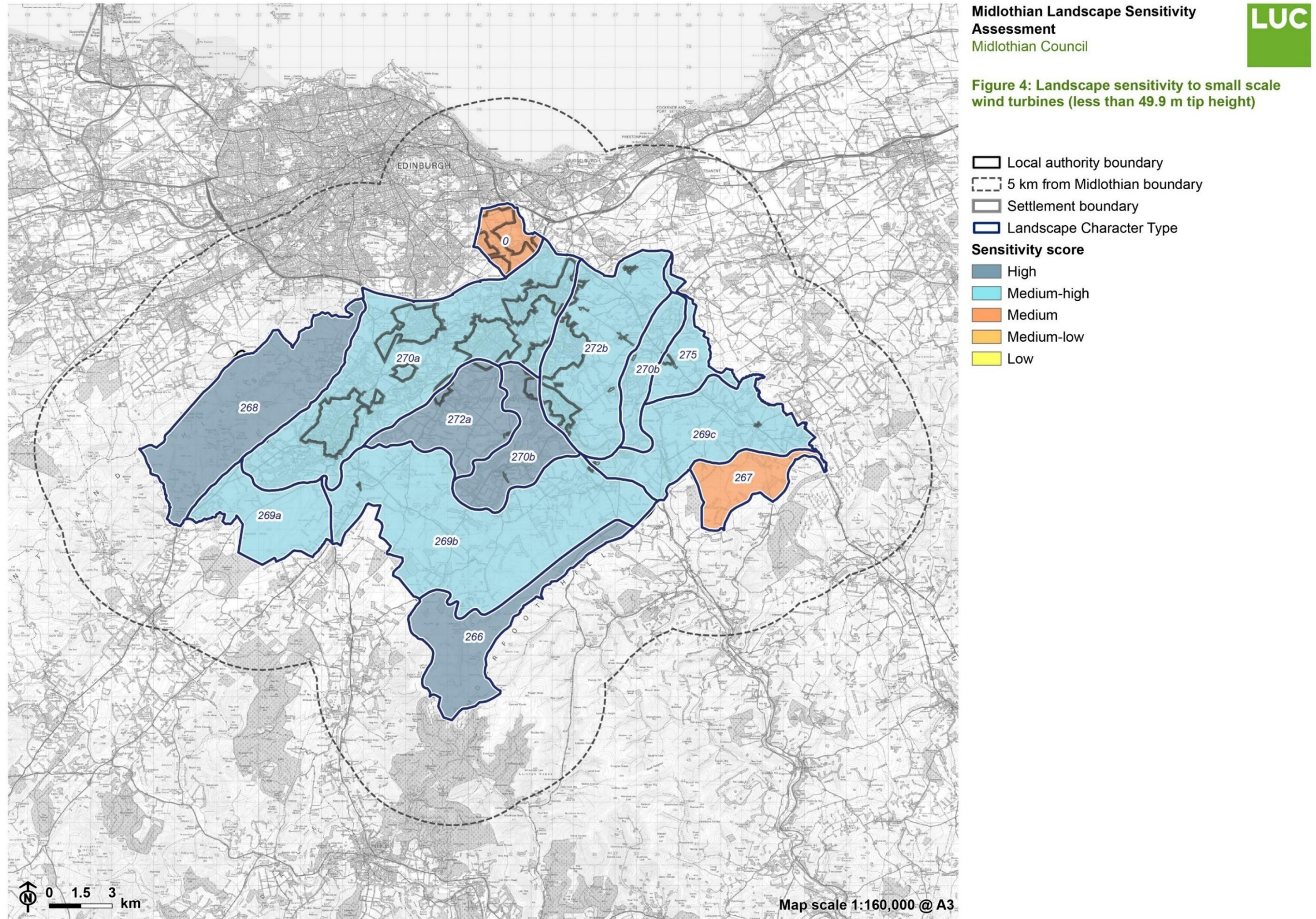
Figure 3: Natural heritage designations

- Settlement boundary
- Local authority boundary
- Landscape Character Type
- Special Area of Conservation
- Site of Special Scientific Interest
- Special Protection Area
- Regional Park
- Country Park
- Local Nature Reserve
- Ancient Woodland Inventory

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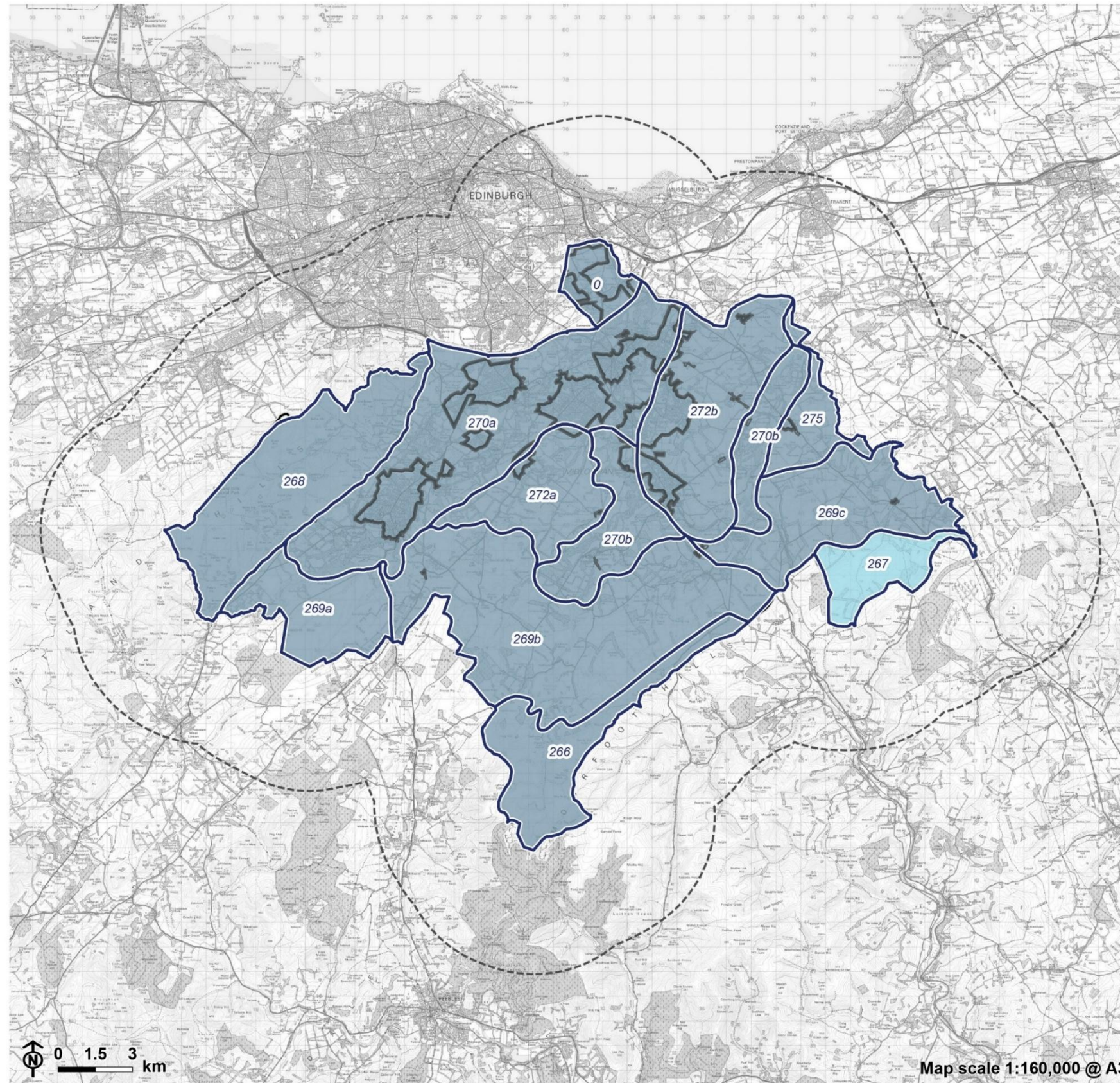
Figure B.4: Landscape sensitivity to small scale wind turbines (less than 49.9 m tip height)



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Figure B.5: Landscape sensitivity to medium scale wind turbines (50 m to 99.9 m tip height)



Midlothian Landscape Sensitivity Assessment
Midlothian Council



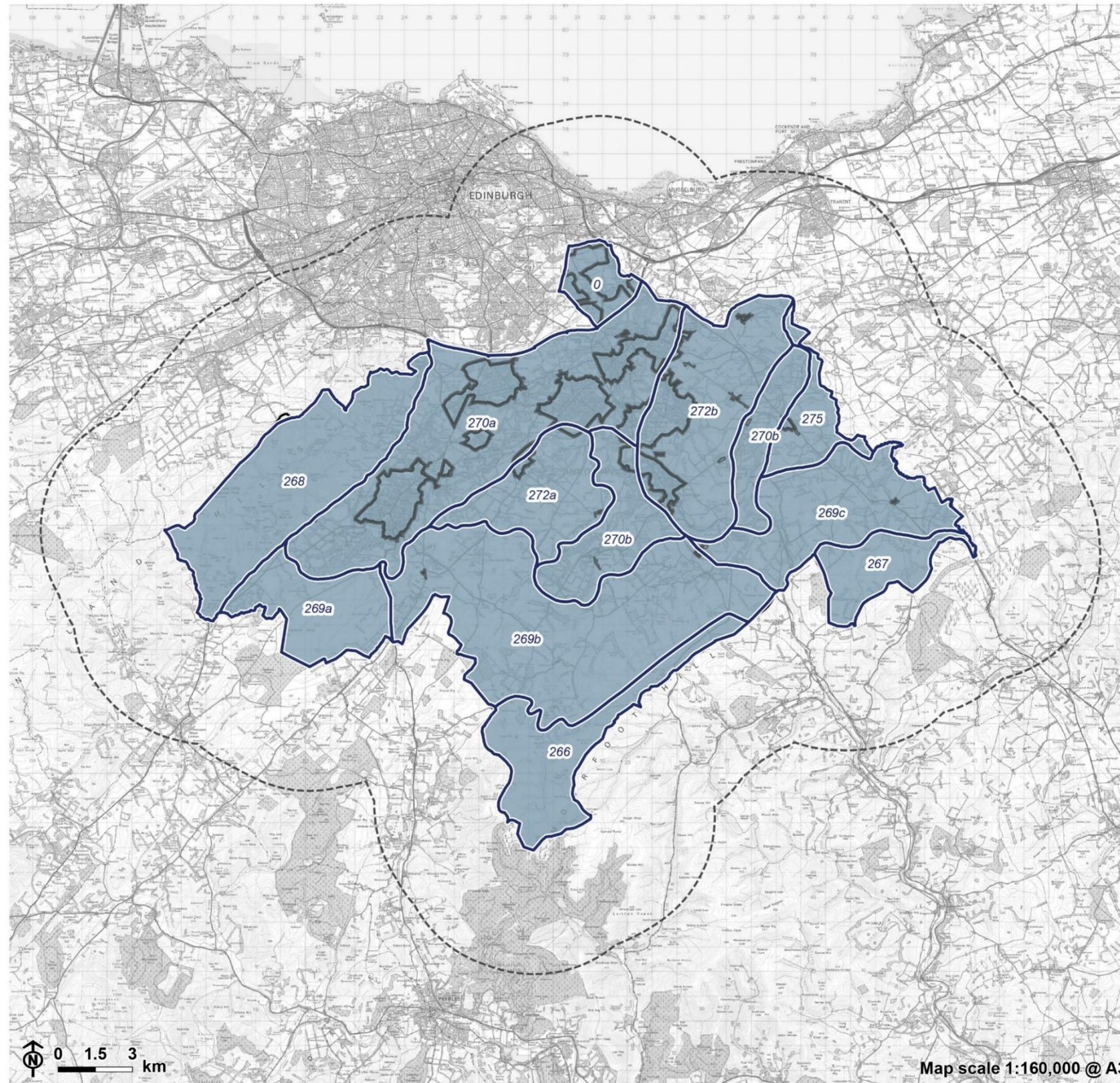
Figure 5: Landscape sensitivity to medium scale wind turbines (50 m to 99.9 m tip height)

- Local authority boundary
 - 5 km from Midlothian boundary
 - Settlement boundary
 - Landscape Character Type
- Sensitivity score**
- High
 - Medium-high
 - Medium
 - Medium-low
 - Low

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Figure B.6: Landscape sensitivity to large scale wind turbines (100 m to 149.9 m tip height)



Midlothian Landscape Sensitivity Assessment
Midlothian Council



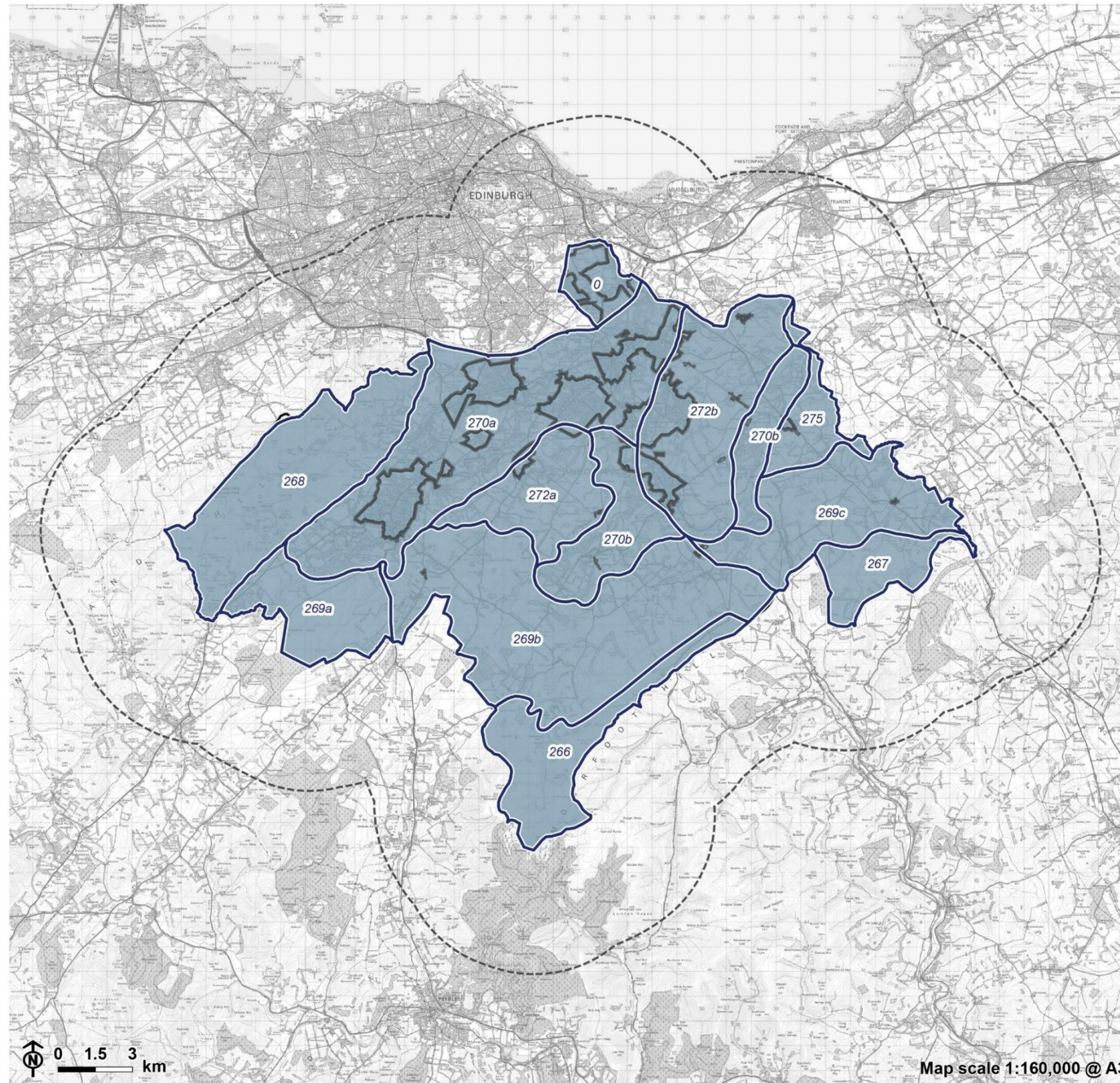
Figure 6: Landscape sensitivity to large scale wind turbines (100 m to 149.9 m tip height)

- Local authority boundary
 - 5 km from Midlothian boundary
 - Settlement boundary
 - Landscape Character Type
- Sensitivity score**
- High
 - Medium-high
 - Medium
 - Medium-low
 - Low

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Figure B.7: Landscape sensitivity to very large scale wind turbines (over 150 m tip height)



Midlothian Landscape Sensitivity Assessment
Midlothian Council



Figure 7: Landscape sensitivity to very large scale wind turbines (over 150 m tip height)

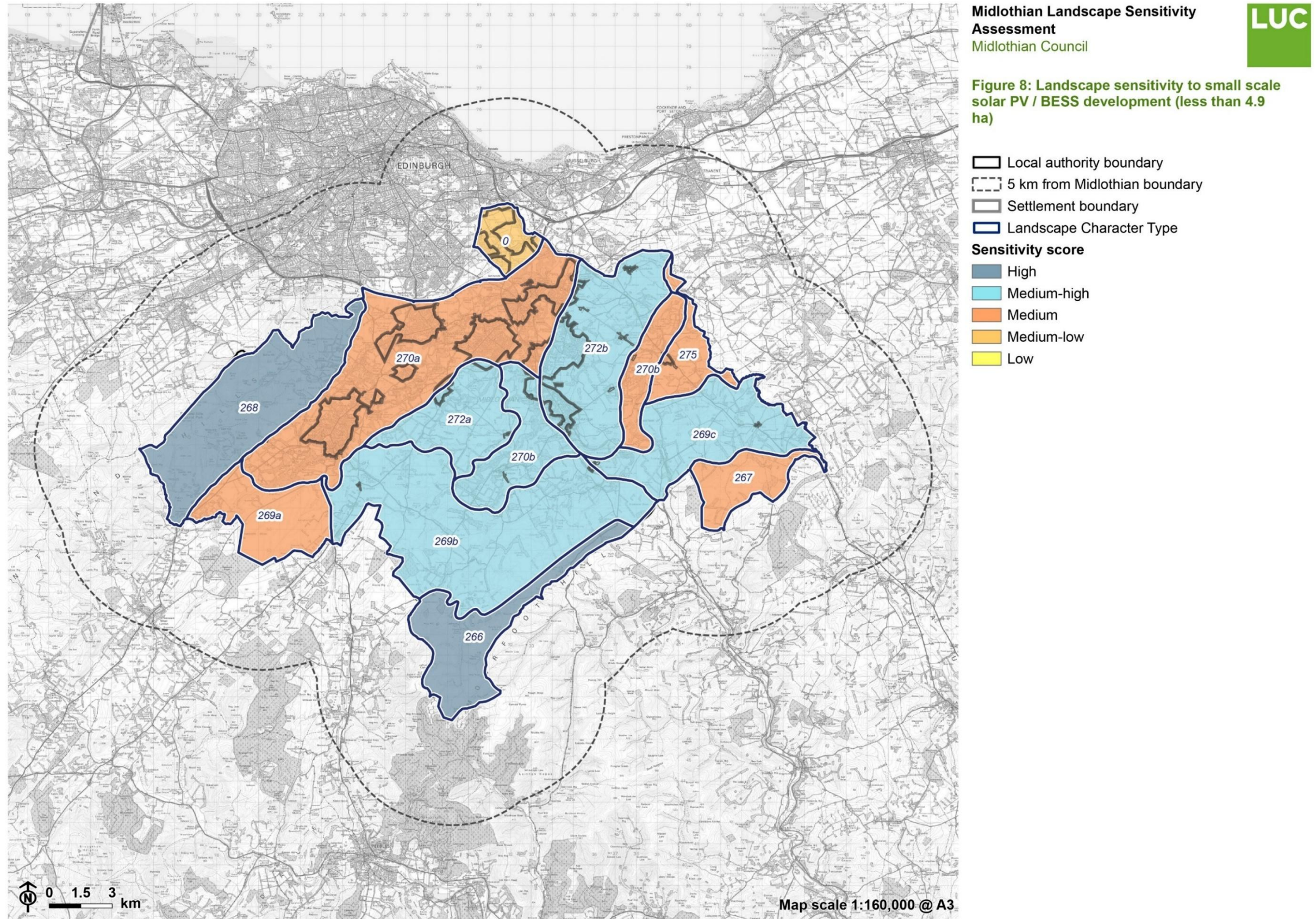
- Local authority boundary
 - 5 km from Midlothian boundary
 - Settlement boundary
 - Landscape Character Type
- Sensitivity score**
- High
 - Medium-high
 - Medium
 - Medium-low
 - Low

Map scale 1:160,000 @ A3

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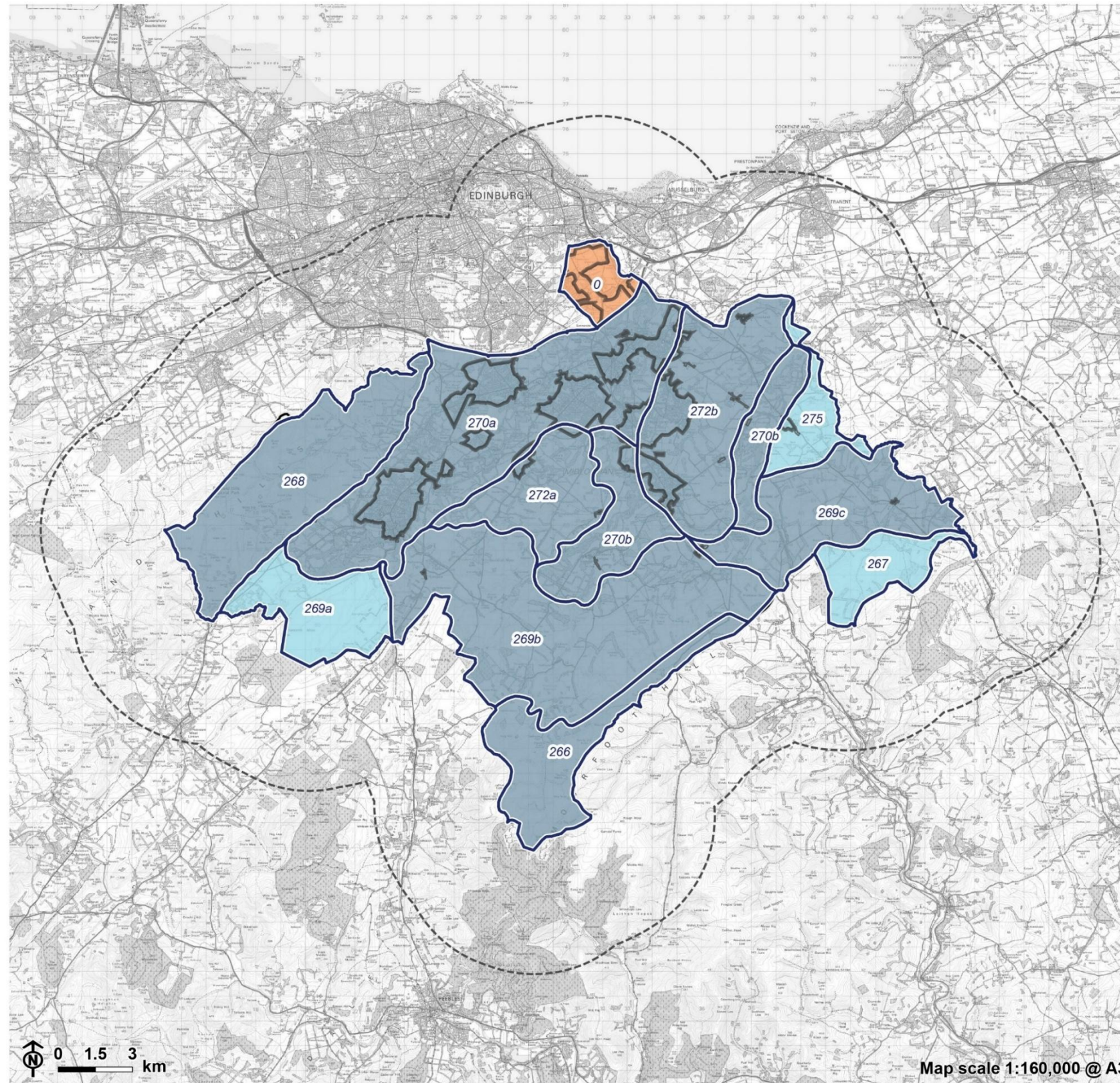
Figure B.8: Landscape sensitivity to small scale solar PV/BESS development (less than 4.9 ha)



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Figure B.9: Landscape sensitivity to medium scale solar PV/BESS development (5 to 9.9 ha)



Midlothian Landscape Sensitivity Assessment
Midlothian Council



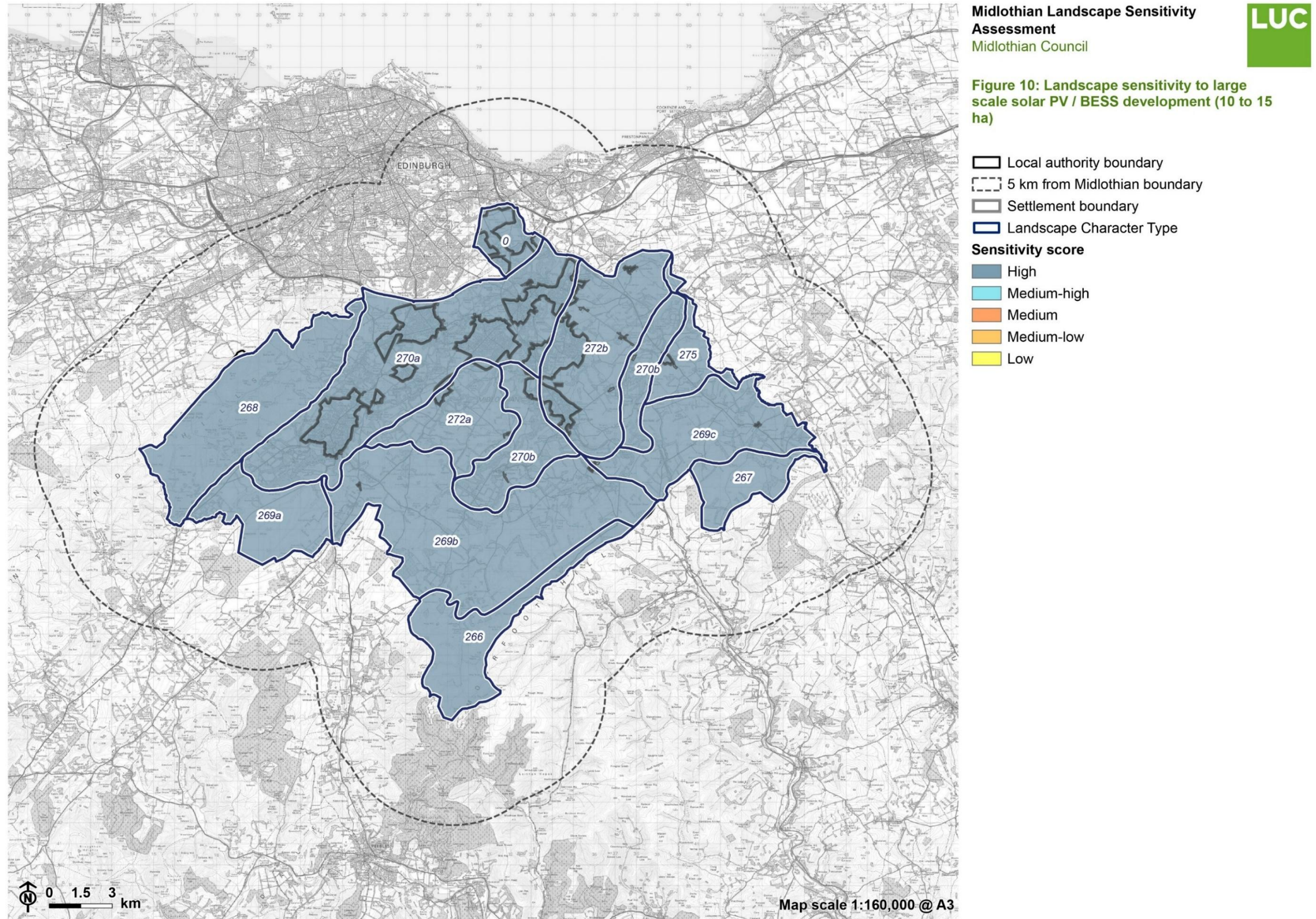
Figure 9: Landscape sensitivity to medium scale solar PV / BESS development (5 to 9.9 ha)

- Local authority boundary
 - 5 km from Midlothian boundary
 - Settlement boundary
 - Landscape Character Type
- Sensitivity score**
- High
 - Medium-high
 - Medium
 - Medium-low
 - Low

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Figure B.10: Landscape sensitivity to large scale solar PV/BESS development (10 to 15 ha)



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Appendix C

Glossary

Table C.1: Glossary

Abbreviation	Meaning
AOD	Above Ordnance Datum
BESS	Battery Energy Storage System
GDL	Garden and Design Landscape
LCA	Landscape Character Area
LCT	Landscape Character Type
LCP	Local Development Plan
LSA	Landscape Sensitivity Assessment
LVIA	Landscape and Visual Impact Assessment
NCN	National Cycle Network
SLA	Special Landscape Area

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