ASSESSMENT OF THE SENSITIVITY OF THE LANDSCAPES OF NORTHUMBERLAND TO WIND ENERGY DEVELOPMENT

Prepared for

NORTHUMBERLAND

Northumberland County Council

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The Planning & Environment Studio

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Cover photograph: Vista south to North Steads and Sisters Wind Farms from Boulmer Beach.
Lens 75-300mm f/4-5.6

Report Contents

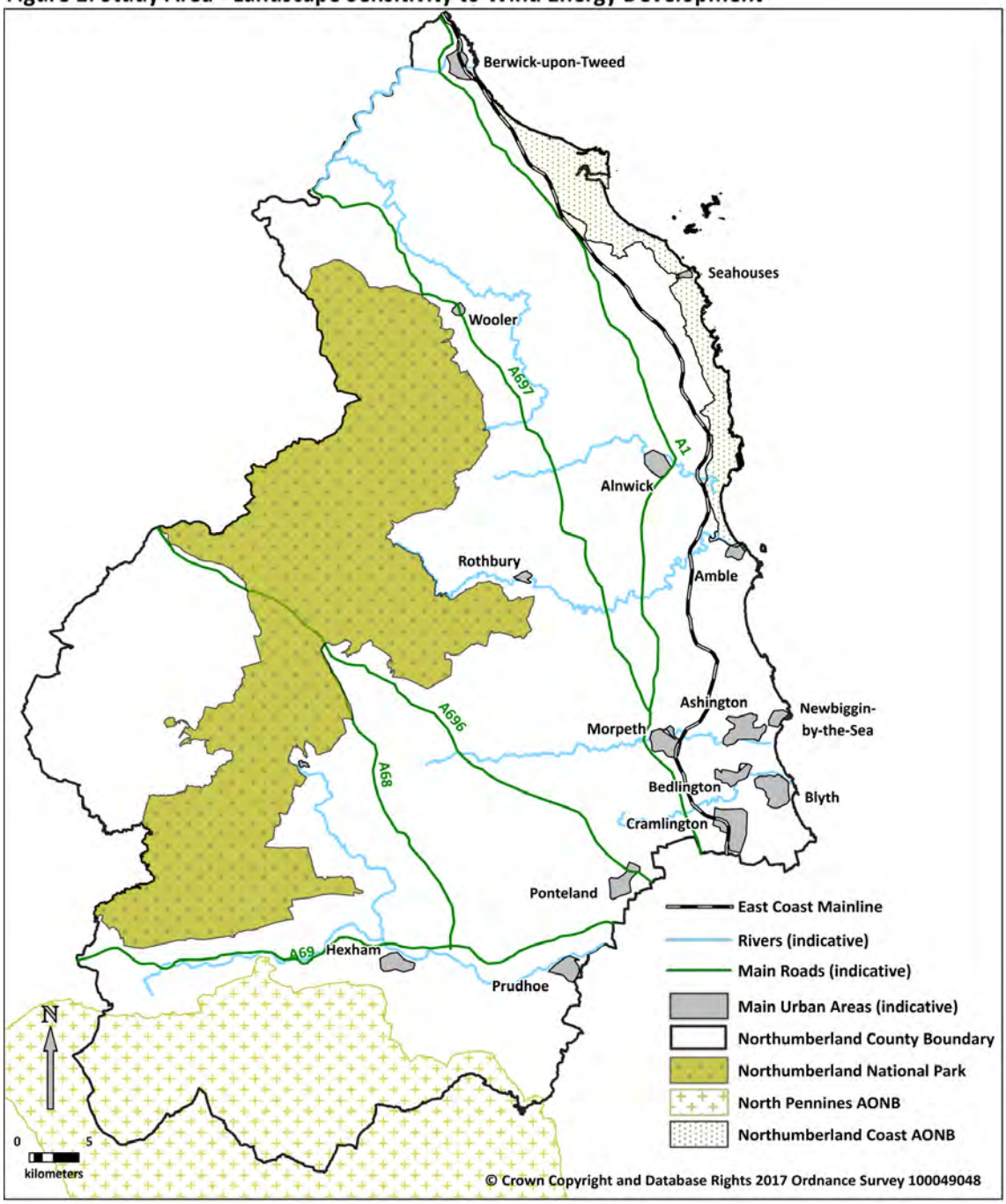
LIST OF TABLES:

LIST OF FIGURES

1. INTRODUCTION & CONTEXT

1.1 Northumberland County Council commissioned the Planning & Environment Studio (PES) and Bayou Bluenvironment (BBe) to undertake an assessment of the sensitivity of the Northumberland landscape (*outside* Northumberland National Park – see **Figure 1**) to wind energy development. The study will be used to help the Council understand whether it is appropriate to identify suitable areas for wind energy development within the emerging Local Plan.

Figure 1: Study Area - Landscape Sensitivity to Wind Energy Development



1.2 The purpose of the study is threefold:

(i) to provide the Council with an up to date evidence base on the sensitivity of the landscapes of Northumberland to different scales of wind turbine;
(ii) to inform potential identification by the Council of suitable areas for wind turbine development in the Northumberland Local Plan; and
(iii) to inform policies applicable to onshore wind energy in the emerging Local Plan.

National Planning Policy Context

1.3 Planning policy for onshore wind development is contained in a number of documents. UK Government national policy is principally set out in the National Planning Policy Framework (NPPF)[1], the Overarching National Policy Statement for Energy, National Policy Statement for Renewable Energy Infrastructure[2], and national Planning Practice Guidance (PPG) for Renewable and Low Carbon Energy[3].

1.4 The national planning policy framework is established to help meet the Government's target for energy generation from renewable sources as part of a transition to a low carbon future. However, the promotion of renewable energy is restrained - the different roles and character of different areas must be taken into account and the intrinsic character and beauty of the countryside must be recognised in guiding new wind energy development to appropriate locations[4].

1.5 Planning applications for large scale renewable energy projects, including onshore wind with an electricity generating output above 50 megawatts (MW), were previously treated as Nationally Significant Infrastructure Projects (NSIPs) requiring 'development consent' by the Secretary of State (rather than planning permission) under the Planning Act 2008 and subsequently amended by the Localism Act 2011. Onshore wind farms of over 50MW were removed from the NSIP regime under the Energy Act 2016 and regulations made under it, with the decision making power transferred back to local planning authorities. Wind energy applications below 50MW are decided at the local authority level in England in accordance with the polices set out in the NPPF and following the procedure set out in the Town and Country Planning Act 1990 and the Town and Country Planning (Development Management Procedure) (England) Order 2015.

1.6 In a written ministerial statement on 18 June 2015[5] the Government announced new considerations to be applied to proposed wind energy development so that "local people have

[1] Department for Communities and Local Government (March 2012), National Planning Policy Framework.
[2] Department for Communities and Local Government (July 2011), Overarching National Policy Statement for
[2] Department for Communities and Local Government (July 2011), Overarching National Policy Statement for Energy (EN-1) and National Policy Statement for Renewable Energy Infrastructure (EN-3).
[3] Department for Communities and Local Government (March 2014), Planning Practice Guidance: Renewable and low carbon energy.
[4] NPPF paragraph 17.
[5] Secretary of State for Communities and Local Government (Greg Clark), (18 June 2015), House of Commons: Written Statement (HCWS42).

the final say on wind farm applications". This states: "*When determining planning applications for wind energy development involving one or more wind turbines, local planning authorities should only grant planning permission if:*

- *the development site is in an area identified as suitable for wind energy development in a local or neighbourhood plan; and*
- *following consultation, it can be demonstrated that the planning impacts identified by affected local communities have been fully addressed and therefore the proposal has their backing"* (whether a proposal has the backing of the affected local community is, according to the written statement, *"a planning judgement for the local planning authority").*

1.7 This is now embodied within the national PPG which provides guidance to local councils in developing policies for renewable and low carbon energy[6]. The PPG stresses that there are no hard and fast rules about how suitable areas for renewable energy should be identified but, critically, the potential impacts on the local environment, including from cumulative impacts, must be taken into account.

Local Planning Policy Context

1.8 The Local Plan in Northumberland currently comprises the *saved* local plans of the former constituent local planning authorities in Northumberland, prior to local government reorganisation in 2009. The Council is currently preparing a replacement Local Plan.

1.9 The Northumberland Consolidated Planning Policy Framework does not currently identify suitable areas for wind energy development. Castle Morpeth Local Plan identifies areas of search for wind power, and Alnwick Core Strategy identifies areas of least constraint. In assessing landscape sensitivity to different scales of wind turbine, this study will inform work to enable the Council to identify whether there are suitable areas for wind energy development across the county (outside Northumberland National Park).

1.10 This study will form part of the evidence base to the Northumberland Local Plan alongside a number of other relevant studies that have also been used as background documents to inform preparation of this report, namely:

- Northumberland Landscape Character Assessment (NLCA), 2010.
- Northumberland Key Land Use Impact Study (NKLUIS), 2010.
- Renewable, Low-Carbon Energy Generation and Energy Efficiency Study, 2011.
- Northumberland Coast AONB Landscape Sensitivity and Capacity Study, 2013.
- Evaluation of the Impacts of Onshore Wind Farms on Tourism, 2014.
- Assessment of the Extent to which Existing Onshore Wind Developments in Northumberland have been Successfully Accommodated into the Landscape, 2015.

[6] Department for Communities and Local Government, (18 June 2015), Planning Practice Guidance: Renewable and low carbon energy.

1.11 The report's evidence and findings will also be useful be useful in terms of informing planning applications and may also be of value to local communities and other organisations.

Background to Wind Turbine Development in Northumberland

1.12 Guidance within the evidence base studies referred to above is currently used by the Council to help determine planning applications for wind turbines. The NKLUIS assesses landscape sensitivity of landscape character areas identified in the NLCA (see **Figure 2 and Appendix A**) to small-scale wind power development (defined as up to 5 turbines of any height – turbine height was not considered a key factor affecting sensitivity to wind power development)) and to large-scale wind power development (defined as more than 5 turbines of any height). This study will act as an update to the landscape sensitivity assessment within the NKLUIS in terms of wind energy development.

1.13 Prior to the submission of the NLCA and NKLUIS in 2010, strategic wind resource areas were identified in the former North East Regional Spatial Strategy (RSS)[7]. Policy 41 of the RSS identified 11 wind resource areas, based on 'broad areas of least constraint' which were themselves derived from examination of landscape character at a regional scale. **Table 1** and **Figure 3** indicates the 6 wind resource areas identified in the RSS within Northumberland and shows them in relation to landscape character areas (from the NLCA) and existing wind energy schemes. These present important chronological reference and context, but have not influenced the methodology developed or findings of this study:

[7] Government Office for the North East (2008), The North East of England Plan: Regional Spatial Strategy to 2021.

Figure 2: Landscape Classification of Northumberland (NLCA 2010)

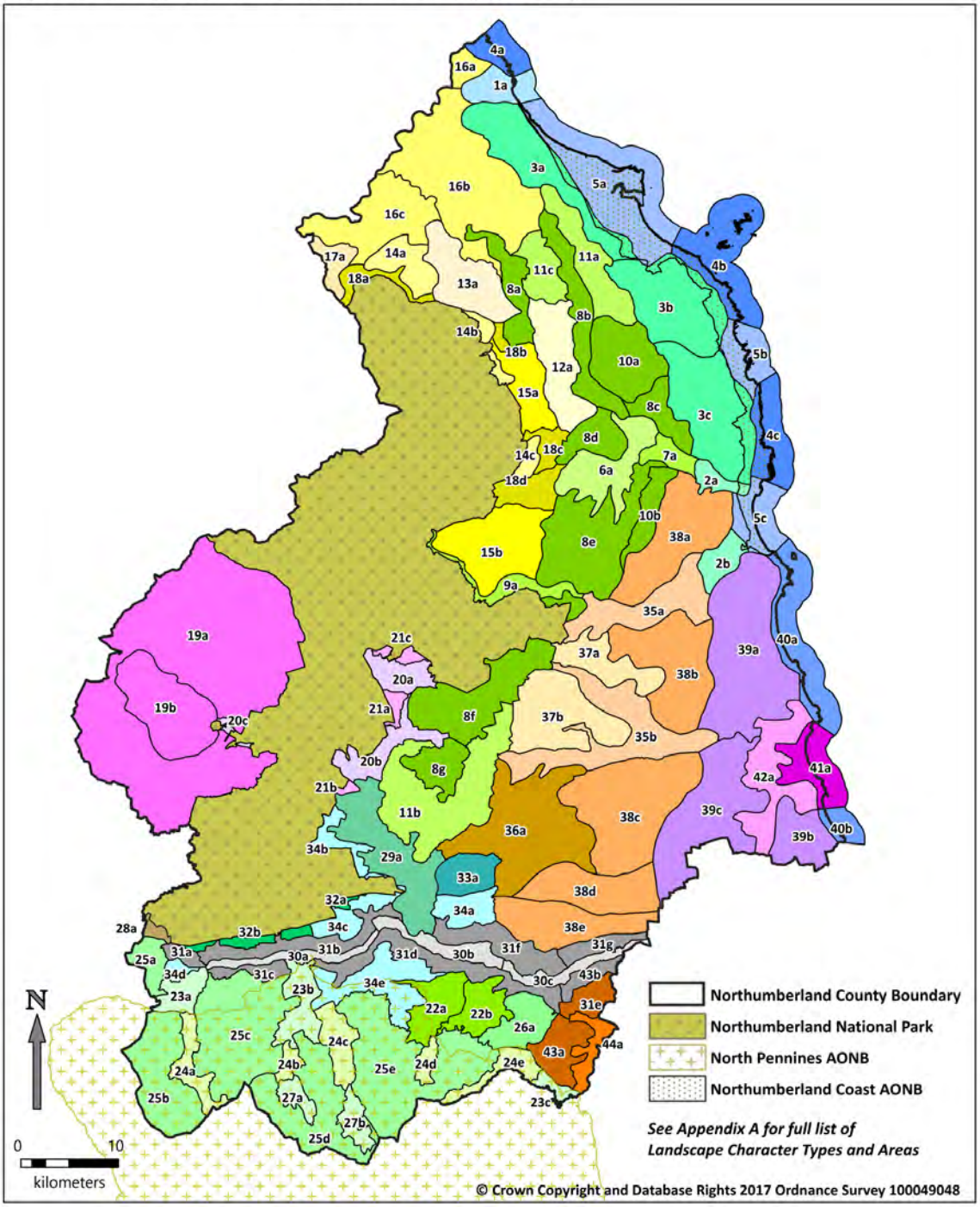


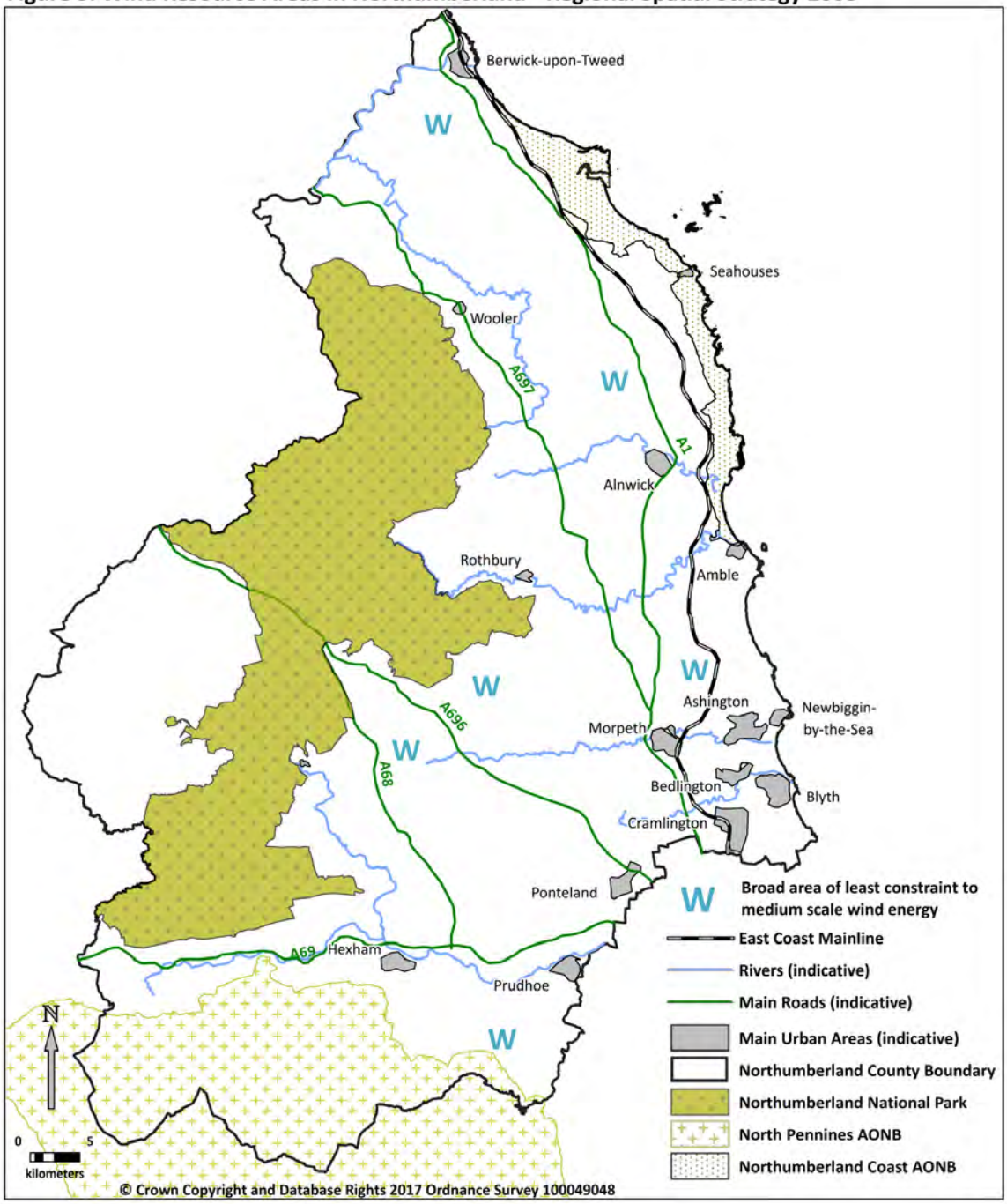
Table 1: Wind Resource Areas (RSS), landscape character areas and existing wind energy developments

Wind Resource Area (in RSS)	Landscape Character Area(s) (in NLCA)	Wind Energy Scheme
South and West Berwick upon Tweed	Duddo and Lowick Open Rolling Farmland	Barmoor
North / South Charlton	Rock Farmed Coastal Plain; Charlton Ridge Outcrop Hills and Escarpments; Rosebrough Moor Smooth Moorland	Wandylaw & Middlemoor
Knowesgate and Harwood Forest area	Sweethope and Blackdown Outcrop Hills and Escarpments; Harwood Forest Outcrop Hills and Escarpments	Green Rigg & Ray
Northern Coalfield south of Druridge Bay	Coastal Coalfields	North Steads, Sisters & Lynemouth
Kiln Pit Hill area	Kiln Pit Hill Hinterland	Boundary Lane & Kiln Pit Hill

1.14 In addition, the Kielder Forest and Reservoir area was identified in the RSS as a Strategic Renewables Resource Area, with potential for large-scale wind power development. With the revocation of the RSS these strategic wind power resource areas are no longer identified in the development plan for the county, although their basis in regional landscape studies is unchanged and continues to inform decisions on local wind energy development applications.

1.15 To date the main level of interest in Northumberland for onshore wind turbine development has been for micro and smaller-sized developments comprising single turbines 25m height to blade tip or less, and commercial-scale single wind turbines and wind farms with up to 18 turbines 100m – 130m height. There has also been considerable interest within the county for turbines between approximately 25m – 55m height. At the time of writing this report there was a small number of operational wind turbines between 55m – 100m height within Northumberland.

Figure 3: Wind Resource Areas In Northumberland - Regional Spatial Strategy 2008



1.16 Building-mounted small domestic wind turbines that do not exceed an overall height (including building, hub and blade) of 15 metres, and stand-alone small domestic wind turbines that do not exceed 11.1 metres in height, do not generally need planning permission under permitted development rights contained within the Town and Country Planning (General Permitted Development) (England) Order 2015.

1.17 Currently most applications for onshore wind turbines up to 25m ht. in the county have been approved. Within the other turbine height ranges referred to above there is a mixed picture of applications permitted, refused, allowed on appeal and dismissed at appeal. **Table 2** provides a

summary of wind turbine applications within Northumberland at the time of writing indicating the significant pressure for wind energy development in the county:

Table 2: Summary of wind turbine applications within Northumberland*

Turbine height to blade tip	Schemes permitted or allowed on appeal	Schemes refused or dismissed at appeal or pending	Turbines operational or consented	Turbines refused or dismissed at appeal or pending
Below 25m	55	0	62	0
25-55m	19	11	23	13
55-100m	2	8	4	16
100m+	15	4	124	17

* approximate numbers using data from Northumberland County Council

1.18 **Table 3** provides more detail of operational onshore wind energy schemes with turbine height 55m – 100m to blade tip. Their location is shown in **Figure 4**:

Table 3: Operational onshore wind energy schemes with turbines 55m – 100m ht.

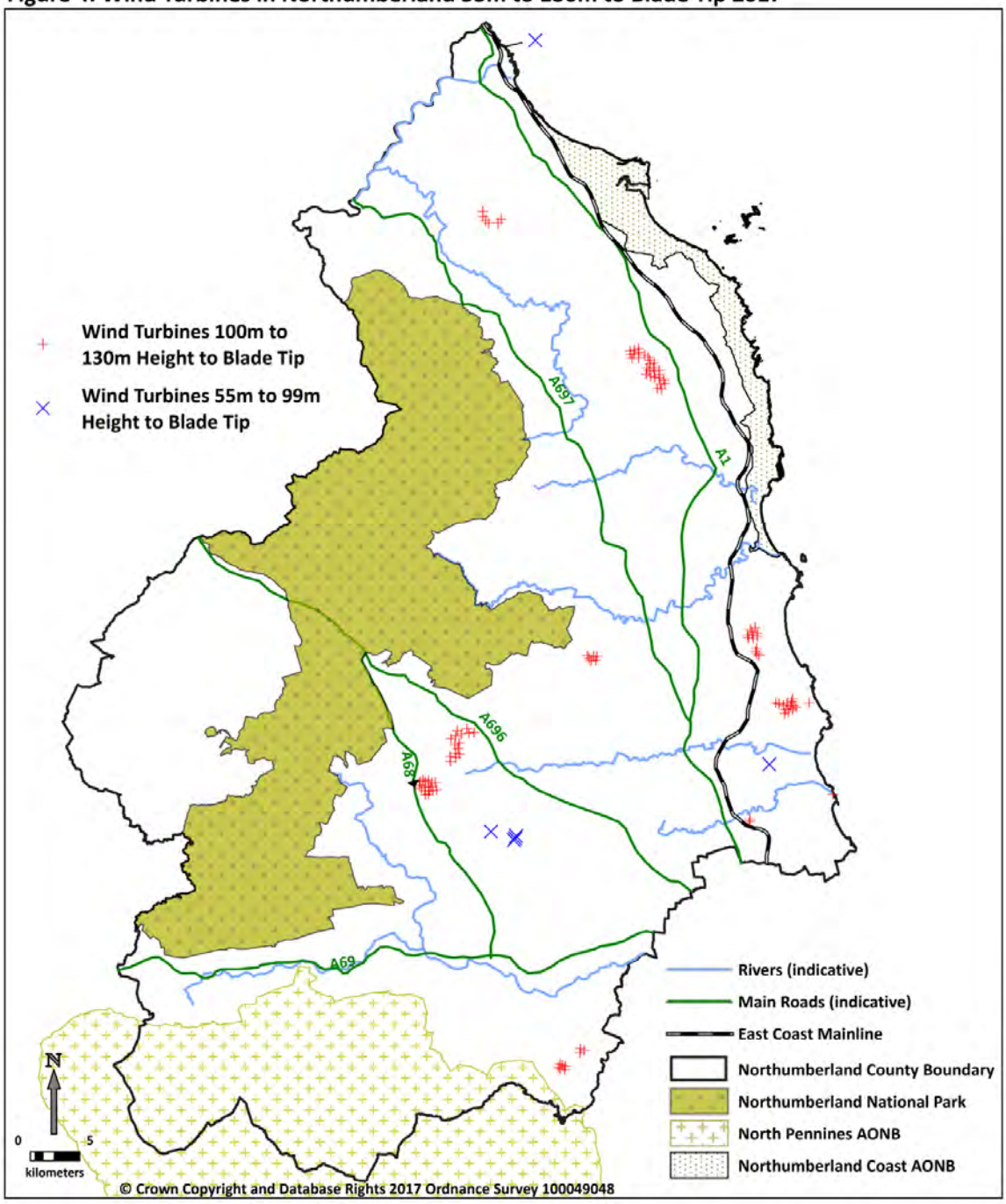
Scheme	Number of turbines	Turbine ht. to blade tip	Power (MW) per turbine
Bavington Mount	1	61m	0.5
Kirkheaton	3	66m	0.6
Low Horton Farm	1	71m	0.275
Steps of Grace	1	74m	0.5

1.19 **Table 4** provides more detail of operational wind energy schemes with turbine height 100m – 130m to blade tip, also shown in **Figure 4**:

Table 4: Operational onshore wind energy schemes with turbines 100m – 130m ht.

Scheme	Number of turbines	Turbine ht. to blade tip	Power (MW) per turbine
Barmoor	6	110m	2
Bewick Drift	1	110m	2.3
Blyth Harbour	1	130m	3.4
Boundary Lane	3	110m	2
Green Rigg	18	100m	2
Kiln Pit Hill	6	100m	2
Lynemouth	13	121.5m	2
Middlemoor	18	125m	3
North Steads	9	125m	2
MSD Cramlington	2	125m	2.5
Ray	16	125m	3.4
Sisters	4	125m	2
Wandylaw	10	125m	2
Wingates	6	110m	2.5

Figure 4: Wind Turbines in Northumberland 55m to 130m to Blade Tip 2017



1.20 At the time of writing there were 7 offshore wind turbines near Blyth Harbour, as detailed in **Table 5** below:

Table 5: Operational offshore wind energy schemes

Scheme	Number of turbines	Turbine ht. to blade tip	Power (MW)
Blyth Offshore	2	93m	2 per turbine
Blyth Offshore Re-powering	5 (consent for *up to* 15)	191.5m	Max. total 41.5

1.21 The range of turbine applications has been used to generate appropriate wind turbine typologies for inclusion within the study. In accordance with the project brief, the study assesses the sensitivity of landscapes in Northumberland to different scales of wind turbine based on the height of the turbines (rather than numbers of turbines / turbine arrays within a wind farm). This is discussed further in **Section 2: Methodology.**

Scope of the Study

1.22 The scope of this study is to:

a. identify criteria for assessing landscape sensitivity to wind turbine development;
b. identify different categories of landscape sensitivity to wind turbine development;
c. identify different scales of wind turbines, based on the height of turbines, to be used in the assessment;
d. undertake an assessment of the sensitivity of each of the landscape character areas in Northumberland to wind turbine development, including a consideration of cumulative effects; and to
e. provide advice on the sensitivity of each landscape character area to wind turbine development and any implications for the identification of suitable areas for wind turbine development in Northumberland.

1.23 The study considers onshore wind turbines within Northumberland, including the Northumberland Coast Area of Outstanding Natural Beauty (AONB) and that part of the North Pennines AONB falling within the county, but excluding Northumberland National Park. The nature of wind turbines means they can affect landscape character beyond the host landscape, thus cross-border inter-visibility and cumulative effects of developments within neighbouring administrative areas, including in Scotland, Northumberland National Park and offshore installations, are taken into account in the study.

1.24 Although wind power is theoretically limited by a range of constraints, for example average wind speed, technological advances now enable development across a broad range of conditions. Therefore the entire county (with the exception of Northumberland National Park) is considered in relation to landscape sensitivity to wind turbine development.

1.25 The Northumberland Landscape Character Assessment (NLCA) is used as the basis for this study in assessing the sensitivity of the 44 *landscape character types* (LCT) (which are generic and share common combinations of geology, topography, vegetation and human influences, e.g. *Outcrop Hills and Escarpments)* and the 108 *landscape character areas* (LCA) (which are single, discrete geographical areas of the landscape type with a unique 'sense of place', e.g. *Kyloe and Chillingham Hills*) to wind turbine proposals in the county. Written in 2010 (following the formation of the unitary authority of Northumberland County Council in 2009), the NLCA provides valuable description of the character of the Northumberland landscapes which has been updated in this study where necessary, in particular in terms of the presence of man-made features (such as wind turbines) and how these are perceived as affecting the balance of key landscape characteristics and views. It is important to note that this study does not

purport to be a new NLCA; it records the main features of each landscape character type at the time of the study as indicators of likely sensitivity of the landscape to wind turbine development. This is addressed further in **Section 2: Methodology**.

1.26 It is also important to note that this sensitivity study does not define the precise limit of wind turbine development that can be accommodated within Northumberland, but gives an indication of the relative sensitivity of the different landscape character areas to this type of development, as defined in the study. It should not be interpreted as a definitive statement that a particular landscape is suitable or not suitable for wind turbine development – this report is not a substitute for detailed landscape and visual impact assessment of local development proposals or as part of wider environmental impact assessment.

1.27 Furthermore, although the study may help identify less sensitive locations it does not mean that these areas are therefore always suitable for wind turbine development, nor that such development will be acceptable. Even an area rated as low-moderate sensitivity will comprise some key characteristics that are sensitive to development. If a development would adversely affect key characteristics, or the scale of development would create a high magnitude of change, effects on the character and appearance of an area could potentially be significant even if that area is rated as low-moderate sensitivity.

1.28 The study uses carefully defined criteria to assess sensitivity that inevitably involves a degree of professional judgement in evaluating sometimes competing and unequally weighted characteristics, or attributes. Rigid interpretation of the findings should be avoided, paying particular attention to the descriptions of potential sensitivity to different scales of development and the associated broad generic guidance on the type of development that may or may not be acceptable in different locations.

1.29 It is also important to recognise that this study only considers landscape character. Biodiversity and cultural heritage are taken into consideration only where they have an influence on landscape character. The Council will consider all other environmental factors and all other relevant issues during deliberations on whether there are any suitable areas for wind turbine development.

1.30 Assessment of the sensitivity to wind turbine development is made to compare landscapes within Northumberland; the study should not be read alongside or compared with other sensitivity and capacity studies. Nor does the study compare the advantages or disadvantages of wind energy in relation to other renewable or low carbon energy sources.

1.31 It is acknowledged that individual perceptions and attitudes towards renewable energy developments, and in particular wind turbines, vary greatly. Contrasting positive and negative attitudes are common but the study takes an unbiased approach.

Format of the Report

1.32 This Report is set out in 4 principal sections:

Part 1: Introduction & Context (this section as above).

Part 2: Methodology. Sets out the principles, scope, approach, process, techniques and sequence adopted in preparing the landscape sensitivity report.

Part 3: Landscape Sensitivity Profiles and Assessment. This section forms the body of the research outputs and provides detailed, structured analysis of LCT/LCA sensitivity attributes and summary values.

Part 4: Summary Findings: Landscape Sensitivity to Wind Energy Development in Northumberland. This section provides accessible summary results from the research, presents mapping outputs at county scale and highlights key issues of sensitivity variations and further considerations in respects to good landscape planning for wind energy development.

Appendices set out more detailed contextual information.

2. METHODOLOGY

Introduction

2.1 The assessment follows generic guidance for judging landscape sensitivity contained within The Countryside Agency's and Scottish Natural Heritage's joint *Landscape Character Assessment Guidance for England and Scotland*, 2002, Topic Paper 6[8]. The study is also consistent with the impact assessment methodology advocated by the Landscape Institute and Institute of Environmental Management & Assessment in their *Guidelines for Landscape and Visual Impact Assessment*, 2013[9].

2.2 A wide body of guidance has been produced on the landscape effects of on-shore wind farms, in particular from Scottish Natural Heritage (SNH)[10], over recent years. Useful overviews of wind farm characteristics and typical effects of wind turbines on the landscape are found in numerous documents including landscape and visual impact assessments submitted in connection with wind farm proposals, and wind energy sensitivity and/or capacity studies throughout the UK. There is now a wide consensus as to the ways in which wind turbines can affect the landscape. **Appendix B** provides an overview of key landscape characteristics and their general influence on wind energy development based on a review of available guidance and other sources[11] and the consultants own experience of undertaking on-shore wind energy landscape sensitivity and capacity studies in England and Scotland in many different landscapes and at different scales of development. This has helped inform a methodology for this study. It is important that the process is simple and easily understood whilst being robust, transparent and defendable.

2.3 *Landscape sensitivity* refers to the extent to which a particular landscape character type or area is vulnerable to change due to potentially significant effects on its character, including views, or overall change of landscape character type. Landscape sensitivity is a professional judgement reflecting the particular landscape characteristics and features of a given area, for example landscapes which are rare or unusual landscape types are likely to be more sensitive to change. Sensitivity is likely to vary according to the type and nature of change being proposed, and in this study refers to the landscape and visual sensitivity of the Northumberland landscape (excluding Northumberland National Park) to wind energy development.

[8] The Countryside Agency and Scottish Natural Heritage (2002); *Landscape Character Assessment: Guidance for England and Scotland. Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity;*

[9] Landscape Institute and Institute of Environmental Management & Assessment (2013), Guidelines for Landscape and Visual Impact Assessment, Third Edition.

[10] For example:
Strategic Locational Guidance for Onshore Wind Farms, 2009;
Guidance on Spatial Planning for Onshore Wind Turbines – natural heritage considerations, 2015;
Siting and Designing Wind Farms in the Landscape, Version 1, 2009 & Version 2, 2014;
Siting and Design of Small Scale Wind Turbines of between 15 and 50m in Height, 2012;
Assessing the Cumulative Impact of On Shore Wind Energy Developments, 2012.

[11] Including SNH guidance (as above), Northumberland Key Land Use Impact Study (2010), Cheshire East Landscape Sensitivity to Wind Energy Developments (2013), Durham County Council Wind Turbine Development Evidence Paper (November 2016).

2.4 *'Landscape sensitivity'* and *'landscape capacity'* are terms that are often used to mean the same thing in landscape sensitivity and capacity studies. Care is needed in the way that 'landscape capacity' is used since it can imply the existence of an objectively defined threshold below which development is acceptable, and beyond which it is unacceptable. Rarely can such a threshold be defined with any accuracy, and thresholds will be dependent upon various considerations affecting sensitivity, policy and the need for renewable energy. Consequently this study assesses the overall sensitivity of landscape character types within Northumberland to wind energy development without attempting to identify landscapes where thresholds of development may or may not be acceptable.

Project Stages

2.5 The method broadly follows a process of three project stages:

Project Stage 1:

- Desk study review of published material (see Section 1), including wind energy application decisions within the county, Ordnance Survey sheets at 1:50,000 scale and 1:25,000 scale, and aerial photographs / imagery;
- Evaluation of *landscape character types* (LCT) and *landscape character areas* (LCA) using the Northumberland Landscape Character Assessment (NLCA), 2010;
- Development of wind energy typology categories based on turbine heights (rather than numbers of turbines / turbine arrays within a wind farm) in accordance with the project brief;
- Generation and application of appropriate criteria to assess sensitivity;
- Initial desk-based assessment of landscape sensitivity of each LCT and LCA across the county;
- Initial fieldwork within *pilot study* character areas.

Project Stage 2:

- Fieldwork ground-truthing and moderation of the initial assessment.

Project Stage 3:

- Presentation of results by way of sensitivity profiles for each LCT to each wind energy category, tables summarising sensitivity by category of each LCA, and mapping using a geographic information system (GIS);
- Recommendations for taking the sensitivity assessment findings forwards towards a more specific identification of areas with the capacity to accommodate wind energy, taking into consideration cumulative effects of operational and approved developments.

Project Stage 1: Defining Appropriate Wind Turbine Typology Categories

2.6 In accordance with the project brief, wind energy typology categories are based on turbine heights (rather than numbers of turbines / turbine arrays within a wind farm). A wide range of wind energy typologies have been considered in previous studies: for example, the Northumberland Key Land Use Impact Study (NKLUIS), 2010, considers sensitivity to small-

scale wind power development defined as wind farms of up to 5 turbines of any size, and large-scale wind power development defined as any wind farm with more than 5 turbines of any size; the Northumberland Coast AONB Landscape Sensitivity and Capacity Study, 2013, considers sensitivity to domestic / farm-scale wind turbines of between 15-50m height to blade tip, and commercial-scale wind farms with one or more turbines 100m height to blade tip.

2.7 A review of planning applications over the past ten years gives a partial indication of likely turbine heights most likely to come forward in the county[12]. Following a review of different categories of turbine included in the *pilot study* (see below) and discussion with the Council's project team, it was agreed that the following wind turbine typology categories would be used in the study:

Table 6: Wind turbine typology categories used in the study:

Turbine height to blade tip				
Small	Small-Medium	Medium	Medium-Large	Larger
<25m	26m-40m	41m-65m	66m-100m	101m-135m

2.8 This typology is similar to that adopted by the neighbouring Durham County Council in a wind turbine development study prepared as evidence base for the County Durham Plan in November 2016[13]. These turbine heights can be seen to reflect more common generation capacity bands of commercially mature wind energy technologies. For example, as noted in the Durham CC study, there is often a marked difference in turbine type above 40m overall height to blade tip, reflected in the height of the wind turbine tower to the hub (nacelle), rotor blade length and MW output.

Project Stage 1: Generation and Application of Appropriate Criteria to Assess Sensitivity

2.9 This is the key stage in the development of a bespoke method most appropriate to the identification and recording of sensitivity attributes of the landscapes of Northumberland to different categories of wind turbine. Following a desk based review of landscape sensitivity to wind energy studies, using the consultant's extensive professional experience at undertaking such projects and discussion with the Council's project team, led to the conclusion that a refinement of the sensitivity criteria used in the Northumberland Key Land Use Impact Study (NKLUIS), 2010, would be broadly appropriate for this study. The NKLUIS uses the landscape classification of LCTs and LCAs from the NLCA (see **Figure 2 and Appendix A**) as the basis for its assessment of landscape sensitivity to wind power, as this study does, providing continuity across the evidence base for the new Local Plan.

[12] Notwithstanding unforeseen technological advances.
[13] Durham County Council (November 2016), County Durham Plan Wind Turbine Development Evidence Paper.

2.10 An understanding of how wind turbines can affect the landscape has helped to define the sensitivity criteria used in this study. As referred to above (paragraph 2.2) there is now a wide consensus as to the ways in which wind turbines affect the landscape. **Appendix B** provides an overview of key landscape characteristics and their general influence on wind energy development based on a review of available guidance and other sources[14] and the consultants' own experience of undertaking on-shore wind energy landscape sensitivity and capacity studies. From this, key landscape attributes have been identified that are most likely to influence sensitivity of landscapes in Northumberland to wind turbine development, as outlined below in **Table 7**. Criteria for assessing sensitivity in this study are reproduced from the landscape attributes in the table under six key headings of *physical, visual, perceptual, qualitative, historic & cultural*, and *contextual* considerations.

Table 7: Landscape attributes influencing sensitivity to wind energy development

Attribute	Factors considered in determining landscape sensitivity
PHYSICAL LANDSCAPE CONSIDERATIONS	
Landform	The shape, elevation and change in relief of the physical landscape, ranging from simple and consistent, such as the flat coastal plain, to the more complex, rugged and dramatic landscapes of the sandstone hill outcrops and rocky coastlines. Including consideration of any distinct 'landmark' features such as the Whin Sill with increased susceptibility. In general, the simpler and more gently graded the landform the better the visual relationship with the simple form and scale of turbines, providing visual balance and avoiding visual confusion. Ancillary roads associated with larger turbines are more likely to be better accommodated on more gentle slopes.
Land cover	The complexity and diversity of land cover pattern, from the uniform monoculture of moorland and plantation forest, to more irregular, complex, intricate patterns of landscape features. Landscapes with domestic / human scale features such as small fields, boundary hedgerows, trees and walls, woodland copses and domestic buildings that act as scale indicators and can accentuate the size of larger turbines. Consideration of 'landmark' features such as hill top copses, whether pattern displays integrity or if it is fragmented. In general, a simple and consistent land cover pattern is less sensitive to wind energy development than a more intricate, irregular, fragmented pattern where turbines could increase visual confusion. However, complex patterns within urban fringe landscapes often lack coherence, with the potential for reduced sensitivity to wind energy development of appropriate scale.

[14] Including SNH guidance (as above), Northumberland Key Land Use Impact Study (2010), Cheshire East Landscape Sensitivity to Wind Energy Developments (2013), Durham County Council Wind Turbine Development Evidence Paper (November 2016).

Landscape scale	The relative size of landforms, ranging from the most intimate river valleys to extensive open coastal plain, and the relative scale of the landscape including land cover patterns of fields, hedgerows and trees. Landscape scale is closely related to the degree of relief and topographical containment, and the degree of enclosure / openness, visibility and the extent of views, and how the landscape is experienced. The way in which landforms enclose the landscape, or open out into other landscapes, is closely related to scale. Consideration of whether turbines would be compatible in scale or if they would be apparent / conspicuous / prominent / dominant in the landscape. In general, the more open and larger scale of the landscape the greater the ability to relate to larger scale turbine typologies. However, landscapes where expansiveness and sense of distance is important will be more sensitive to wind energy development.
VISUAL CONSIDERATIONS	
Skylines	Visual horizons can be simple i.e. relatively flat and featureless and not prominent, or more prominent and distinctive and/or complex with woodland, trees and other features. In general, prominent, distinctive, undeveloped skylines are more sensitive to wind energy development than indistinctive skylines which are not prominent or where development such as tall structures is already prominent on the skyline, even if located in adjacent character areas.
Views and landmarks	Consideration of views from important viewpoints or other views to/from landmark features such as iconic buildings, natural features such as ridges and hills and other landscape foci. Including views along the coast and to and from the sea. In general, turbines will be less acceptable where seen from popular viewpoints and where they adversely impact on views to/from important landmark features and other sensitive views, either within the same character area or beyond. This may include consideration of views looking down from sensitive elevated viewpoints.
Inter-visibility	Landscapes may be open and visible in panoramic views across a wide area, or may be visually enclosed and self-contained. Includes consideration of the role of adjacent landscapes in contributing to overall character of the landscape type, and potential effects of development on other character types and vice versa. In general, landscape types that are more closely juxtaposed and widely visible from surrounding landscapes are likely to be more sensitive to wind energy development, depending on the nature of effects and the sensitivity of those landscapes to different turbine typologies.
Visual receptors	Consideration of the change in views and visual amenity from sensitive visual receptors, in particular residents, tourists, people using public rights of way for recreational purposes, views from scenic roads, canals and other transport corridors. In general, landscapes with large numbers of potential visual receptors will be more sensitive to wind energy development, depending on the extent of visibility and the nature of development.
PERCEPTUAL CONSIDERATIONS	
Movement	Consideration of the extent of visible man-made movement in the landscape (but which may include movement from natural sources such as flowing water and trees blowing in the wind), within the same character area or beyond, such as vehicle traffic, aircraft and moving

	structures such as existing wind turbines. In general, busy landscapes with frequent man-made movement will have reduced sensitivity to wind energy development.
Built development	Consideration of the degree of modification to the landscape, either within the same character area or beyond, by built development such as settlement, industrial or commercial buildings and infrastructure, linear transport routes and power lines, and vertical structures such as communications masts, pylons, chimneys and wind turbines. More modified and developed landscapes will generally have a reduced sensitivity to wind energy development, depending on the nature of cumulative effects and overall landscape character. Undeveloped landscape with a strong sense of naturalness (including managed landscapes) will generally have an increased sensitivity to wind energy development. The developed coast is less sensitive than the undeveloped sandy or rocky coastline, including the AONB and heritage coast. Landscapes with notable historic settlements and settlement pattern will generally be of increased susceptibility.
Remoteness	Consideration of the sense of remoteness in terms of ease of access or seclusion (in the sense of the degree of containment, human activity and man-made noise that can be experienced). Remote, tranquil landscapes with little human activity or noise (but which may include movement and noise from natural sources such as flowing water and trees blowing in the wind) will be sensitive to wind energy development.
QUALITATIVE CONSIDERATIONS	
Scenic quality	The natural beauty and natural or ornamental (designed) scenic quality of the landscape, whether designated for such qualities or not. Includes consideration of the condition of the landscape in terms of its physical state and its visual and functional intactness. Consideration of likely effects on special qualities and the overall integrity of landscapes recognised for their scenic quality, such as Northumberland National Park, AONB, heritage coast and designed landscapes, which are particularly sensitive to wind energy development.
Distinctiveness	The extent to which a landscape is representative of the Northumberland landscape, or contributes to a distinctive 'sense of place'. Consideration of whether the landscape contains a particular character and/or features or elements which are considered particularly important examples, which would be more sensitive to uncharacteristic wind energy development.
Rarity	The relative rarity of a landscape character type within Northumberland. Consideration also of the presence of rare elements or features in the landscape. In general, more frequent character types will be less sensitive than rarer landscapes or landscapes containing rare elements or features.
HISTORIC & CULTURAL CONSIDERATIONS	
Heritage assets	The influence of cultural heritage features, including built structures, designed landscapes and visible earthworks on the character of the landscape and views. Distinctive archaeological / historic features can give a strong sense of history or 'timelessness'. Wind energy development could adversely affect the setting of sensitive heritage assets such as Scheduled Monuments, listed buildings, historic parks and gardens, heritage coast and Hadrian's Wall World Heritage Site.
Recreation	Consideration of the role played by the landscape in landscape-based recreation, including tourist attractions, other visitor facilities and scenic

	footpaths. Recreational and tourist facilities are sensitive to wind energy development where experience of the landscape is important to visitors.
CONTEXTUAL CONSIDERATIONS	
Landscape character context	The role of adjacent character types in contributing to overall landscape character and scenic quality, and vice versa. Includes consideration of the interaction of natural and cultural attributes of landscape, seascape and peri-urban (urban fringe) areas. Includes consideration of containment, backdrop and skylines, the experience of scale and degree of complexity, inter-visibility and vegetation patterns, and the importance of the setting of landscapes recognised for their scenic quality. Landscape types that are closely juxtaposed and contrast strongly with adjacent landscapes, areas of transition between character types, and areas that form part of the setting of sensitive landscapes, are likely to be especially sensitive. Susceptibility will also be increased where there is a high degree of inter-visibility between adjacent landscapes and/or seascapes and/or the urban fringe, including consideration of visibility within the wider study area beyond Northumberland. Consideration of the visual influence of wind turbines and how this would change landscape character depending on whether wind energy development would be apparent / conspicuous / prominent / dominant within a landscape character type or area.
Cumulative effects	Consideration of existing wind energy development(s) and cumulative effects that may alter key characteristics where wind energy development would be apparent / conspicuous / prominent / dominant within a landscape character type or area. Consideration of cumulative effects with other development e.g. transmission lines and other infrastructure, which can create an over-complex visual image. There may be scope for further development of a similar size whilst attaining some visual separation to minimise effects on landscape character dependent upon consideration of sequential cumulative effects when moving through the landscape.

2.11 This framework represents a refinement of the standardised set of criteria used in the NLCA to represent the key characteristic features of each LCA in Northumberland that could be affected by wind energy development, in particular in terms of:

- Amalgamation of considerations of landscape scale and enclosure to reflect their close inter-relationship;
- Consideration of settlement, industry, vertical and horizontal features together as 'built development' and the recording of up to date built features where they affect landscape character, such as wind energy installations and significant urban and infrastructure expansion, as a reflection of the perception of the degree of built modification to the landscape (rather than as 'cultural' criteria as in the NLCA);
- Consideration of 'scenic quality' to include not only landscape condition (as in the NLCA) but also to reflect Northumberland's natural beauty and ornamental (designed) qualities;
- The addition of consideration of the wider landscape character context of each LCA, reflecting the often intricate interplay of physical, visual, perceptual, qualitative, historic

& cultural attributes and how these combine to affect the character of the landscapes of Northumberland;

- The addition of consideration of cumulative effects to reflect how key characteristics may have changed due to the installation of wind energy developments within and beyond the study area.

2.12 The study assesses the relative sensitivity of each of the project landscape units (LCTs / LCAs) interpreted from the NLCA descriptions, considered against each of the wind turbine typology categories used in this study, for each landscape sensitivity attribute / criterion within **Table 7**. A matrix is used (based on that used within the NLCA but refined as appropriate as mentioned above) to record a standardised set of criteria to represent the key characteristic features of each LCA, which facilitates consistent and direct comparison of the sensitivity of each LCA to wind energy development. For each criterion a five-point scale is used against which each LCA is assessed in terms of general sensitivity to wind energy development. The five-point scale represents a gradual continuum (rather than a rigid scale with fixed points) from *low, low-moderate, moderate, moderate-high* and *high*, using the NLCA, fieldwork and professional judgement to decide the placement on the scale, and consequent overall sensitivity (see paragraphs 2.23 – 2.30). **Table 8** outlines the landscape sensitivity continuum:

Table 8: Landscape Sensitivity Continuum

	Lower Sensitivity ⟷	**Higher Sensitivity**
PHYSICAL LANDSCAPE CRITERIA		
Landform	Simple, level or gently graded, unvaried topography; Lack of landmark landform features.	Complex, steep, dramatic, strong topographical variety; Distinct landmark landform features.
Land cover	Simple, consistent, limited variety in land cover pattern; Lack of human-scale features; Lack of landmark landscape features; Complex urban fringe landscapes lacking coherence.	More intricate, irregular, fragmented land cover pattern; Human-scale features acting as scale indicators; Distinct landmark landscape features.
Landscape scale	Large scale landforms with little relief or topographic containment; Large scale land cover patterns lacking in human-scale features; Larger scale turbines relate better to larger scale, open, exposed landscapes; Smaller scale turbines relate better to smaller scale landscapes with more intricate land cover patterns and human-scale features.	Small scale, intimate landforms with high degree of relief and topographic containment; Small scale land cover patterns with human-scale features; Landscapes where expansiveness and sense of distance is important; Larger scale turbines will be out of scale in small scale, enclosed landscapes.

	Lower Sensitivity	Higher Sensitivity
VISUAL CRITERIA		
Skylines	Not prominent, indistinctive, simple, featureless visual horizons; Existing development is prominent on the skyline.	Prominent, distinctive, complex visual horizons; Undeveloped skyline.
Views and landmarks	The landscape is not a feature in recognised views; No views from important viewpoints; No views to/from important landmark features or other landscape foci.	The landscape is important in recognised views; Key views from important viewpoints; Views to/from important landmark features and/or other landscape foci.
Inter-visibility	Self-contained landscapes visually enclosed with restricted inter-visibility.	Open landscapes visible in panoramic views across a wide area.
Visual receptors	Few people potentially affected by a change in views and visual amenity.	Many people potentially affected by a change in views and visual amenity.
PERCEPTUAL CRITERIA		
Movement	Busy, frequent to continuous man-made movement.	Still, with no or only very occasional man-made movement.
Built development	High degree of landscape modification by built development; Significant man-made linear or vertical structures; Little or no traditional buildings or settlements; No sense of naturalness.	Largely undeveloped, with very limited landscape modification by built development; No significant man-made linear or vertical structures; Traditional & /or small scale buildings and settlements; Strong sense of naturalness.
Remoteness	Easily accessible landscape with no sense of remoteness; Not tranquil, with much human activity and man-made noise.	Secluded landscape with a sense of remoteness; Tranquil, with little human activity or noise.
QUALITATIVE CHARACTERISTICS		
Scenic quality	Landscape of low natural beauty and/or low natural or ornamental (designed) scenic quality; No landscape designation; Poor condition, poorly managed; Visually and/or functionally damaged or impaired.	Landscape of high natural beauty and/or high natural or ornamental (designed) scenic quality; Landscape designated for its scenic quality; Good condition, well managed; Visually and/or functionally intact.

	Lower Sensitivity ⟷	Higher Sensitivity
Distinctiveness	Not representative of Northumberland; Little 'sense of place'; Contains no particularly important landscape characteristics or features or elements.	Distinctive to Northumberland; Strong 'sense of place'; Contains landscape characteristics or features or elements considered particularly important examples within Northumberland.
Rarity	A common landscape character type or area within Northumberland; No rare landscape features or elements present.	A unique / very infrequent landscape character type or area within Northumberland; Rare landscape features or elements present.
HISTORIC & CULTURAL CRITERIA		
Heritage assets	The influence of cultural heritage / historic features on landscape character and views is highly limited; No distinctive visible archaeology and/or sensitive historic assets; No sense of history or 'timelessness'.	Landscape character and views are highly influenced by cultural heritage / historic features; Distinctive visible archaeology and/or historic features; Potential for the setting of sensitive heritage assets (whether designated and/or listed or not) to be significantly affected; Strong sense of history or 'timelessness'.
Recreation	Little or no landscape-based recreational or tourist use.	Landscape is locally and/or nationally important for recreation and/ or tourism, where experience of the landscape is important.
CONTEXTUAL CONSIDERATIONS		
Landscape character context	The landscape does not contribute to the character and/or scenic quality of adjacent character types, or vice versa; Landscape type is similar to adjacent type; Landscape contrasts with adjacent types but with restricted inter-visibility; Wind turbines considered to be 'noticeable' or 'apparent' are likely to become a characteristic of the landscape but not a key characteristic. The landscape affected is unlikely to become a 'wind farm landscape' type or sub-type.	The landscape contributes to the character and/or scenic quality of adjacent character types, or vice versa; Landscape types closely juxtaposed and contrasting strongly with adjacent types; Areas of transition between character types; High degree of inter-visibility between adjacent landscapes and/or seascapes and/or peri-urban (urban fringe) areas; Wind turbines considered to be 'prominent' or 'dominant' would become a key characteristic of the landscape which might become a 'wind farm landscape' type or sub-type.

	Lower Sensitivity ⟷ Higher Sensitivity	
Cumulative effects	Landscape unaffected by operational or consented wind energy development, or other development, such that wind turbines are unlikely to create an over-complex image; Turbines of a similar layout and design to other operational or consented turbines that limits visual confusion; Cumulative effects with other nearby operational or consented wind energy development would create a new 'wind farm landscape' character type but where this is considered preferable to adversely affecting the character of more sensitive landscapes; Visual separation between wind farms is such that sequential cumulative effects when moving through the landscape are considered insignificant.	Combined effects with operational or consented wind energy development, or other development, would create an over-complex image and/or visual confusion, and/or would adversely change the character of the landscape into a 'wind farm landscape' type or sub-type; Acceptable visual separation between operational or consented wind energy developments is adversely affected resulting in significant sequential cumulative effect when moving through the landscape.

Project Stage 1: Pilot Study

2.13 The project team recognised from the outset that in undertaking a relatively large scale and complex study, there could be significant value in piloting proposed methods and provisional sensitivity assessments to enable refinement in method and/or scope before full application. Moreover, this allowed for the Council's project team to be engaged from an early stage of the work. Consequently a *pilot study* was undertaken and an internal pilot study report presented to Council officers towards the end of Stage 1.

2.14 Field sheets were prepared to record key characteristics of LCAs within 3 LCTs, and fieldwork undertaken to record any significant changes from the characteristics identified in the NLCA, such as the effects of new infrastructure, built development and wind energy installations. Draft sensitivity profiles were prepared for the 3 LCTs, which were LCT 21: *Rolling Uplands*, LCT 35: *Broad Lowland Valleys* and LCT 40: *Broad Bays and Dunes*, chosen due to their differing characteristics (upland/lowland-rural/coastal-peri-urban), their limited number of component LCAs and geographic concentration.

2.15 A key lesson learnt from the pilot study was that the project would benefit from more extensive fieldwork to identify landscape changes since 2010, in particular wind energy developments and more significant urban and infrastructure expansion over the preceding 7 years. In so doing, added value would be afforded to the study, particularly in relation to how wind energy has changed the character and wider context/inter-visibility of some LCTs/LCAs,

and the impact this has had on cumulative effects. Changes were recorded on the LCA matrices against relevant criteria (sensitivity attributes) that together provide an overall assessment of sensitivity to different scales of wind energy development.

2.16 Also, as a result of the pilot profiling and subsequent discussions with the Council's project team, the initial turbine typology categories were finalised and the sensitivity criteria (attributes) were slightly amended (as referred to above). These relatively minor but significant changes provide a bespoke method most appropriate to the identification and recording of sensitivity attributes of the landscapes of Northumberland to categories of wind turbine most likely to come forward in the county.

Project Stage 2: Field Evaluation and Moderation of Initial Desk-Based Sensitivity Assessment

2.17 This stage entails the moderation and revision where appropriate of Stage 1 outputs through *ground-truthing*. This allows for a qualitative, experiential element to be embedded within the overall assessment of landscape sensitivity. It affords the necessary first-hand appreciation and ground-level understanding and analysis of the complex interplay of landscape components, by the consultants, in reaching a professional judgment on landscape unit sensitivity.

2.18 Fieldwork entailed examination of landscape character vis-à-vis the Project Stage 1 findings, and in doing so key added value achieved through having regard to the significance of visual receptors either within the landscape unit, or potentially affected outside it in neighbouring or more distant landscape units. Inter-visibility of landscape units and important views / viewpoints was confirmed by ground-truthing work as far as is appropriate to a strategic-grain sensitivity assessment.

2.19 Fieldwork also confirmed the location of all operational wind farms within the county to feed into the later project stage where their impact on landscape character and sensitivity is taken into account. At the time of the Northumberland LCA in 2010 there were only 3 operational wind farms in the county (with a total of 14 turbines including 2 offshore at Blyth), and a further 10 consented wind farms (totalling 130 turbines). This had risen to 15 operational wind farms (with a total of 114 turbines 100m – 130m height to blade tip - see **Table 4** and **Figure 4**) plus a number of smaller wind turbines and an additional 7 offshore turbines near Blyth Harbour (with a maximum height to blade tip of 191.5m – see **Table 5**) by the time the consultants undertook this study. The effects (individual and cumulative) of operational wind farms on landscape character and sensitivity is a key consideration in the study.

2.20 During the field work, field sheets and annotated field maps were used to record key landscape characteristics of each LCA across the county, noting any appropriate refinements to those recorded in the NLCA. These together with a photographic record provide a strong framework of *aide-memoires* to inform Stage 3 project outputs.

Project Stage 3: Sensitivity Assessment & Summary

2.21 Landscape sensitivity profiles record the assessment of sensitivity of each of the 44 LCTs against each of the key sensitivity attributes. A five-point scale is used to record the overall sensitivity of each LCA within each LCT to the different categories of wind turbine typology used in the study, using the definitions of sensitivity given in **Table 9** below. Professional judgement is used to decide the exact placement on the scale (see paragraphs 2.23 – 2.30). These are recorded in a summary table at the end of each LCT profile.

Table 9: Definitions of landscape character area sensitivity to wind turbine development

Higher Sensitivity (H)	Many of the key characteristics and qualities of the landscape are highly sensitive to this type and scale of development. Landscape character, views and/or visual amenity are highly likely to be significantly affected.
Moderate-High Sensitivity (M-H)	Many of the key characteristics and qualities of the landscape are sensitive to this type and scale of development. Landscape character, views and/or visual amenity are likely to be significantly affected.
Moderate Sensitivity (M)	Some of the key characteristics and qualities of the landscape are sensitive to this type and scale of development. Landscape character, views and/or visual amenity are unlikely to be significantly affected.
Low-Moderate Sensitivity (L-M)	Few of the key characteristics and qualities of the landscape are sensitive to this type and scale of development. Landscape character, views and/or visual amenity are unlikely to be significantly affected.
Lower Sensitivity (L)	The key characteristics and qualities of the landscape are generally robust and are not particularly sensitive to this type and scale of development. Landscape character, views and/or visual amenity are unlikely to be significantly affected.

2.22 Colour coding in the summary tables within each landscape sensitivity profile reflect the different sensitivity levels within **Table 10,** and are repeated on GIS generated mapping to indicate relative sensitivity of each LCA to each of the five wind turbine typology categories. This enables easy cross-referencing and spatial expression of findings to facilitate comparison of each area.

Deriving Overall Sensitivity Values including Consideration of Cumulative Effects

2.23 Overall sensitivity values for each LCA are derived by using the following **Table 10.** For each landscape characteristic, adopted specifically for this study as referred to above, a five-point scale is set out against which each landscape is assessed, and professional judgement is used in deciding overall sensitivity.

Table 10: Sensitivity Scale for Assessing Overall Sensitivity of each LCA to Wind Energy Development

	Low Sensitivity	Low-Moderate Sensitivity	Moderate Sensitivity	Moderate-High Sensitivity	High Sensitivity
PHYSICAL LANDSCAPE CRITERIA					
Landform	Simple, level, unvaried	Simple, gently undulating with occasional variety	Undulating or with some variety	Rolling, varied, but lacking strong complexity	Complex, strong topographical variety, dramatic
Land cover	Simple, predictable limited variety in land cover	Simple, with occasional variety	Some variety	Varied, but lacking complexity	Much variety in land cover resulting in mosaic effect
Landscape scale	Large, open, exposed	Medium-large, generally open, enclosed in places	Medium, some enclosure	Medium-small, mostly enclosed, some open areas	Small, enclosed
VISUAL CRITERIA					
Skylines	Not prominent, indistinctive, simple &/or development defined	Not prominent, indistinctive, &/or some development	Some prominence, not distinctive &/or varied, some development	Prominent &/or some complexity &/or little development	Prominent, distinctive &/or complex &/or undeveloped
Views and landmarks	No views from viewpoints or to landmark features	Views to limited or occasional landmark features	Views to locally significant landmark features	Views from viewpoints or to important landmark features	Key views from popular viewpoints to iconic / important landmark features
Inter-visibility	Self-contained, restricted inter-visibility	Occasional views to / from adjacent landscapes	Inter-visibility with some neighbouring landscapes	Inter-visibility and strong links to neighbouring landscapes	Extensively inter-visible, part of wider landscape
Visual receptors	Low number of viewers from properties and transport routes	Local transport routes, limited numbers of residents	Some visibility from main transport routes, more residents	Higher visibility from main transport routes and properties	Frequent properties and views from main transport routes
PERCEPTUAL CRITERIA					
Movement	Busy, frequent to continuous movement	Frequent movement on roads and railways	Occasional to frequent movement	Quiet, limited movement	Still, very occasional movement only
Built development	High degree & /or large scale built development. Little or no traditional buildings or settlements, no sense of naturalness	Some built development & /or infrastructure and/or prominent vertical structures and/or some brownfield land	Some built development & /or infrastructure and/or vertical structures but lacking prominence	Limited built development, infrastructure, & /or traditional or small scale buildings and settlements, strong sense of naturalness	Very limited or no built development. Traditional & /or small scale buildings and settlements, strong sense of naturalness
Remoteness	Not tranquil, much human activity and noise	Frequent human activity and presence	Some human activity limiting sense of remoteness	Relatively tranquil	Tranquil, little human activity or noise, sense of remoteness

QUALITATIVE CHARACTERISTICS					
Scenic quality	Of Low perceived picturesque / aesthetic / dramatic value	Low/medium perceived picturesque / aesthetic / dramatic value	Medium perceived picturesque / aesthetic / dramatic value	Medium/high perceived picturesque / aesthetic / dramatic value	High perceived picturesque / aesthetic / dramatic value
Distinctive-ness	Not representative of Northumberland	Unrepresentative of Northumberland but with some sense of place	Some elements of distinctive Northumberland landscape character	Representative landscape of Northumberland	Distinctive to Northumberland
Rarity	A common landscape across Northumberland	A more common landscape, with features of some rarity	A more common landscape with some unique features	A landscape rarely occurring across Northumberland	A unique / very infrequent landscape across Northumberland
HISTORIC & CULTURAL CRITERIA					
Heritage assets	Landscape where the influence of historic sites on character is highly limited	Landscape where the influence of historic sites on character is limited but occasionally l important locally	Landscape where the influence of historic sites on character is significant but restricted in extent	Landscape where perception and influence of historic sites significantly adds to character across the LCA	Landscape significantly defined or dominated by heritage sites and historic associations
Recreation	Little or no recreational use	Low level informal or local recreational use	Locally significant recreational use or attraction	Well used for recreation, greater than local attraction	Important for recreation for locals and visitors, national designation or attraction

2.24 It is important to note that the sensitivity assessment is not made on the basis of a simple sum of the most attributes falling within a point on the scale, but on consideration of the complex interplay of different criteria, recognising that within a landscape unit some criteria may have a greater influence on landscape character than other criteria, for example a prominent skyline.

2.25 The combined effects of a number of wind turbines can create cumulative effects i.e. additional changes to the landscape and people's perceptions of it that could eventually change the character of the landscape. As numbers of wind turbines increase, their potentially high level of visibility and other potential impacts means that cumulative effects are more likely. This is an evolving area of practice and considerable effort has recently been devoted to addressing cumulative landscape and visual effects in guidance, specifically on wind farms[15]. More general guidance is provided in the 'Guidelines for Landscape and Visual Impact Assessment', 2013[16].

2.26 Consideration is given within the LCT profiles to the presence of wind turbines within or visible from a LCT, how this affects landscape character and the potential for (further) cumulative landscape and visual effects as a result of new wind energy development. Cumulative

[15] Assessing the Cumulative Impact of On Shore Wind Energy Developments (2012), Scottish Natural Heritage
[16] Guidelines for Landscape and Visual Impact Assessment, Third Edition, 2013; Landscape Institute and Institute for Environmental Management and Assessment.

landscape effects may include effects on landscape character and on the physical fabric of the landscape (such as woodland and hedgerows). Cumulative visual effects may include:

- *Combined visibility* of two or more developments from a viewpoint, either 'in-combination' (where the developments are seen within the same arc of vision at the same time) or 'in-succession' (where the observer has to turn to see the various developments);
- *Sequential visibility* where different developments are seen when moving from one viewpoint to another, for example when traveling along a road, railway, river/canal or footpath, etc. Sequential effects may range from frequently sequential to occasionally sequential.

2.27 The potential sensitivity of a LCA to cumulative effects is taken into account in the overall summary assessment. Guidance is given within the profiles for avoiding or limiting cumulative effects from additional wind energy development.

2.28 Although the study findings will help direct development to less sensitive locations, it does not imply that development will always be acceptable in those areas. For example, the study may find that even an area assessed as overall *low-moderate* sensitivity may comprise some key characteristics that are sensitive to the type of development proposed and that might cause significant adverse effect. It is for each development proposal (that may be supported by Landscape & Visual Impact Assessment as an explicit element of Environmental Impact Assessment, for example) to show how the characteristics of a landscape unit (LCT / LCA), and the wider area where visual sensitivity extends beyond the unit, have been taken into account in the siting, layout and design of a proposal, to help the Council reach a decision on the scale of development, its magnitude of change and likely significance of effect on the character and appearance of the area. However, the outputs of this sensitivity assessment do provide that systematic and transparent coarse-to-moderate grain filter of areas where wind energy development of the different typologies considered in the study would not be appropriate in landscape and visual terms.

2.29 An overall summary sensitivity table sets out a comprehensive yet simple overview of the relative sensitivities of each LCA to each category of wind turbine typology (see **Table 11, Section 4**). The same colour coding is used as in the LCT landscape sensitivity profiles and in the mapping to ease cross-referencing.

2.30 Stage 3 of the project includes narrative in explanation of the findings and makes recommendations for taking these forward in policy and / or a supplementary planning document in relation to wind energy in Northumberland.

3. LANDSCAPE SENSITIVITY PROFILES AND ASSESSMENT

3.1 This section sets out detailed landscape sensitivity assessments for each of the 44 Landscape Character Areas of the Study Area. Within each assessment profile the report presents findings in respect to the LCT's component characteristics and how these are judged to relate to sensitivity to wind energy development. Each profile provides a summary statement in respect to the overall landscape character context in relation to wind energy sensitivity and a narrative in respect to the potential implications of cumulative impacts arising from additional wind energy development.

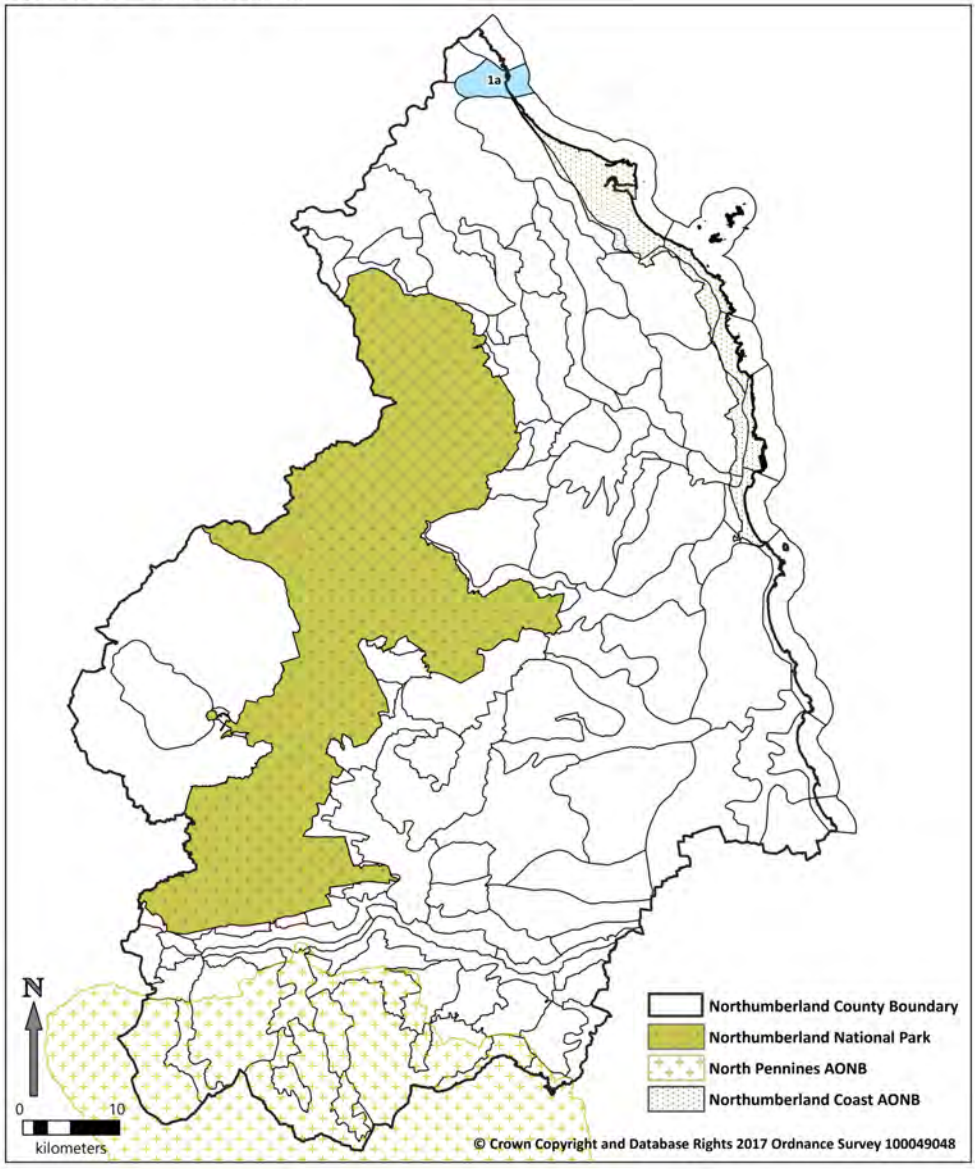
3.2 A summary table is presented within each profile as to the assessed overall landscape sensitivities to each of the wind turbine typologies (scales) for each component landscape character area of each LCT.

Landscape Sensitivity to Wind Energy Development
LCT 1: *Broad River Mouth*

LCT1 comprises a single character area based around the lower tidal reaches and mouth of the River Tweed.

- **LCA 1a: *Tweed River Mouth***

Figure 5: LCT1 - Broad River Mouth



Key Landscape Characteristics of LCT 1: *Broad River Mouth*:

- Sweeping river course, separating the historic core and outlying areas of Berwick upon Tweed, with mud banks and sandy beaches at the river mouth.
- Large-scale arable and pasture fields bounded by remnant hedgerows and occasional field trees. Woodland adjoins the river in places.
- Historic character, including the medieval core and medieval/post-medieval fortifications of Berwick upon Tweed on the north side of the River Tweed, and the historic bridges spanning the river.

- Peripheral development associated with Berwick upon Tweed extends over the valley slopes.
- Large-scale industrial buildings at Tweedmouth form a dominant feature within views from the north.
- The high arched railway bridge forms a distinctive landmark and this is complemented by the old road bridge into the historic core of Berwick upon Tweed.
- Views are typically focused on the bridges and towards the coast.

Landscape Sensitivity Profile of LCT 1: *Broad River Mouth*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Broad river mouth basin and coastal fringe flanking a broad sweep in the Tweed as it flows into the North Sea. A variety of gradients rise to low bluffs from the tidal river banks and mud banks to the north, with gentler rises south of the river. Broad sandy beaches lie to the immediate south of the river mouth, with a mixed sandy and rocky shoreline to the north, beyond the prominent stone breakwater and lighthouse.	Moderate
Land cover	Much of the LCA is urban with prominent river crossings (road and rail), quayside, historic town fortifications and prominent buildings. Public open space (riverside environs), pocket woodland, golf courses, various urban-fringe land uses and arable farmland characterise undeveloped parts. Riparian environs are key elements of the landscape with gentle pastoral slopes and steep wooded banksides west of the town.	Moderate-High
Landscape scale	Large-medium scale farmland lies beyond a dense urban framework, with pocket woodlands and riparian vegetation providing a more intimate scale in places.	Moderate-High
VISUAL:		
Skylines	Away from the urban skylines of the town and the shoreline environs, horizons are mostly defined by low, rounded simple form farmland brows, mostly undeveloped but with peri-urban influences depending on viewpoint (power-lines, masts, farm buildings). Skylines from the shoreline stretch out to sea and along the coast north and south affording big skies. Occasional glimpses of the more dramatic Cheviot Hills to the south west are afforded from elevated locations.	Moderate
Views and landmarks	Expansive views along the coastal strip (particularly from the northern breakwater) and from town fortifications. Historic and more recent river crossings provide prominent landmarks and afford dramatic views across and along the river, the river mouth and the town, particularly from the East Coast Main Line rail crossing. Areas of relative elevation from within the town and golf courses for example provide some exceptional and historic views. Some views across the	High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	area are possible travelling north on the A1.	
Inter-visibility	Some intervisibility with elevated land to the north of the town, but generally the area is self-contained but with little sense of enclosure by topography.	Moderate
Visual receptors	Widespread, high sensitivity receptors within and around the town from residential areas and many historic sites. Views from the A1 and particularly the East Coast Main Line are important at the river crossing.	High
PERCEPTUAL:		
Movement	Significant movement along main transport routes and urban activity. The river, coast and tidal changes and big skies add natural movement across the area.	Low-Moderate
Built development	Extensive urban area east, south and north of the railway river crossings presenting a significant contrast to the riverside arable landscapes to the west in which there is little built development.	Moderate
Remoteness	Some rather limited sense of remoteness to the western fringes of the area, but otherwise a settled urban and peri-urban landscape.	Low
QUALITATIVE:		
Scenic quality	The river corridor, its mouth and coastal strip, combined with important townscape setting and views afford some strong scenic value and important local distinctiveness, although large parts of the area are of unremarkable urban character or arable farmland.	Moderate-High
Distinctiveness	A distinctive landscape of moderate scale river flowing eastwards from the remote, tranquil Boarder country to its urban, protected quayside mouth to the north sea.	High
Rarity	Unique combination of natural and urban landscape features of significant historic and cultural importance.	High
HISTORIC & CULTURAL:		
Heritage assets	High cultural and townscape importance, with strong inter-connectivity between topography, the coast, river and historic buildings, quayside, ramparts and bridges.	High
Recreation	Important riverside and coastal amenity value, including the Town Ramparts Berwickshire Coastal Path, Northumberland Coastal Path and National Cycle Network.	High
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	A gently profiled, lowland river and river mouth basin landscape context at the northern end of the extensive arable coastal plain. Significant historic urban areas on rising land stand around the river mouth whilst inland is a mixed arable and grazing farmed hinterland bisected by major transport infrastructure. The LCT lies immediately to the north of the Northumberland Coast AONB and is steeped in historic significance with iconic views from the historic river crossings. The LCT is highly visible in medium distance views from the viewpoint at Halidon Hill within LCA 4a	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	(North Tweed Coast) immediately north of the LCA and town. Otherwise intervisibility is quite limited by local topography. In general, the LCA would be highly sensitive to commercial scale wind energy development, primarily as a consequence of a large concentration of sensitive receptors, including extensive residential areas and important heritage sites and their landscape settings. Absence of significant vertical infrastructure beyond the town and within surrounding LCAs contributes to the relatively stand-alone character of the town and LCA's setting, which could be eroded by larger scale wind energy development. However, to the west from the town and its historic sites and outlooks, the medium to large scale of the arable farmed landscape with lower density of settlement suggest some limited sensitivity to wind energy development. New wind energy development within the LCT should be limited to carefully sited small or possibly small-medium scale turbines, single or possibly in pairs, closely associated with the location and to the scale of scale of farm buildings in the landscape on the periphery of the LCT.	
Cumulative effects	There are currently no wind turbines located within LCA1a. The visual prominence of two medium-sized, individual turbines to the north within LCA 4a stand in an urban fringe / business park / transport corridor (A1) context and have minimal effect upon character of LCA 1a. Longer views to individual and multiple turbine installations to the south and south-west present minimal visual or character effects as a result of distance and or scale of the turbines, such as those within the northern A1 corridor of LCA3a. Larger turbines would significantly affect key characteristics and qualities of the landscape setting of the town and river mouth that are highly sensitive to this type and scale of development, including the landscape setting and views to and from the Northumberland Coast AONB to the south, but are unlikely to have a significant cumulative effect.	

LCT 1: *Broad River Mouth* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 1a: Tweed River Mouth	M	M-H	H	H	H
Overall Landscape Sensitivity of LCT1: *Broad River Mouth*	In general LCT1 is suitable for carefully sited small scale turbines up to 25m height to blade tip. They should be closely associated with the scale and location of industrial/commercial units, farm buildings, other domestic scale features and woodland within the western parts of the landscape. In general, wind turbines above 25m height to blade tip would in principle be unsuitable within LCT1. However, small-medium scale turbines between 26m-40m height to blade tip may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. Turbines should be no more than 'apparent' in the				

	landscape – they should not be prominent or dominant in important historic views from the town and should not out-compete important foci in the landscape, such as the historic river crossings and fortifications. Medium, medium-large scale and larger turbines would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development. This is particularly due to high levels of sensitive receptors and historic importance of the townscape and historic river crossings.

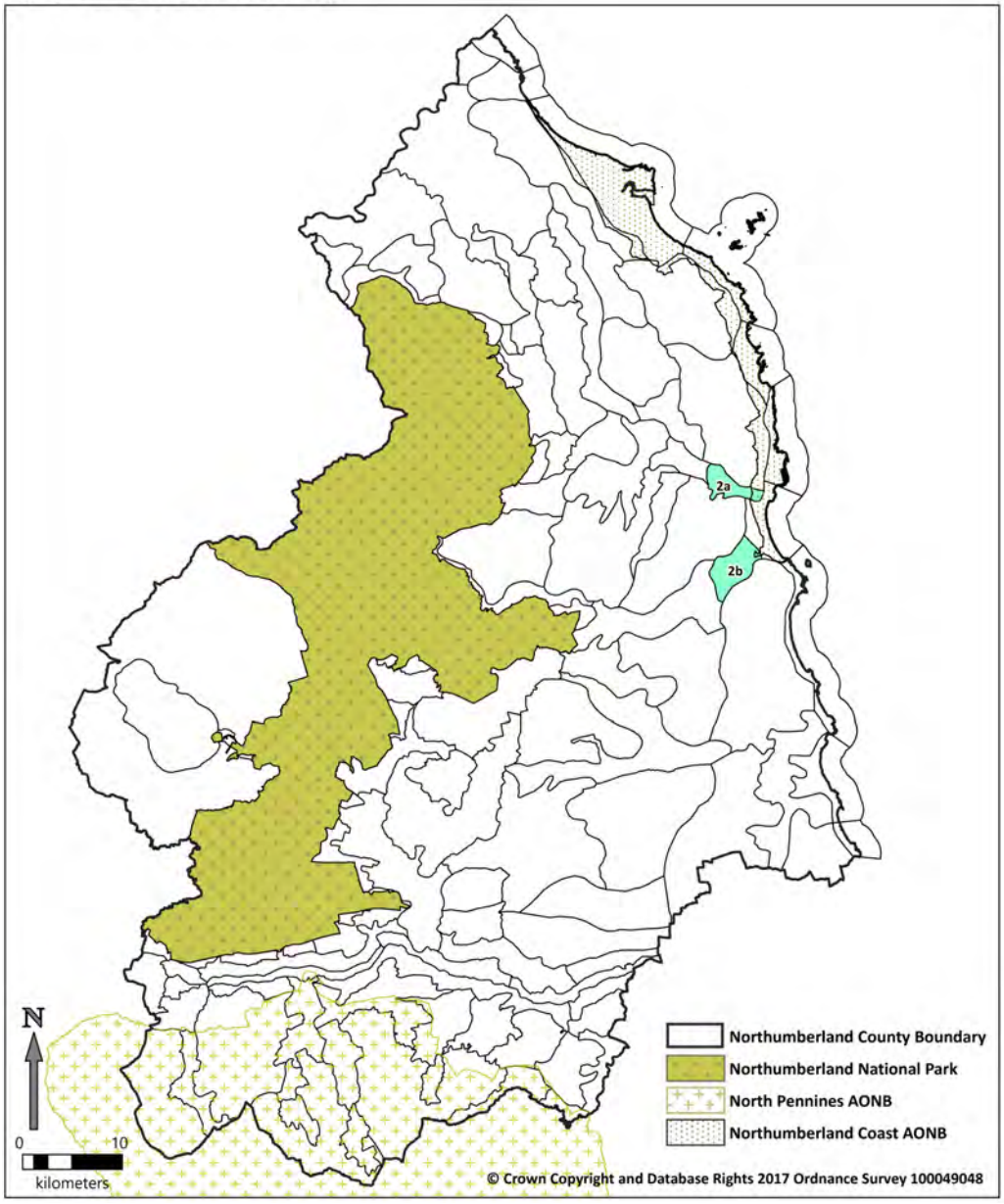
Landscape Sensitivity to Wind Energy Development
LCT 2: *Coastal Incised Valley*

This LCT comprises the lower sections of two river valleys, the Coquet and the Aln, as they flow through the coastal plain to the North Sea. The valleys are relatively shallow, but sharply incised in places, and emerge close together on the coast.

The LCT is represented by two character areas (LCA):

- **LCA 2a: *Lower Aln***
- **LCA 2b: *Lower Coquet***

Figure 6: LCT2 - Coastal Incised Valley



Key Landscape Characteristics of LCT 2: *Coastal Incised Valley*:

- Shallow valleys cutting through the coastal plain, with meandering rivers.
- More sheltered than the surrounding coastal plain, with restricted views.

- Arable farming, with pasture and woodland in steeper areas.
- Villages and larger settlements, as well as farmsteads and cottages.
- Transport links and infrastructure, such as the East Coast Main Line, pass through.
- Long history of settlement, and good access links.

Landscape Sensitivity Profile of LCT 2: *Coastal Incised Valley*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Shallow, sometimes steep-sided incised valleys contain the meandering Aln and Coquet rivers. Both rivers meander within a broader vale, and the surrounding floodplains are generally undulating. Coastal influence is more limited than in the surrounding *Farmed Coastal Plain* (LCT 3), due to the lower elevations and enclosing topography.	Moderate to Moderate-High
Land cover	Land cover is predominantly arable farming, with open, rectilinear fields. Some pastoral farming on steeper areas. Boundaries are post and wire or post and rail, with areas of intact, relatively species-rich hedgerows. Estate influences, with mixed plantation woodland and iron fencing, occur in small areas. There are deciduous and coniferous plantations and shelterbelts, with native and semi-natural woodland along the rivers, particularly the Coquet.	Moderate to Moderate-High
Landscape scale	Varied scale consequent to areas of tight enclosure and variety within steeper valley areas, contrasting with wider farmland setting of the valleys. Generally not a large scaled landscape.	Moderate to Moderate-High
VISUAL:		
Skylines	Sometimes complex and varied whilst farmland areas simpler and more predictable. Some important heritage skylines at Warkworth Castle and Alnwick gardens	Moderate
Views and landmarks	Dramatic and important views to Warkworth Castle from a variety of locations and pleasing vistas across and along river valleys, particularly along Mill Walk of the Coquet and from the elevated vistas inland across the meandering Aln at Foxton north of Alnmouth.	Moderate-High
Inter-visibility	Generally limited through enclosure of the valleys but some longer views to the west from LCA2b	Low-Moderate to Moderate
Visual receptors	Local transport routes and settlement at Lesbury Warkworth and Guyzance. Recreational uses of river valleys and visitors to these popular destinations.	Moderate to Moderate-High
PERCEPTUAL:		
Movement	Frequent movement on local road network but also more significant regular train passage along East Coast Main Line.	Low-Moderate to Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
Built development	Eastern fringes of Alnwick in LCA2a. Elsewhere village settlement at Warkworth, Guyzance and Lesbury and scattered farmsteads and small country houses. Agricultural buildings and caravan site at Warkworth, although not visually prominent.	Low-Moderate to Moderate
Remoteness	Pockets of tranquillity in incised Coquet Valley and woodland. Elsewhere tranquillity limited by openness and proximity to rod and rail network. Rail line is frequently audible even when out of view.	Moderate to Moderate-High
QUALITATIVE:		
Scenic quality	Eastern fringes of LCT fall within Northumberland Coast AONB. Elsewhere relatively high scenic value afforded by complex land use mosaic and topographic variety, with meandering rivers as strong focal points and the dramatic prominence of Warkworth Castle.	Moderate-High to High
Distinctiveness	Strongly distinctive landscape presenting valued Northumberland characteristics.	Moderate-High to High
Rarity	Incised valleys not markedly rare in Northumberland.	Moderate
HISTORIC & CULTURAL:		
Heritage assets	Several significant heritage sites, notably parts of Warkworth Castle setting and distinctive village environments at Warkworth, Guyzance and Lesbury where there are Conservation Areas. Elsewhere historic listed sites such as Guyzance Priory and Morwick Hall and hermitage site on the Coquet. Eastern edge of Hulne Park and Alnwick Castle Registered Park and Gardens overlay LCA2a.	High
Recreation	Important area as visitor attraction and local value. Riverside walks and wider PRoW, boating and salmon fishing.	Moderate-High
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	The Coastal Incised Valleys present a relatively sensitive landscape context for wind energy development. Intimate topography, human-scale features, strongly scenic landscape foci of the meandering rivers and important heritage assets (which are significant visitor attractions in part due to landscape setting) would be sensitive to the installation of more than the smallest wind turbines. Parts of the LCT fall within national landscape designation, and development affecting the Northumberland Coast AONB's setting could be significantly harmful to its character. Landscape units are reasonably self-contained, and carefully located smaller wind energy developments of single turbines, possibly supporting rural businesses or farmsteads may be absorbed in some areas, but will be highly dependent upon specific siting.	
Cumulative effects	There are no existing wind energy installations within the LCT. Relative absence of intervisibility between LCTs means vistas to existing wind farms are not widespread. However, some views from the southern fringe of LCA2b towards North Steads and Sisters wind farms at Widdrington are possible from the Acklington Road, south of Guyzance at a distance of around 5.5km. Here, large scale wind energy proposals would be likely to	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	be intervisble with the Widdrington sites and in doing so extend the central Northumberland coastal plain wind farm landscape northwards. Overall issues of cumulative visual impacts are not likely to be significant in relation to limiting development to few and small individual installations.	

LCT 2: *Coastal Incised Valley* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 2a: Lower Aln	M	M-H	H	H	H
LCA 2b: Lower Coquet	M	M-H	H	H	H
Overall Landscape Sensitivity of LCT2: *Coastal Incised Valley*	In general LCT2 is suitable for carefully sited single small scale turbines up to 25m height to blade tip. They should be closely associated with the scale and location of farm buildings, other domestic scale features and woodland within the landscape. In general, wind turbines above 25m height to blade tip would in principle be unsuitable within LCT2. However, small-medium scale turbines between 26m-40m height to blade tip may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. Medium, medium-large and larger turbines would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development. This is partially due to the relatively small scale and heritage and recreational importance of the LCT.				

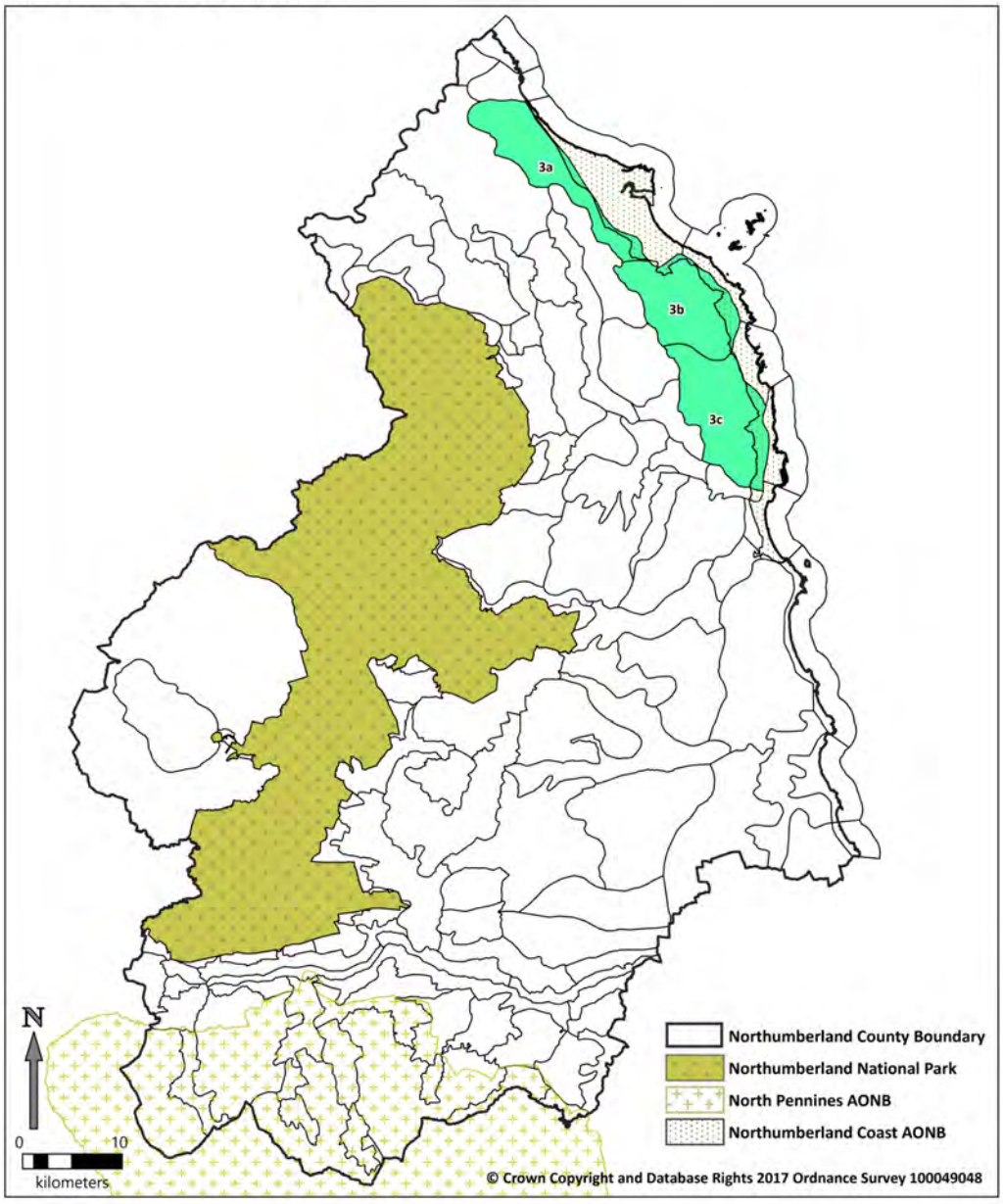
Landscape Sensitivity to Wind Energy Development
LCT 3: Farmed Coastal Plain

This LCT comprises a band of farmland running along much of the north-east Northumberland coast. The *Farmed Coastal Plain* varies in width from the narrow strip between Haggerston and Belford, to the more expansive areas around Rock and Lucker. It is a gently rolling landscape of mainly arable farmland, well settled, and with a coastal influence. The Northumberland Coast AONB includes the eastern edge of this LCT.

The LCT is represented by three character areas (LCA):

- **LCA 3a: *Haggerston***
- **LCA 3b: *Lucker***
- **LCA 3c: *Rock***

Figure 7: LCT3 - Farmed Coastal Plain



Key Landscape Characteristics of LCT 3: *Farmed Coastal Plain*:

- Open, coastal location, although sea views are not always possible.
- Gently rolling or almost flat farmland, dominated by large arable fields.
- Generally low-lying, with some small hills and raised plateaux.
- Intensive farmland, often with weak field boundary pattern.
- Occasional wooded estates.
- Large farmsteads comprising traditional and modern buildings.

Landscape Sensitivity Profile of LCT 3: *Farmed Coastal Plain*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Generally low-lying landscape of gently rolling land, with some broad, flat areas. There are areas of higher ground, such as the small plateau-like hill at Billylaw, south of Berwick upon Tweed, and around Longhoughton. Small, rounded hills are common features. The area is drained by small burns, which run down from the hills to the west, and cut narrow, shallow gullies through the sandy soil. Rocky outcrops are rare, but occur at Belford Station.	Moderate
Land cover	Predominantly arable farmland, with pasture in more marginal areas, such as small fields next to the railway line, and on the scattered hills. Larger fields are more common, with some areas of very extensive enclosures. Hedgerows are frequent but often unmaintained, leading to gaps and replacement with post and wire fencing. Tree cover is greater in the south of the *Farmed Coastal Plain*, becoming sparser to the north. Coniferous forestry occurs in small blocks and shelterbelts, with some deciduous plantations or tree lines, as well as belts of pine. The few estates provide a locally more wooded character, with mixed plantations and better-maintained hedges.	Low-Moderate to Moderate
Landscape scale	A medium to large landscape characterised by limited topographic variation or land use change and large fields.	Low-Moderate
VISUAL:		
Skylines	Limited complexity, with big skies over the low-lying gently rolling coastal plain.	Low-Moderate
Views and landmarks	Some more significant views over the Northumberland Coast AONB coastline, with focus of Lindisfarne and Holy Island sands, and Haggerston Castle across LCA3a. Elsewhere views quite limited by simple land form and woodland blocks. Historic views from Peel Tower at Preston. Some views to higher land to the west such as the Kyloe Hills.	Moderate-High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
Inter-visibility	Generally less intervisibility as a consequence of low changes in relief across the coastal plain, and foreshortening of views by woodland blocks. Some intervisibility with the Northumberland Coast AONB to the east.	Low-Moderate
Visual receptors	Scattered settlement, predominantly farmsteads and hamlets. Local and main transport routes with A1 and East Coast Main Line passing through all three LCAs. Areas of AONB fall across eastern fringe of the LCT.	Moderate-High
PERCEPTUAL:		
Movement	Frequent movement along A1 and East Coast Main Line, elsewhere movement limited to local transport networks and smaller scale individual wind turbines.	Moderate
Built development	Low density of scattered settlements, mainly smaller villages and hamlets such as Ellingham, Lucker, Christon Bank and Longhoughton. Belford is the only larger village with some small scale industry. Haggerston is a large, well established holiday home park but generally well screened in the landscape by trees. Occasional masts, railway gantries and pylons but these are rarely prominent or characteristic.	Moderate to Moderate-High
Remoteness	A deeply rural landscape with low density of development and little movement but well settled and rarely affording a sense of remoteness of tranquillity	Moderate
QUALITATIVE:		
Scenic quality	Eastern fringes of the LCT fall within the Northumberland Coast AONB and as such enjoy significant landscape protection and hence high sensitivity. Inherent landscape value away from the coastal strip itself is however relatively limited, with well managed expansive areas of low-lying arable farmland with plantation woodland and shelterbelts.	Moderate-High to High
Distinctiveness	Expansive area representative of Northumberland's agricultural coastal plain.	Moderate-High
Rarity	Commonplace landscape type.	Low
HISTORIC & CULTURAL:		
Heritage assets	Rock and Howick Halls, policy woodland (small, managed, multi-purpose woodlands with landscape function and value, often associated with historic country houses) and Preston Tower present heritage foci. Conservation Areas are found within historic cores of Embleton, Rock and Belford. Registered Parks and Gardens at Belford and Howick Halls. Large country houses and their estates are an important aspect of historic character. Intensive arable agriculture has eroded much of the earlier historic landscape. Remnants of older villages of Ancroft, Tughall and North Charlton – survive within the modern field pattern. Some extensive areas of ridge-and-furrow,	Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	notably around Swinhoe. World War II airfield at Brunton.	
Recreation	Important gateways to the Northumberland Coast AONB and coastal attractions, including St Oswald's Way and Northumberland Coast Path long distance path but limited inherent recreational value beyond PRoW network and quiet lanes which are important for recreational cycling. Large holiday home park at Haggerston Castle.	Low-Moderate
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	The landscape character of LCT3 Farmed Coastal Plain is extensive and provides a relative continuous context or setting to the coastal LCTs of the Northumberland Coast AONB to the east. Character is however relatively unremarkable with widespread intensive arable agriculture, modest topographic interest and heritage sites with relatively low landscape prominence. The large scale of the landscape, simple components and predictable skylines would suggest a relatively low sensitivity to wind energy installations, particularly in the main transport corridors where other infrastructure and movement in the landscape is perceptible. However the overlap or otherwise contiguous linear relationship with the Northumberland Coast AONB suggests the LCT could be particularly important as a setting to the nationally significant landscape, including the settings of its iconic heritage sites and important recreational value. Development of large-scale wind energy installations, particularly of commercial wind farms would present inherent potential for negative impact upon the wider setting of those significant landscape assets. Development of smaller, individual turbines or small clusters of smaller turbines may be accommodated within the landscape without serious change in character but only in those areas away from the Northumberland Coast AONB boundary, particularly in those areas where plantation woodland and shelter belts provide interruption to longer vistas. In some parts of the LCT longer vistas are possible due to gentle topographic variation and few visual barriers, and here there is potential for wind turbines to be visually prominent foci over significant areas. Small and small-medium turbines should be no more that apparent in the landscape or within smaller view cones or visual envelopes.	
Cumulative effects	A number of small-medium individual turbines are located within the northern parts of LCA3a *Haggerston,* south of Berwick-upon-Tweed. These are locally visible within the gently rolling and open landscape of the A1 corridor and in the environs of Haggerston holiday home park. None of the turbines exceeds 50m in height. These turbines do however present a loose but distinct concentration of smaller turbines within the landscape that are locally prominent, although not harmfully obtrusive. The smaller turbines are often notable by higher rotational speed of rotors or by the less elegant, visually 'jarring' rotational rhythm of 2-blade turbines. Elsewhere silos at Belford station and Main Line overhead gantries present only limited vertical structures in the landscape. Across LCA3b and LCA3c there are repeated views and vistas of the Middlemoor and Wandylaw wind farms (together 28x 125m) at North	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	Charlton and across LCA3a of Barmoor Wind Farm (6x 110m). The scale and elongated layout of Wandylaw/Middlemoor and their elevated siting results in widespread visibility of the turbines in such a way as to present a perceptual western 'enclosure' or delineation of the coastal strip over considerable distances. Further development of large-scale wind turbines across this LCT would present a potential for expansion, concentration and consolidation of the wind energy landscape, and importantly, serve to 'squeeze' and dilute the integrity of the setting of the AONB coastline as well as be prominent from within it. The wider impacts of Barmoor wind farm are not as significant to LCT3 due to the slightly smaller scale and lower number of turbines and the 'stepped' topography between it and LCT3, which limit the extent of its visual prominence. However, these commercial-scale installations can be seen in the same vistas as the cluster of smaller turbines within LCA3a, emphasising the differences in scale and rotor speed and in doing so begin to suggest that wind energy is a visual characteristic of much of the northern A1 corridor. Further development of larger-scale wind energy in this northern LCA may exacerbate this visual contrast, which can emphasise the difference between the turbines and human-scale landscape components, and lead to a confused and disjointed landscape character which would dilute its wider arable, coastal plain context.	

LCT 3: *Farmed Coastal Plain* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 3a: Haggerston	M-H	M-H	H	H	H
LCA 3b: Lucker	M-H	M-H	H	H	H
LCA 3c: Rock	M-H	M-H	H	H	H

Overall Landscape Sensitivity of LCT3: *Farmed Coastal Plain*	In general wind turbines would be unsuitable in principle within LCT3. However, small and small-medium scale turbines below 40m to blade tip height may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape or adjacent more sensitive landscapes. Medium, medium-large and larger scale turbines would significantly affect key characteristics and qualities of the wider landscape context that are highly sensitive to this type and scale of development. This is primarily due to the importance afforded to the landscape as either within Northumberland Coast AONB or locally intervisble from it, with its higher landscape, recreational and heritage value sensitivities.

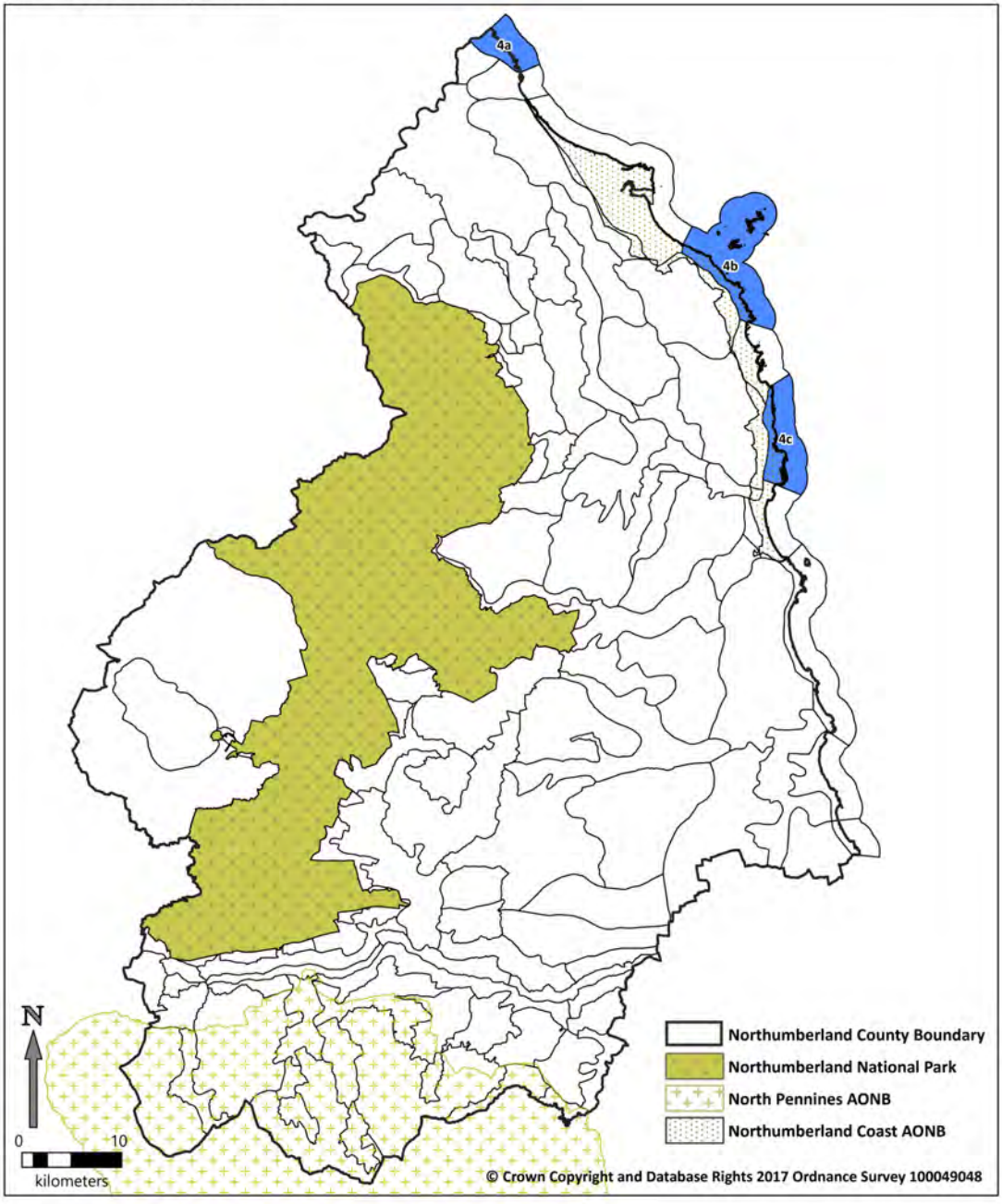
Landscape Sensitivity to Wind Energy Development
LCT 4: Rocky Coastline

The *Rocky Coastline* LCT comprises the rocky sections of the coastal strip, including prominent headlands, cliffs, and the Farne Islands. It falls largely within the Northumberland Coast AONB.

The LCT is represented by three character areas (LCA):

- **LCA 4a: *North Tweed Coast***
- **LCA 4b: *Farne Islands Coast***
- **LCA 4c: *Craster Coast***

Figure 8: LCT4 - Rocky Coastline



Key Landscape Characteristics of LCT 4: *Rocky Coastline*:

- Rocky coast of cliffs and headlands.
- Dramatic shoreline with offshore rocks and islands.
- Prominent coastal landforms offering views.
- Small former fishing villages, now centres of tourism.
- Exposed coastal landscape of windblown hedges.
- Major historic features are popular tourist attractions.

Landscape Sensitivity Profile of LCT 4: *Rocky Coastline*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Complex landscape strip where bands of hard rock meet the coastline resulting in headlands, while the softer rocks are eroded to form small bays. Elevation ranges from the high cliffs north of Berwick upon Tweed, to the low-lying headlands along much of the LCT. Bays and coves within this LCT are generally rocky, with limited sand beaches, though dune systems are prominent around Bamburgh. Stone reefs, offshore rocks, and wave-cut platforms, often called 'carrs' or 'steels', extend out from the foreshore. Prominent landforms occur, such as the Whin Sill outcrop on which Bamburgh Castle is built.	Moderate-High to High
Land cover	Narrow coastal strip dominated by the shore, although the inland section is farmed, mostly for pasture due to the exposed nature of the terrain. Hedgerows are often gappy and windblown, with wire fences. Tree cover is generally sparse, although some small woodland blocks are present. Whin grassland, a distinctive plant community on Whin Sill derived soil, occurs around Bamburgh Castle.	Moderate to Moderate-High
Landscape scale	A medium-to-small scale landscape defined by intimate rocky coves, small bays and associated coastal pasture. Land and shoreline slopes to the sea and increases intimacy of the landscape.	Moderate-High
VISUAL:		
Skylines	Simple seaward horizons but some variation inland consequent to scale and variation of inland topography.	Moderate
Views and landmarks	Coastal views often dramatic and focused on significant heritage assets such as Bamburgh Castle and Dunstanburgh Castle. Views out to Farne Islands often dramatic in changing seascapes.	Moderate-high to High
Inter-visibility	Some limited intervisibility, particularly along the coastline to adjacent LCT5 Sandy Coastline and LCT1 Broad River Mouth. Limited intervisibility inland, but in places views westwards to higher ground such as the	Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	Kyloe Hills are important. Middlemoor and Wandylaw wind farms are frequently prominent landmarks from the coastal LCT.	
Visual receptors	Significant settlement including Seahouses and Bamburgh, major transport corridor through LCA4a and local transport routes elsewhere.	Moderate-High to High.
PERCEPTUAL:		
Movement	Variation in movement across the three LCAs. LCA4a includes the A1 and East Coast Main Line and Berwick upon Tweed fringe and two medium sized wind turbines. LCA4b includes significant visitor movement along the coast road. LCA4c exhibits a lower degree of perceived movement along local road network.	Low-Moderate to Moderate
Built development	Main settlement at Seahouses, Bamburgh, Craster and northern fringes of Berwick-upon-Tweed where modern industrial and transport infrastructure is located. LCA4c is less developed outside Craster, with few other significant built structures. Local power lines and radio masts. Estate artefacts and buildings around Howick, and military infrastructure at RAF Boulmer, exert a strong influence on the local landscape.	Moderate to Moderate-High
Remoteness	Remoteness and tranquillity are limited at LCA4a and along the busy tourist route of LCA4b. Relative tranquillity is experienced in parts of LCA4c but local road network and coastal visitors often apparent.	Low-Moderate to Moderate
QUALITATIVE:		
Scenic quality	Virtually the whole LCT falls within the Northumberland Coast AONB and enjoys the highest national level of landscape designation. Vistas along the coast and out to the Farne Island are dramatic, constantly changing with weather and seascape conditions, and frequently focus upon iconic heritage landmarks such that these views can be considered to be nationally important.	High
Distinctiveness	The Farne Islands' coastline of LCA4b is highly distinctive. Elsewhere landscape characteristics are representative of Northumberland coast but more common.	Moderate-High to High
Rarity	Farne Islands' coastline is unique. Rock bays and headlines are more frequently experienced within the county.	Moderate-High to High
HISTORIC & CULTURAL:		
Heritage assets	The LCA is characterised by highly important heritage sites with Dunstanburgh and Bamburgh castles being particularly significant in the landscape. Other assets include the registered battlefield at Halidon Hill (1333) further reflects the strategic importance of the coastal strip. Patterns of medieval open fields, in the form of upstanding ridge and furrow, are an important aspect of historic character. Conservation Areas within	Moderate-High to High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	Embleton, Bamburgh and Seahouses villages.	
Recreation	Highly important area for coastal recreation and tourism with attractive coastal villages, shorelines and heritage assets. Northumberland Coast path / St Oswald's Way. Caravan parks and golf courses are significant in places.	Moderate-High to High
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	The LCT almost entirely falls within Northumberland Coast AONB and as such enjoys a nationally recognised level of landscape value and designation. By definition the LCT is usually of pronounced linear proportion with a focus strongly on coastline vistas and narrow strip of coastal landscape features. Whilst landscape features and characteristics inland from the coastal strip are often unremarkable, they provide important rural setting and buffer to the highly attractive and valued coast and shoreline. Views across this LCT fringe are often important in the setting of significant heritage and landscape features. As a consequence of the character, designation and recreational value of much of the LCT (with lesser sensitivity to LCA 4a outside the AONB), landscape sensitivity to all but the smallest scale of well-sited wind energy installations is high. Localised capacity for single, small-scale turbines supporting urban sites, caravan parks or farmsteads may be possible but thresholds for landscape and visual harm will be low.	
Cumulative effects	Two medium-scale wind turbines are located within LCA4a, north of Berwick upon Tweed. Although within the visual influence of the industrial area of the town and the A1 corridor, the landscape in the locality is of coastal hillside and cliffs falling to the sea from Halidon Hill, and these present prominent visual foci, particularly when viewed from above from higher land. The visual envelope of these turbines is however relatively enclosed from elsewhere in Northumberland and intervisibility with additional turbines would therefore be unlikely to cause significant cumulative impact. Intervisibility with the coastal plain of south-east Scotland could however be significant. Elsewhere there are no existing turbines within the LCT and vertical structures or prominent intrusive built development very limited. However, the visual influence of the Middlemoor and Wandylaw wind farms is at times significant, particularly from higher or more open points within LCA4b and LCA4c. Views westwards from areas such as Seahouses, Bamburgh Castle and Embleton can be perceived to be delineated or 'hemmed-in' by the extended linear orientation of these major installations on middle distance horizons. Extension of these installations or development within the hinterland of LCT3 *Coastal Farmland* could lead to significant harmful cumulative impacts upon the setting LCT4 and its high sensitivity to major development.	

LCT 4: *Rocky Coastline* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 4a: *North Tweed Coast*	M	M-H	M-H	H	H
LCA 4b: *Farne Islands Coast*	M-H	H	H	H	H
LCA 4c: Craster Coast	M-H	H	H	H	H

Overall Landscape Sensitivity of LCT4: *Rocky Coastline*	Limited sensitivity to smaller scale wind turbines up to 25m to blade tip height is found within LCA 4a. Single or small clusters of turbines should be closely associated with the scale and location of farm buildings and other domestic scale features in the landscape. In general wind turbines would be unsuitable in principle within the rest of LCT4. However, small-medium and medium scale turbines below 40m to blade tip height within LCA 4a, and below 26m to blade tip height in LCAs 4b and 4c may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape or adjacent more sensitive landscapes. Within LCA 4a turbines above 65m to blade tip height would significantly affect key characteristics and qualities of the wider landscape context that are highly sensitive to this type and scale of development. Within LCAs 4b and 4c this threshold of significant harm would be for turbines above 40m to blade tip height. This is primarily due to the importance afforded to the landscape as either within Northumberland Coast AONB or locally intervisible from it, with its higher landscape, recreational and heritage value sensitivities.

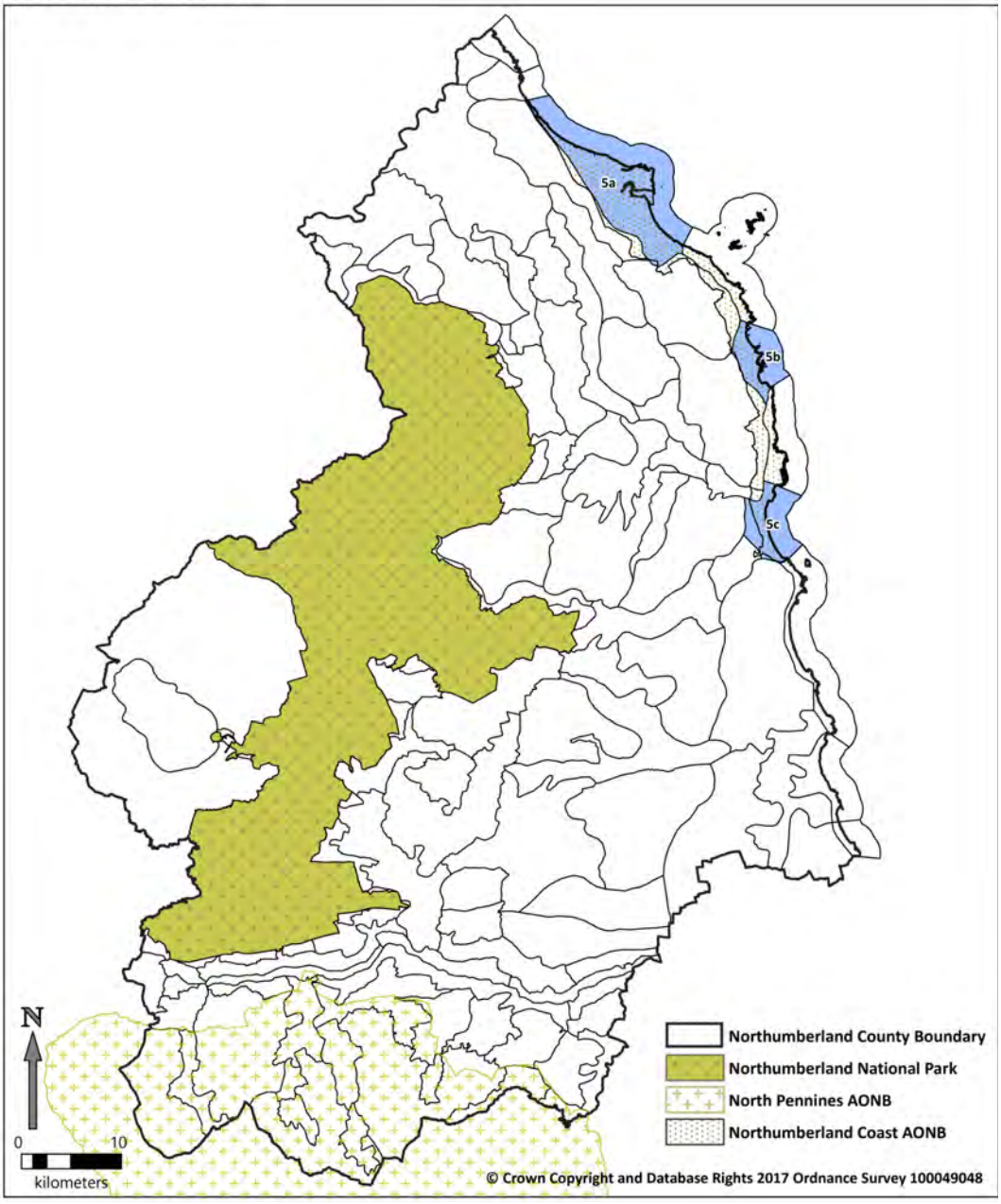
Landscape Sensitivity to Wind Energy Development
LCT 5: Sandy Coastline

This LCT lies between areas of *Rocky Coastline* (LCT 4). The *Sandy Coastline* comprises a low-lying coastal strip, with long sandy beaches and dunes, as well as extensive tidal sands and estuaries. This is a popular tourist area, and includes the historically significant Holy Island. It falls mainly within the Northumberland Coast AONB.

The LCT is represented by three character areas (LCA):

- **LCA 5a: *Holy Island Coast***
- **LCA 5b: *Beadnell and Embleton Bays***
- **LCT 5c: *Aln and Coquet Estuaries***

Figure 9: LCT5 - Sandy Coastline



Key Landscape Characteristics of LCT 5: *Sandy Coastline*:

- Low-lying, exposed coastline.
- Broad sandy beaches and tidal sands.
- Dune systems.
- Isolated prominent built historic features, such as Lindisfarne Castle.
- Long views along the coast.
- Extensive historic associations.
- Tourist infrastructure.

Landscape Sensitivity Profile of LCT 5: *Sandy Coastline*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Stretching between rocky sections of coast, where sandstones and other softer rocks have offered little resistance to coastal erosion, forming wide sandy bays. Between Berwick upon Tweed and Bamburgh, a long stretch of broad sandy beach and tidal flats faces the low-lying Holy Island, which is held in place by the Whin Sill outcrop on which Lindisfarne Castle is built. Smaller bays occur at Beadnell and Embleton, and at Alnmouth, where they are associated with estuarine areas of the Coquet and Aln rivers. Landward, the terrain is low-lying, with extensive dune systems in places.	Moderate to Moderate-High
Land cover	The coastal farmland is arable and pastoral, with varying field patterns across the area. Larger fields are more common in the north, while smaller-scale fields with irregular boundaries occur around High Newton. Tree cover is generally sparse, limited to small blocks, or associations with watercourses. Sand dune systems are extensive, often forming high ridges. Saltmarsh occurs in the tidal estuaries of the Aln and Coquet.	Moderate to Moderate-High
Landscape scale	Medium-large scale landscapes with long sweeping expanses of sandy beach at low tide and continuous dune systems. Some smaller scale landscape within LCA5b where bays are more enclosed and pronounced in shape.	Moderate to Moderate-High
VISUAL:		
Skylines	Simple with increased variety within LCA5b where inland topography is more varied.	Low-Moderate to Moderate
Views and landmarks	Iconic coastal views along beaches and across bays to nationally important heritage features such as Beadnell Lime Kilns, Dunstanburgh Castle, Lindisfarne Castle and Priory and Warkworth Castle.	High
Inter-visibility	Some limited intervisibility to coastal landscapes of LCT4 and inland to LCT3. Views out from major	Moderate-High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	heritage sites and dune tops can be panoramic.	
Visual receptors	A1068 and East Coast Main Line pass through LCA5c. Main settlements of Warkworth, Alnmouth, Embleton and Holy Island fall within the LCT with local transport routes. Iconic visitor attractions and recreational users of the coast and beaches.	Moderate-High to High
PERCEPTUAL:		
Movement	Some movement along main transport corridors, particularly LCA5c. Natural movement of tides and seascapes particularly characteristic across LCA5a. Unique movement of vehicles at low tide over the causeway can be prominent in landscape.	Low-Moderate to Moderate
Built development	Significant settlement at Warkworth, Alnmouth, Embleton and Holy Island, with scattered farmsteads across the wider LCT. Caravan parks around Beadnell, Alnmouth, Warkworth and Waren Mill are occasionally prominent. Absence of significant infrastructure or industry.	Moderate-High to High
Remoteness	Relative tranquillity and perception of human activity varies across the LCT. Transport routes in LCA5c reduce perception of remoteness during busier periods, but this can alter markedly on the beaches away from the A1068. LCA5b offers a quite landscape experience although intensive holiday development at Beadnell Bay erodes this in high season. LCA5a can be a busy tourism destination across the causeway to Holy Island in particular, but at other times and away from this focal point the wide sandy expanses of the north of the island and along Goswick Sands can afford significant opportunities for solitude.	Moderate to Moderate-High
QUALITATIVE:		
Scenic quality	The great majority of the LCT falls within Northumberland Coast AONB and enjoys the highest national level of landscape designation. The sweeping sandy bays, dramatic seascapes, sheltering dunes and relative absence of incongruous development, combined with significant heritage sites which are prominent in the landscape afford high scenic value.	High
Distinctiveness	Strongly distinctive to Northumberland and representative of popular perception of its special qualities by visitors.	Moderate-High
Rarity	LCA5a is unique within the county with the special qualities and mystical and historic appeal of Holy Island, tidal causeway and expansive sands at low tide. LCA5b and LCA5c present some more common combinations of headland and sandy beach, but remain distinctive and distinct from beaches to the south by their absence of industrial heritage and incongruous development.	Moderate-High to High
HISTORIC & CULTURAL:		

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
Heritage assets	Important heritage assets stand prominent in the landscape of LCT5, particularly the castles of Warkworth, Dunstanburgh and Lindisfarne as well as Lindisfarne Priory. Conservation Areas are found in Amble, Warkworth, Alnmouth, Embleton and Holy Island. More recent history assets are found as World War II anti-invasion defences, now being subsumed by dune systems, at Bamburgh, Beadnell Bay and Alnmouth Bay.	High
Recreation	Important area for tourism and recreation. Focusing on informal recreation on the beaches and visits to attractive villages and heritage sites. Northumberland Coast path and St Oswald's Way pass through the LCT. Recreation and tourism pressures can have negative impacts upon the LCTs special qualities, such as car parking, erosion, caravan sites and traffic.	High
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	The LCT presents a broad range of landscape characteristics and visual qualities which can be seen to be highly sensitive to wind energy development, and particularly medium to commercial scale installations. The LCT is almost entirely designated as AONB and as such enjoys high levels of landscape recognition and designation. By definition, the LCT is mainly narrow in proportion with a strong focus on coastal vistas and linear landscape features and unspoilt, open, expansive natural sandy coastline. Whilst landscape features and characteristics inland from the immediate coastal strip are often unremarkable, they provide important quite, peaceful rural setting and buffer to the highly attractive and valued coast and shoreline. Views across the LCT's western fringe are often important in the setting of significant heritage and landscape features. As a consequence of the character, designation and recreational value of much of the LCT, landscape sensitivity to all but the smallest of wind energy installations is high. Localised capacity for single, small-scale turbines supporting urban sites, caravan parks or farmsteads may be possible but thresholds for landscape and visual harm will be low as objectives should be on landscape enhancement rather than consolidation of incongruous land uses.	
Cumulative effects	One micro-scale (10m) wind turbine is operational at Snook Tower on the north of Holy Island but this displays minimal landscape intrusion or prominence. Elsewhere prominent visual foci with vertical emphasis are limited to highly significant heritage sites. Further development of wind energy installations across the LCT are therefore unlikely to present *cumulative* harm within the LCT itself. However, as with LCT4 *Rocky Coastline*, the visual influence of Middlemoor and Wandylaw wind farms is at times significant, particularly from higher or more open points within LCA4a and LCA5b. Views westwards from areas such as Holy Island and the coastal road network of LCA5b can be perceived as being delineated or *hemmed-in* by the extended linear distribution of these major installations. Extension of these wind farms or development within the adjacent hinterland of LCT3 *Coastal Farmland* could lead to	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	significant cumulative impacts upon the setting LCT5 and its high sensitivity to major wind energy development. Moreover extension of visually linked commercial wind energy sites east or north of there major wind farms are likely to partially re-characterise the north Northumberland coastal plain as wind-energy landscape. Views to Barmoor Wind Farm and the loose distribution of smaller turbines within LCA3a are possible from northern parts of the LCT. These are generally not visually prominent but further concentration across this area of a range of turbine scales may begin to erode the important setting to the LCT and Northumberland Coast AONB.	

LCT 5: *Sandy Coastline* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 5a: *Holy Island Coast*	M-H	H	H	H	H
LCA 5b: *Beadnell and Embleton Bays*	M-H	H	H	H	H
LCT 5c: *Aln and Coquet Estuaries*	M-H	H	H	H	H
Overall Landscape Sensitivity of LCT5: *Sandy Coastline*	In general wind turbines would be unsuitable in principle within LCT5. However, small scale turbines below 26m to blade tip height may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape or adjacent more sensitive landscapes. Small-medium, medium, medium-large and larger scale turbines would significantly affect key characteristics and qualities of the wider landscape context that are highly sensitive to this type and scale of development. This is primarily due to the importance afforded to the landscape as either falling within Northumberland Coast AONB or locally intervisble from it, with its higher landscape, recreational and heritage value sensitivities.				

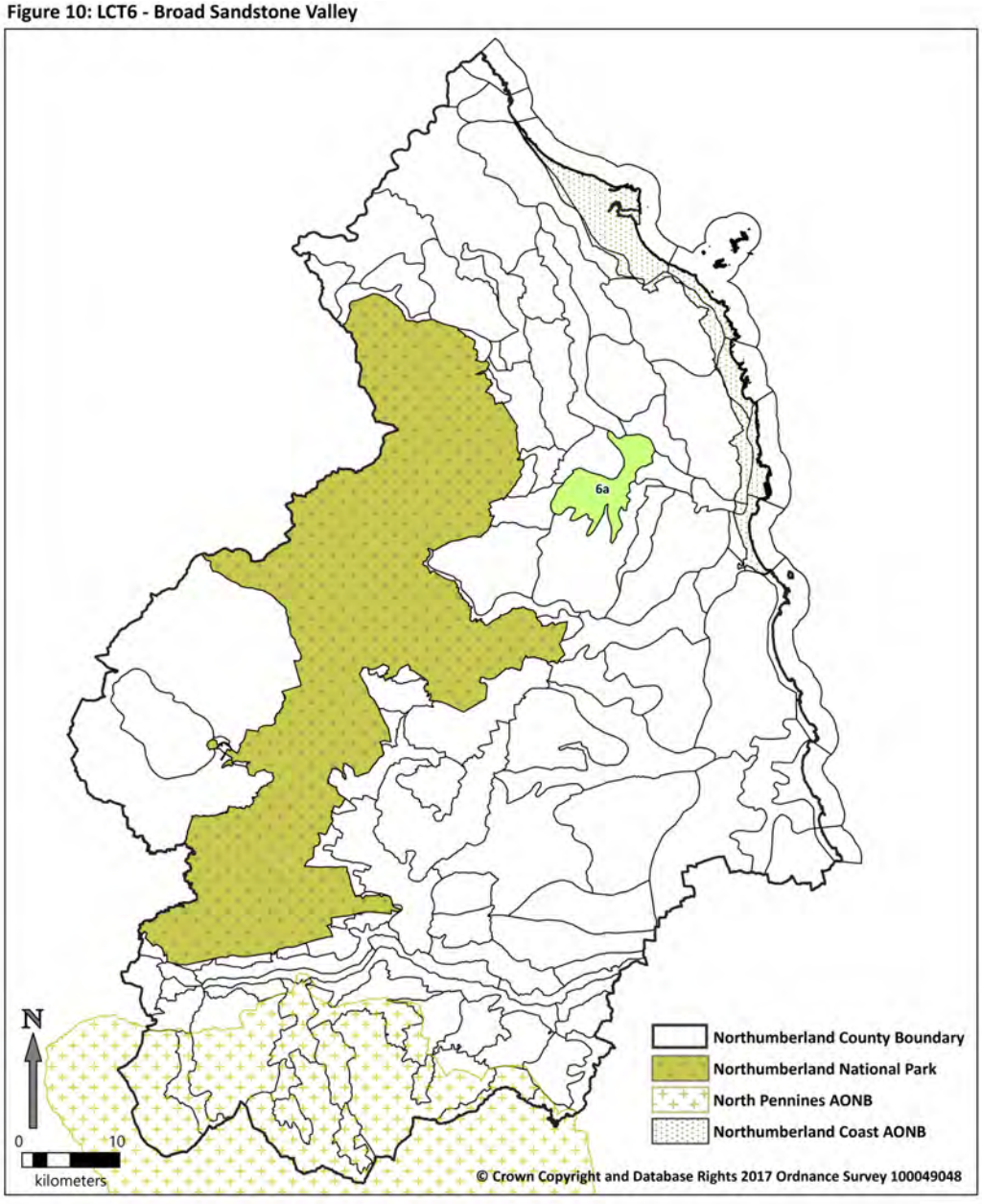
Landscape Sensitivity to Wind Energy Development
LCT 6: Broad Sandstone Valley

This LCT comprises a landscape of the broad valley of the River Aln and tributaries, as it passes through the sandstone hills.

The LCT is represented by a single character areas (LCA):

- **LCA6a: *Whittingham Vale***

Figure 10: LCT6 - Broad Sandstone Valley



Key Landscape Characteristics of LCT 6: *Broad Sandstone Valley:*

- Broad undulating valley;
- Significant influence of glacial deposition;
- Strong enclosure pattern, albeit in decline in parts.

Landscape Sensitivity Profile of LCT 6: *Broad sandstone Valley*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Some variety within a broad shallow valley of the river Aln and its tributaries the Edlingham and Eglingham burns. The meandering river is not a highly prominent feature over much of the LCT component, often defined only by riparian deciduous tree cover. Glacial deposit features such as drumlins and eskers provide undulating landform in places.	Moderate
Land cover	Patchwork of arable crops and pasture, but with localised parkland influences. Occasional pocket woodlands and farmstead-linked coniferous plantations. Strong pattern of hedgerows with hedgerow trees, although in many areas this is being eroded as hedgerows are removed.	Moderate-High
Landscape scale	Medium scale landscape with human scale features such as hedgerows, small woodlands, parkland and scattered settlement. Some enclosure in places.	Moderate
VISUAL:		
Skylines	Largely simple, punctuated by woodlands, some larger and block-like and linear shelterbelts with gently rolling slopes and horizons.	Low-Moderate
Views and landmarks	Some locally important foci, smaller mainly historic estates and settlement such as Shawdon Hall and Whittingham village in the valley floor. Views to Thrunton Woods and Alnwick Moors. Occasional glimpses to the Cheviot Hills and Sandstone Ridge.	Moderate
Inter-visibility	The shallow but pronounced valley profile generally results in a visually self-contained landscape over most of the LCA. Some longer vistas include landscapes beyond, such as the dome of Alnwick Moor to the south-east and Thrunton Wood coniferous plantations. Some views from northern fringes to Cheviot Hills	Low-Moderate
Visual receptors	Main transport rote A697 runs north-south though the LCA whilst a dense local road network lies across much of the LCA. The villages of Whittingham and Glanton and the agricultural hamlets of Bolton and Edlingham provide the foci of settlement along with scattered but frequent farmsteads. Small Estates such as Lemmington Hall and Shawdon Hall add historical sensitivity in the landscape.	Moderate
PERCEPTUAL:		
Movement	Limited movement in the landscape, primarily from the main A697 and local road network but also from seasonal agricultural activity in the arable landscape.	Moderate-High
Built development	Scattered and frequent but often small in scale. Limited to small villages, hamlets, small estates and farmsteads. Limited other types of built development.	Moderate-High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
Remoteness	A settled and farmed landscape with strong local road network. However settlement is generally small in scale and scattered rather than concentrated, reducing any perception of remoteness.	Moderate
QUALITATIVE:		
Scenic quality	A gentle arable and woodland landscape over a distinct but shallow river valley landform. Peaceful rural character, particularly around historic estates and hamlets but overall not remarkable.	Moderate
Distinctiveness	Not strongly distinctive landscape of Northumberland, but river valley settlement and estates provide localised sense of place.	Low-Moderate
Rarity	Not unusual across Northumberland, no rare components in the landscape.	Low-Moderate
HISTORIC & CULTURAL:		
Heritage assets	The village of Whittingham is located at a fording point of the River Aln, and is a small village built around a medieval core. Small estates with some designed parkland are located across the LCA. Extensive areas of ridge and furrow, representing medieval field systems found in pockets within the modern enclosures, associated with settlements, particularly Whittingham, and the deserted villages of Barton and Abberwick. Edlingham Castle is an English Heritage property.	Moderate- to Moderate-High
Recreation	Public footpaths and permissive paths radiate from settlements, and there are small areas of access land. Some built heritage interest such as Edlingham Castle.	Low-Moderate
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	A distinct shallow valley profile with a managed appearance and scattered settlement with some historic interest, but without strong foci or significant landscape features. Landscape scale, degree of enclosure and settlement pattern all indicate a widespread degree of on-going human presence in the area but generally at low to moderate levels of intensity. The landscape is mostly self-contained with limited intervisibility with other contrasting or more distinctive landscapes, but with occasional views to higher land in all directions. Overall the landscape characteristics and visual components present a moderate degree of sensitivity to wind energy development, although larger scale development would potentially have some significant impacts upon sensitive receptors and heritage assets. The area is however deeply rural and set within a context of mostly more sensitive landscapes where wind energy may serve to dilute the settled rural character and present incongruous scale of development in a wider landscape context of human-scale development. Smaller and medium scale wind energy development may be accommodated into the landscape having regard to locally sensitive elements and sites and where this is apparent rather than prominent.	
Cumulative effects	No wind energy developments have been permitted or installed within the LCT and there are no significant vertical structures to complicate simple skylines. There is also an absence of wind energy development in most	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	neighbouring landscapes. However, the southern turbines of Middlemoor wind farm stand approximately 3km to the north of the LCT's northern fringe. The scale and number of turbines across the major Middlemoor / Wandylaw wind farms afford various middle and longer distance views to them from within the Broad Sandstone Valleys landscape type with movement being apparent. Cumulative impacts of the Middlemoor / Wandylaw wind farms are significant in some vistas from their eastern /coastal side and development of similar scale turbines within the Broad Sandstone Valley could serve to extend the visual envelope within which these are already viewed on east-west lines of travel, although the elevation from the LCT is lower than those existing sites. Across the LCT small scale individual turbines serving farmsteads are unlikely to present serious cumulative visual harm and may be assimilated with the medium scale landscape away from residential receptors.	

LCT6: Broad Sandstone Valley - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 6a: Whittingham Vale	L-M	M	M	M-H	M-H
Overall Landscape Sensitivity of LCT6: *Broad Sandstone Valley*	In general LCT6 is suitable for small, small-medium and medium scale turbines up to 65m height to blade tip. Medium-large and large scale wind turbines above 66m height to blade tip throughout the LCT would be unsuitable in principle. These scales of wind energy development may be suitable only where it can be shown that effects on the most sensitive characteristics and cumulative effects, largely due to the high degree of inter-visibility with adjacent and more distant landscapes, would not be significant.				

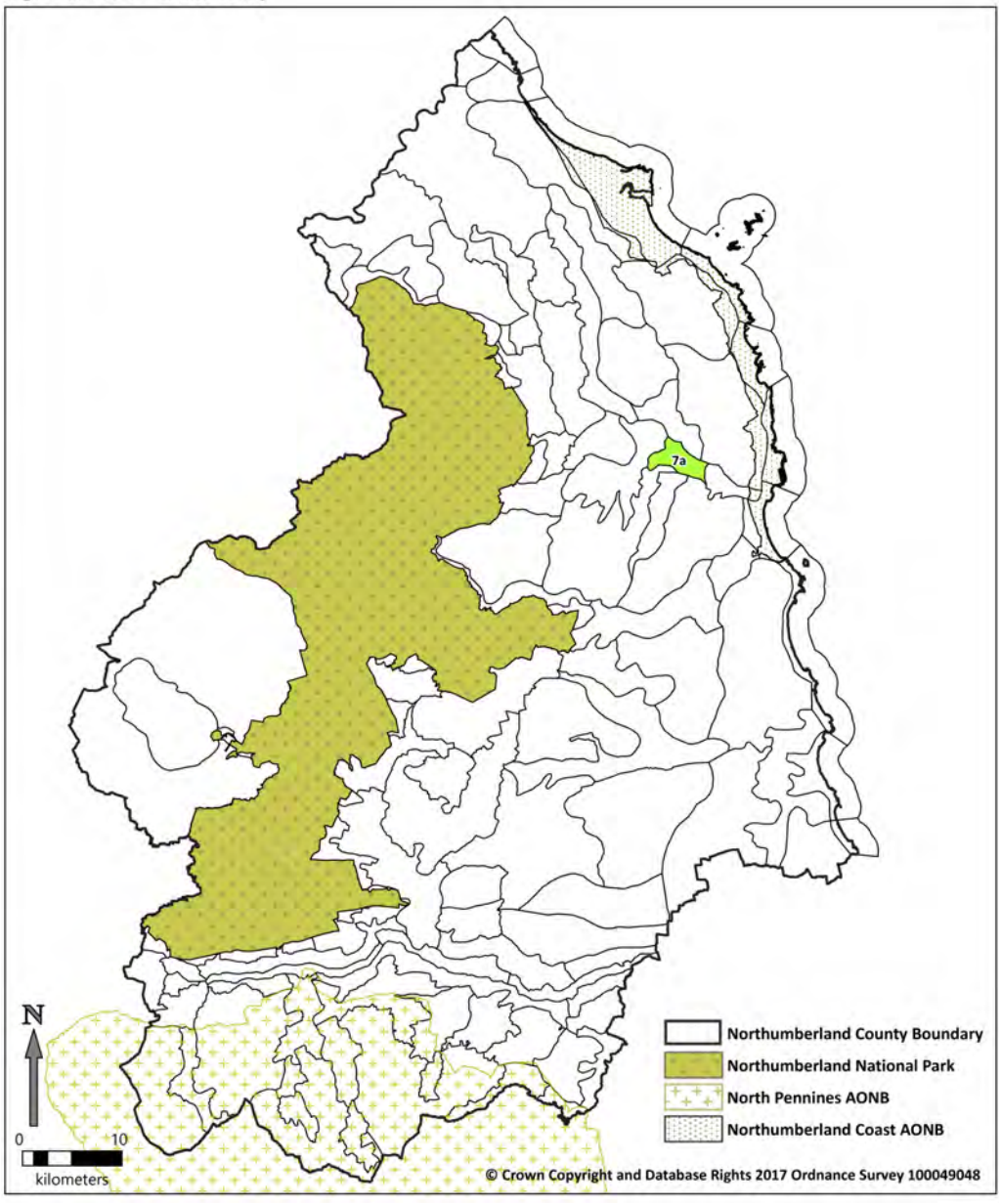
Landscape Sensitivity to Wind Energy Development
LCT 7: Estate Valley

This LCT consists of an incised valley, dominated by the extensive parkland in the estate of the Duke of Northumberland, including Hulne Park, and the distinctive historic landscape around Alnwick Castle.

The LCT is represented by one character area (LCA):

- **7a: *Hulne Park***

Figure 11: LCT7 - Estate Valley



Key Landscape Characteristics of LCT 7: *Estate Valley*:

- Incised River Aln valley.
- Extensive designed parkland landscape.
- Historic architectural features, including extensive boundary walls.

- Estate woodlands.

Landscape Sensitivity Profile of LCT 7: *Estate Valley*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	A complex, relatively confined meandering river valley with steep sides downstream of the Aln and Eglingham Burn confluence. The Aln valley is at its narrowest here, as it passes between Alnwick Moor to the south, and Charlton Ridge to the north. The river meanders around smaller hills within the valley, such as Brizlee Hill (175m) and Cuthbert Heugh (129m). In places the river flows through floodplains ('haughs'), and elsewhere is contained within a steep-sided gully.	Moderate-High to High.
Land cover	Varied open parkland elements, extensive woodland and estate lands. Riparian and parkland trees are characteristic and elsewhere there is a strong mosaic of deciduous and coniferous forestry plantation and woodland. Arable and pastoral land enriches the mosaic of land uses. Parts of Alnwick add an urban component with strong townscape value of stone buildings, slate roofing and high stone curtilage walls underpinning estate influence.	Moderate-High to High.
Landscape scale	An enclosed, medium to small landscape scale with multiple elements within a relative small spatial unit.	Moderate-High to High
VISUAL:		
Skylines	Some complexity dependent upon relief, degree of enclosure, urban fringe influence and mixed land uses.	Moderate-High to High
Views and landmarks	Important views within the LCT of historic designed landscapes and heritage features, as well as townscape and landscape value. Brizlee Tower, Alnwick Castle, the River Aln itself and Hulne Priory are examples of a complex and attractive rich heritage landscape.	High
Inter-visibility	A self contained LCT by way of enclosed river valley topography and significant tree cover.	Low to Low-Moderate
Visual receptors	Residential receptors from the northern fringe of Alnwick and from local transport routes. Recreational visitors also sensitive to visual prominence of wind energy installations.	High
PERCEPTUAL:		
Movement	Urban fringe and local road network present some limited movement in the landscape, but generally quite limited.	Low-Moderate to Moderate
Built development	Significant historic built development across the northern fringe of Alnwick town and many historic buildings such as Alnwick Castle and its estate built components and infrastructure. Generally high value architectural elements across the landscape.	High
Remoteness	A managed and designed landscape over much of the LCT but often tranquil with limited public thoroughfares	Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	over much of it.	
QUALITATIVE:		
Scenic quality	High degree of attractiveness through combinations of natural and re-modelled topography and natural features, designed landscape and frequent heritage sites and buildings.	High
Distinctiveness	Strong sense of place associated with the mosaic of landscape and heritage components, historic associations and cultural importance.	High
Rarity	A unique combination of historic and topographic and geomorphological components specific to the Duke of Northumberland Estate.	High
HISTORIC & CULTURAL:		
Heritage assets	High historical and cultural heritage value across the LCT which partly defines the landscape and visual foci within it. Important landscape settings of high value built heritage components across the LCT. Much of the LCT is Registered as Historic Park and Garden and includes designed landscape by Capability Brown. Strong historic importance extends back to prehistoric earthworks and standing stones.	High
Recreation	Alnwick Castle, along with the Alnwick Garden, is a highly popular tourist destination. Hulne Priory and Alnwick Abbey are publicly accessible, as is the surrounding park.	High
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	The LCT is almost entirely designated as Listed Park and Garden and comprises a rich mixture of designed parkland, woodlands and plantation which present the setting for important heritage features and the northern landscape context fro Alnwick itself. The rolling topography and tree cover provide frequent areas of enclosure, and limited public access enhances relative tranquillity. With the exception of well-screened estate farm barns there is a predominance of attractive stone built architecture across the LCT with an absence otherwise of modern prominent built structures. The introduction of medium or larger wind turbine infrastructure within the landscape would be likely to contrast, detract from and dilute its strong and distinctive existing estate-managed character and historic integrity. Parts of the LCT to the east are particularly important to the setting of the town and of Alnwick Castle over designed parkland with iconic views from bridges in particular.	
Cumulative effects	No wind energy development has been installed or permitted within the LCT. Development of any newly consented turbine infrastructure would initially have no cumulative effects within the immediate area. Middlemoor wind farm falls approximately 5 km to the north of the LCT. Over most of the LCT local landform restricts views to the turbines but higher ground such as at Brizlee Tower allows views to the north including the extensive windfarm landscape of LCA8c *Charlton Ridge* and LCA10a *Rosebrough Moor*. Development of medium to larger scale wind turbines within the LCT would be likely to lead to view cones within whch	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	Middlemoor and new turbines would be perceived. The enclosed nature of the LCT with limited intervisibility between LCTs would serve to reduce the likelihood of intervisibility with other installations of smaller turbines.	

LCT 7: *Estate Valley* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 7a: Hulne Park	M-H	H	H	H	H
Overall Landscape Sensitivity of LCT7: *Estate Valley*	In general wind turbines would be unsuitable in principle within LCT7. However, small scale turbines below 26m to blade tip height may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important historic and designed landscape foci in the landscape or adjacent more sensitive landscapes. Small-medium, medium, medium-large and larger scale turbines would significantly affect key characteristics and qualities of the wider landscape context that are highly sensitive to this type and scale of development. This is primarily due to the importance afforded to the landscape as designed and historic landscape, with important setting to Alnwick and its nationally important heritage assets.				

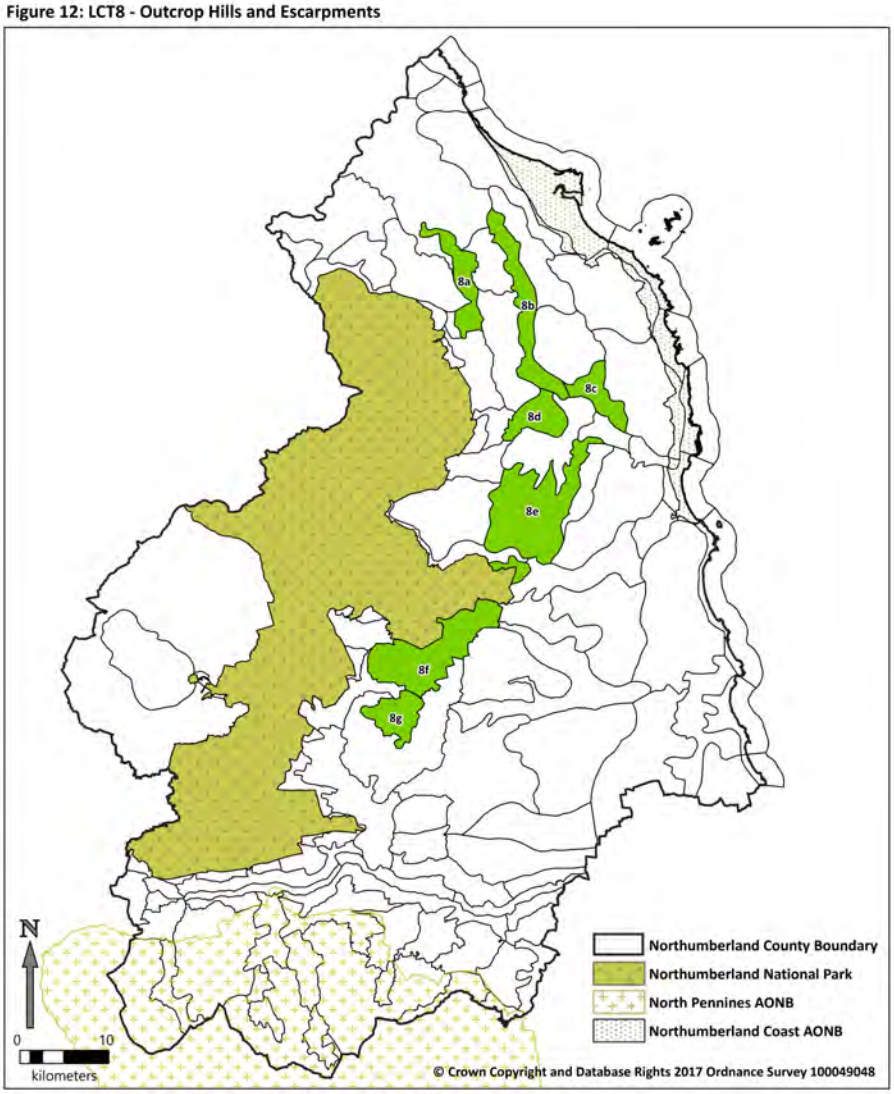
Landscape Sensitivity to Wind Energy Development
LCT 8: Outcrop Hills and Escarpments

This LCT comprises elevated landscapes of hills that form a distinctive chain of rocky uplands, running the length of the *Northumberland Sandstone Hills* National Character Area, from the Kyloe Hills in the north, to Great Wanney Crag in the south. Their distinctive form and rich semi-natural vegetation patterns contrast with the surrounding more intensively-farmed landscapes.

The LCT is represented by seven character areas (LCA):

- **8a *Doddington Ridge.***
- **8b *Kyloe and Chillingham Hills.***
- **8c *Charlton Ridge.***
- **8d *Beanley Moor.***
- **8e *Rothbury Forest.***
- **8f *Harwood Forest.***
- **8g *Sweethope and Blackdown*.**

Figure 12: LCT8 - Outcrop Hills and Escarpments



Key Landscape Characteristics of LCT 8: *Outcrop Hills and Escarpments*

- Flat-topped elongated ridges and rounded sandstone hills.

- Distinctive steep scarp faces forming stepped, often dark, skyline silhouettes.
- Open plateau and gentle dip slopes clothed in heather moorland, acidic grassland mosaic, coniferous forestry and peat bog/mires.
- Steeper slopes and craggy outcrops with bracken, heather and broadleaved woodland .
- Wet pastures and semi-improved pastures on lower slopes.
- Rich muted colours and textures.
- Little or no habitation but significant archaeological remains.
- Water bodies including natural loughs and reservoirs.

Landscape Sensitivity Profile of LCT 8: *Outcrop Hills and Escarpments*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Some variety in landform with sandstone geology underlying a sharp north and west-facing scarp with craggy cliffs, scree slopes and upstanding rocky outcrops. Flat tops of the ridges form a broad plateau above the gentler, rounded dip slope to the south where there are fewer distinctive rocky outcrop features. Drained by a series of burns which cut incised courses though the moorland, and are often bordered by bracken, heather and broadleaved trees and flanked by wet pastures. Elsewhere in this character type there are natural loughs and mires (e.g. Darden Lough and Little Lough respectively) in areas of impeded drainage. Man-made reservoirs at Sweethope Lough and Fontburn Reservoir.	Moderate
Land cover	Extensive semi-natural vegetation of mixed heather and grassland moorland and rough pasture, significant coniferous plantation and deciduous woodland on steeper scarp slopes. Bracken, heather and broadleaved trees flanked by wet pasture alongside incised burns draining the plateau. Acidic soils and peat bog in areas of poor drainage. Rocky outcrops are visually important elements of the land surface. Stone wall enclosure facilitates sheep farming whilst moorland management supports field sports.	Moderate
Landscape scale	Significant variety in landscape scale is encountered across the 7 LCAs of the Outcrop Hills and Escarpments. Medium to large scale landscapes generally with variation towards the fringe of the open moorland where greater enclosure can be encountered such as within wood pasture. Drystone walls punctuate more open landscape tracts reducing the perceived scale of the landscape. LCA 8c at Charlton Ridge has a smaller overall scale than other LCAs due to greater undulation a frequent but small coniferous plantations. By contrast LCA 8e at Rothbury Forest has a large open and exposed landscape scale.	Low-Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
VISUAL:		
Skylines	Largely simple but with some variation, dependent upon those more craggy outcrops or moorland and plantation affording a more regular and smooth skyline. Often big skies and extensive vistas are experienced. The profile of the Outcrop Hills and Escarpments can be important from the coastal plain, including from the Northumberland Coast AONB, where the Kyloe Hills for example often presents an important 'landscape frame' or visual enclosure to the coastal plain.	Low-Moderate to Moderate
Views and landmarks	Significant variation over the wider LCT areas. Vistas often take in locally important landmarks whilst longer vistas from outcrops and higher sites extend beyond the LCAs over broad panoramas, but are rarely focused on key landmarks. Key exceptions to this are vistas to the coast particularly from LCA8b and 8c where iconic heritage landmarks are visible, such as Bamburgh Castle and Holy Island. Vistas to the west and the Simonside and Cheviot Hills are important.	Moderate-High to High
Inter-visibility	The large extent and often elevated ridges and outcrops of the LCT allow for frequent and sometimes strong intervisibility with neighbouring LCTs. Transitional landscapes serve to emphasise this such as LCT 10 Smooth Moorland and LCT11 Sandstone Fringe Farmland. LCA 8f has an extensive boundary with Northumberland National Park.	Moderate-High to High
Visual receptors	Few visual receptors of high sensitivity beyond local and occasionally main transport routes (A697, A696). Sparse settlement is limited to upland farmsteads. Recreational use of the land is important over a number of the LCAs .	Moderate.
PERCEPTUAL:		
Movement	Where no strategic road network routes or wind farms fall across the LCAs, movement tends to be limited. Elsewhere some frequent movement along main transport corridors. Significant movement is apparent however from installed wind farms including the large wind farms at Middlemoor (LCA 8c), Ray (LCAs 8f and 8g) and Green Rig (LCA 8g).	Moderate to Moderate-High
Built development	Very limited beyond upland farmsteads and wind energy installations. Some hilltop masts and antennae evident such as at LCA8e Rothbury Forest and LCA8f Harwood Forest where electricity powerline pylons and radio masts are evident. MoD radar dome at Brizlee Wood is a prominent and almost surreal landscape foci in multiple views.	Moderate-High
Remoteness	Despite upland a tranquil character remoteness is eroded across much of the LCT by the road network,	Moderate to Moderate-High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	agricultural activity and some tourist and recreation activities. LCA8f Harwood Forest and LCA8g Sweethope and Blackdown offer more remote upland tracts where movement activity is limited away from wind farms.	
QUALITATIVE:		
Scenic quality	Moderate scenic qualities away from infrastructure and large upland farmsteads. Scenic quality is sometimes raised where vistas are possible and rocky outcrops, scarp slopes and surface water features are apparent, such as Great Wanney Crag.	Moderate
Distinctiveness	Some distinctiveness by way of scale and upland character, particularly across the LCA 8b Kyloe and Chillingham Hills and Harwood forest and LCA8e Rothbury Forest which underpin sense of place for upland Northumberland.	Moderate-High
Rarity	Extensive area of the LCT results in lower level of rarity although important to the character of the county as a consequence of relative extent of cover.	Low-Moderate
HISTORIC & CULTURAL:		
Heritage assets	Prehistoric cup and ring features are important cultural sites but have little influence on the landscape. Estate woodlands and parkland at Cragside, Chillingham, Hedgeley Hall and Ros Castle on the ridge of LCA8c are less common but important landscape components across the LCT. More widely historic sites or features are limited.	Moderate to Moderate-High
Recreation	Cragside and Chillingham Castle with its wild cattle are notable visitor attraction but otherwise recreation interest is limited to informal activity over the rights of way network and open access land. St Cuthbert's Way across the Kyloe Hills and St Oswald's Way cross LCA8f and are regionally important trails.	Moderate to Moderate-High
CONTEXTUAL CONSIDERATIONS		
Landscape Character Context	In the absence of landscape designation, and a location between nationally designated landscapes of Northumberland National Park and Northumberland Coast Area of Outstanding Natural Beauty, this upland spine of the county may be seen present an attractive topographic location for commercial wind energy proposals. Large-scale wind energy within the LCT has an inherent potential for significantly altering the character of this upland, open and occasionally remote moorland landscape. This has been evidenced where wind farms have been installed at Middlemoor, Ray and Green Rig. Significant local variation is identified across this extensive LCT with multiple combinations of land uses and historic features over broadly similar geology and topography. The degree of development varies also, although much of the LCT is open and exposed and of larger scales with very limited built development in comparison to surrounding LCTs. Comparatively limited numbers of sensitive receptors, often moderate scenic value (although occasionally more important), simple skylines and	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	larger scale of the landscape has influenced past permissions for wind energy development at large commercial scales, such as at Middlemoor, Green Rig and Ray, to the extent their host LCAs may now be considered to be characterised by wind energy development. Further wind energy development across the LCT would be likely to be prominent in many locations due to elevation and exposure, but within areas of overall lower to moderate sensitivity. Across the LCT in siting new wind energy installations it will be important to have regards to important craggy ridgelines and scarp slopes which are vulnerable to medium and larger scale turbines 'sky-lining' or causing partial 'blade-sweep' over medium and near-distance horizons, and hence be unsuitable locations. Further development within the LCT of medium to larger scale wind turbines would normally be expected to be prominent from other LCTs. Sensitivity of the landscape away from those specific features of interest and distinctiveness would normally be lower, particularly to small and medium-scale turbines.	
Cumulative Effects	The LCT has a number of existing wind energy sites within it including the major installations at Middlemoor, Ray and Green Rig. Smaller twin turbines (20m) are also located at Ottercops, Kirkwhelpington and single small (18m and 21m) turbines permitted at Fallowlees and Powburn although with significantly lower landscape prominence that the large commercial sites. The extent of visual influence of those larger installed wind farms are often expansive. Existing cumulative effects of the closely located Middlemoor and Wandylaw sites are such that the two sites read as one in almost all directions of possible visibility, including from extensive tracts of the Northumberland Coast AONB. Ray and Green Rig wind farms are visible in the same vistas from important sites within Northumberland National Park such as Simonside, at around 6km distance. LCA 8g now could be reasonably described as a 'wind farm landscape' with the completion of Ray Wind Farm in relative proximity to Green Rig. The elevated and elongated extent of the LCT affords it with multiple boundaries with several neighbouring LCTs. Intervisibility between these areas *and* with non-contiguous LCTs is often significant, including with contrasting lowland farmed landscapes bordering the spine of outcrops and escarpments and affords a strong landscape contrast and setting in places. However, the steep scarp slopes and gradual dip slopes do afford some possibility of locating wind energy development below and away from elevated ridges and plateau such that the landscape obscures intervisibility at relatively close proximities in some directions. The elevated nature of the LCT, the existence of installed wind farms within three of the LCAs and strong intervisibility in places with designated landscapes and neighbouring LCTs suggests that additional larger scale wind energy developments have the potential for significant cumulative impacts which would required close examination in respect to their potential for harm at project planning stage. Closing or diluting the strategic-scale gaps between the two main concentrations of wind farms at Ray-Green Rig and Middlemoor-Wandylaw, particularly across LCA8d, 8e and 8f through large scale wind energy development may present significant county-scale	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	cumulative impact as a line or series of intervisible 'islands' of wind farms through the spine of the county, visible from important viewpoints and landscapes at a strategic scale. Limited further concentration of wind turbines close to existing wind farms may limit such cumulative harm where turbines are of similar scale, but would need to be afforded close consideration at project assessment stage.	

LCT 8: *Outcrop Hills and Escarpments* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 8a: Doddington Ridge	M	M-H	H	H	H
LCA 8b: Kyloe and Chillingham Hills	L-M	M-H	H	H	H
LCA 8c: Charlton Ridge.	L	L-M	M	M-H	M-H
LCA 8d: Beanley Moor.	M	M-H	H	H	H
LCA 8e: Rothbury Forest.	M	M	M-H	H	H
LCA 8f: Harwood Forest.	L-M	M	M-H	H	H
LCA 8g: Sweethope and Blackdown.	L-M	M	M	M-H	M-H

Overall Landscape Sensitivity of LCT8: *Outcrop Hills and Escarpments*	In general LCT8 is suitable for carefully sited small scale turbines up to 25m height to blade tip where they are closely associated with the scale and location of farm buildings in the landscape. Small-medium scale turbines between 26m-40m to blade tip would be generally suitable within LCA 8c, 8e, 8f and 8g. In general, wind turbines above 40m height to blade tip would in principle be unsuitable within LCT8, although LCA 8c and LCA 8g are less sensitive to turbines between 41m-65m to blade tip. Small-medium scale turbines within LCA 8a, 8b and 8d, medium scale turbines within LCA 8e and 8f, and medium-large and large scale turbines within LCA 8c and 8g may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape.

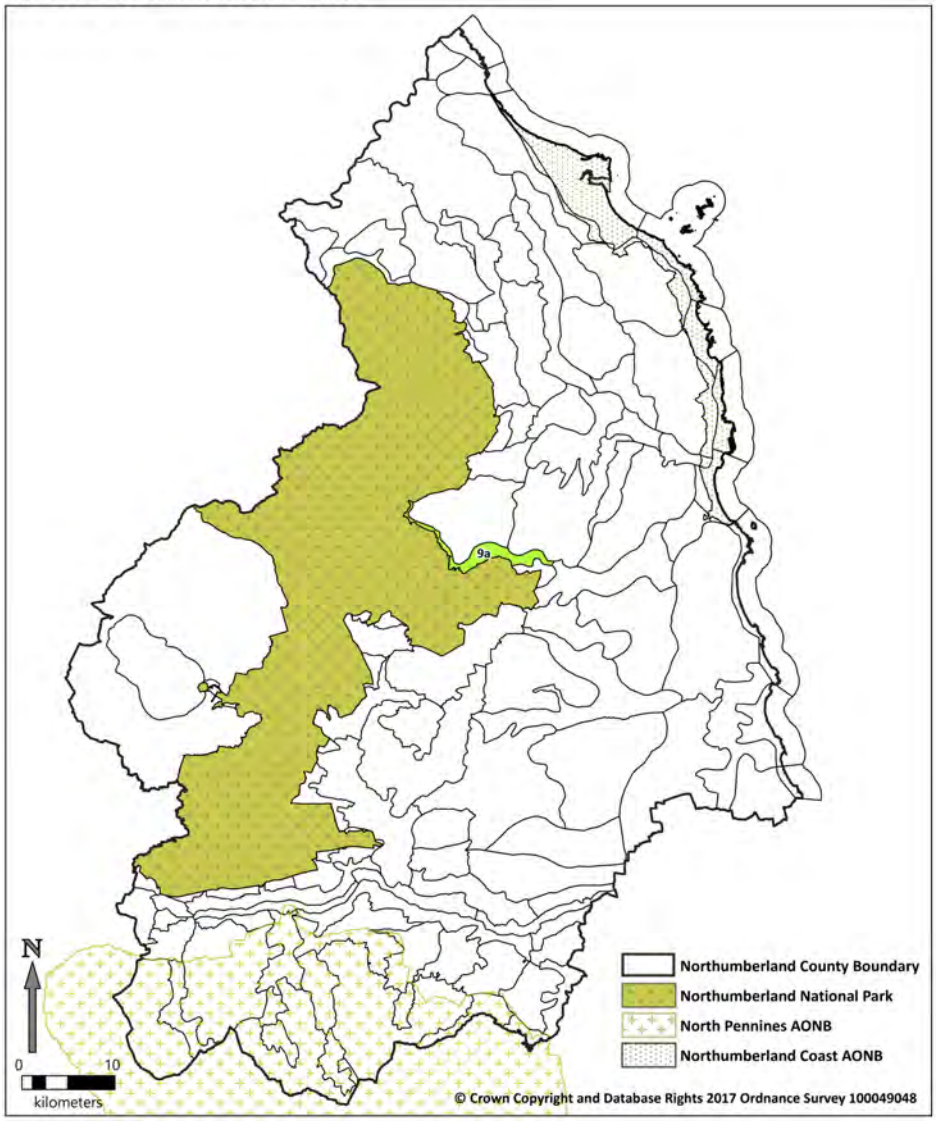
Landscape Sensitivity to Wind Energy Development
LCT 9: Sandstone Upland Valleys

This LCT comprises the valley of the River Coquet, as it flows alongside and through the *Northumberland Sandstone Hills* NCA. The valley is strongly influenced by the sandstone context to the south and east, and by the lower-lying land of the *Upland Fringe Farmland* (LCT 15) to the north. This LCT extends into Northumberland National Park.

The LCT is represented by one character area (LCA):

- **9a: *Coquetdale***

Figure 13: LCT9 - Sandstone Upland Valleys



Key Landscape Characteristics of LCT 9: *Sandstone Upland Valleys*:

- Sinuous shallow valley and narrower, incised tributaries set within the sandstone uplands.
- Valleys enclosed by distinctive, gently convex sandstone hills with acidic vegetation.
- Smooth floodplain meadows and pastures grazed by cattle, sheep and horses and occasional areas of arable farmland.

- Strong topographic, vegetation and land use patterns.
- Meandering rivers that are inconspicuous within the landscape, but lined with alders.
- Steep bluffs clothed in pine and other conifers flanking the valley floor.
- Shelterbelts and clumps of Scots pine and mixed woodland on lower slopes and valley floor.
- Sandstone-built historic villages on lower slopes.
- Rich archaeology including ridge and furrow, motte and bailey and fortified bastle houses.

Landscape Sensitivity Profile of LCT 9: *Sandstone Upland Valleys*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	The irregular profile of much of the valley is asymmetrical, due to the fact that the south side is underlain by sandstone, and the north side by glacial deposits over hard geology. On the sandstone valley sides the topography rises sharply and acidic soils prevail, while glacial deposits rise more gently, forming a rounded profile. The floodplain within the valley is well defined and of varying width. The meandering course of the river flows between shingle banks. In places oxbow lakes and former river channels can be picked out as wet patches and undulations within the valley floor pastures.	Moderate-High
Land cover	Significant variation across the LCT. Acidic soils support distinctive vegetation, including heather moorland, birch woodland, and patches of gorse and bracken, while the glacial soils to the north support large-scale improved pastures and blocks of conifer shelterbelts. Valley floor pastures are semi-improved with patches of wet flush vegetation. The field pattern is generally small-scale with grazing by cattle, sheep and horses. The surrounding woodlands give the valleys a sense of enclosure most strongly felt in the tributary valleys where the watercourses are lined with alder trees and broadleaved woodland and in the Upper Coquet valley where pine and conifer plantations extend onto the floodplain. Elsewhere, as at Warton and Rothbury, the valley floor is more open, although mature oak and ash trees are characteristic within the hedgerows on the lower valley sides. Mixed land uses apart from agriculture include small settlement and parts of Rothbury where golf course and caravan park are located. Former sand and gravel workings now restored.	High
Landscape scale	Small scale consequent to complex mix of vegetation, landform, significant enclosure and mixed land uses.	High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
VISUAL:		
Skylines	Relatively complex skylines presented by the valley shoulders and where longer views allow neighbouring LCTs of higher ground beyond the valley floor and into the Outcrop Hills and Escarpments and Upland Fringe Farmland LCTs and the Cheviot Hills within Northumberland National Park.	Moderate-High
Views and landmarks	Some locally important heritage components such as Bastile and Tower Houses and the focal point of the river itself and its crossing points.	Moderate
Inter-visibility	Often self-contained by way of steeply rising valley sides. Some longer vistas to higher ground to the south and north, and occasional vistas into Northumberland National Park.	Moderate
Visual receptors	Settlement of Hepple, Sharperton, Thropton and Rothbury fall within or partly within the LCT as does the B6341 and B6342. The area is important for recreation and visitors as a main gateway route to Northumberland National Park.	Moderate-High
PERCEPTUAL:		
Movement	Road users, focused agricultural activity in the valley floor and various urban and peri-urban land uses provide some movement to the landscape, whilst the river itself provides natural seasonal variation in flow and width.	Moderate to Moderate-High
Built development	Focused settlement in villages and town of Rothbury. Scattered farmsteads elsewhere and various other land use with associated structures.	Moderate
Remoteness	Focused uses and activity in the valley limits sense of remoteness of tranquillity.	Moderate
QUALITATIVE:		
Scenic quality	Some scenic value where vistas to upper slopes and surrounding uplands become possible. The river course itself and steep tributary burns provide attractive focal detail, including as it passes through the gorge at Rothbury. Otherwise human influence and transport corridor has resulted in a good condition of the landscape but also limits scenic value within the LCT itself, such as minerals works and caravan sites. Immediate proximity to Northumberland National Park underlines the potential importance of the LCT as a setting to the designated landscape.	Moderate-High
Distinctiveness	A relatively distinctive combination of landscape character with a stronger sense of place.	Moderate-High
Rarity	A unique LCT with limited spatial extent across the county.	High
HISTORIC & CULTURAL:		
Heritage assets	Locally important features such as numerous tower houses and bastle houses and historic villages with	Moderate-High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	Conservation Area across much of Rothbury as it falls within the LCT. Villages dating from the medieval period or possibly earlier have a strong local vernacular character and are predominantly built of sandstone.	
Recreation	Rothbury at the eastern edge of the LCT is a recognised gateway settlement to Northumberland National Park. Relatively level footpaths line the floodplain allowing potentially more accessible informal recreation to some users.	Moderate.
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	The small scale, complexity of land uses, frequent sensitive receptors and historic settlement alongside the attractive river valley character at the fringe of Northumberland National Park suggest higher landscape sensitivity to wind energy. Limited capacity for very small-scale development of individual turbines, out of the immediate visual river-valley corridor, possibly supporting rural businesses and farmsteads *may* be accommodated without serious visual and character harm in limited circumstances. Other larger turbines and developments of multiple turbines - by being out of scale with the landscape and presenting inevitable visual draw in confined topography, would be likely to be visually dominant or out of scale.	
Cumulative effects	No wind energy development is located within the character area, nor in adjoining LCTs. The relatively enclosed topography and limited intervisibility between neighbouring and more distant LCTs suggests that should small scale wind energy development be permitted within the Sandstone Upland Valley there would be a low probability of cumulative effects arising. Proximity to Northumberland National Park suggests that visual harm to the setting of the nationally designated landscape would be an important consideration in defining suitability of proposed wind energy schemes.	

LCT 9: *Sandstone Upland Valleys* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 9a: Coquetdale	M-H	H	H	H	H
Overall Landscape Sensitivity of LCT9: *Sandstone Upland Valleys*	In general wind turbines would be unsuitable in principle within LCT9. However, small scale turbines below 26m to blade tip height may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important historic and designed foci in the landscape or adjacent more sensitive landscapes.				

	Small-medium, medium, medium-large and larger scale turbines would significantly affect key characteristics and qualities of the wider landscape context that are highly sensitive to this type and scale of development. This is primarily due to the importance afforded to the landscape's complexity, intimate scale, scenic value and close proximity to Northumberland National Park.

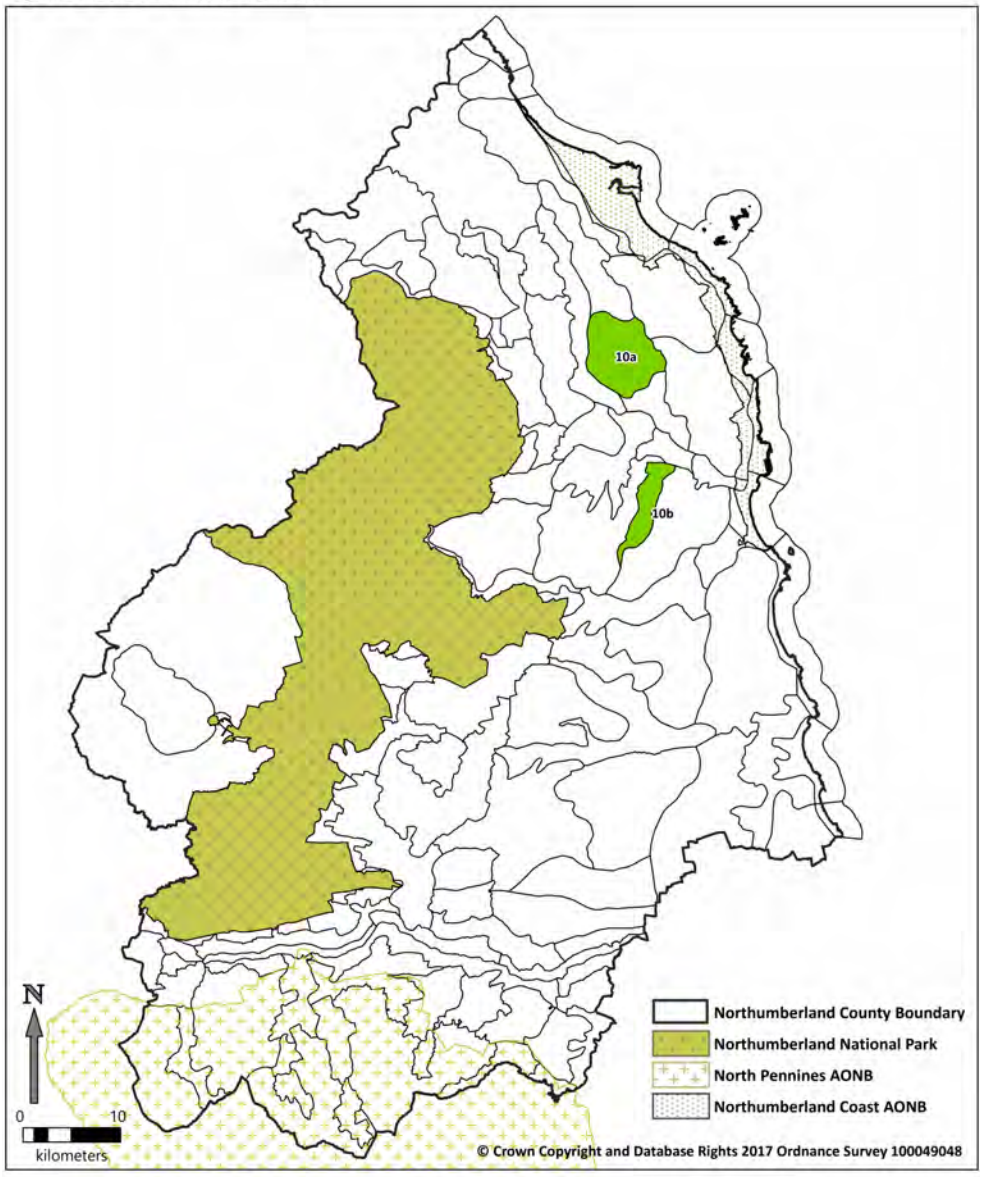
Landscape Sensitivity to Wind Energy Development
LCT 10: Smooth Moorland

This LCT occurs on the broad dip slope which lies to the east of the prominent scarp of the Northumberland Sandstone Hills. It is closely associated with the Outcrop Hills and Escarpments (LCT 8), which form the western edge of both areas of Smooth Moorland.

The LCT is represented by two character areas (LCA):

- ***10a Rosebrough Moor***
- ***10b Alnwick Moor***

Figure 14: LCT10 - Smooth Moorland



Key Landscape Characteristics of LCT 10: *Smooth Moorland*:

- Gently undulating moorland, without the significant rocky outcrops which characterise the *Outcrop Hills and Escarpments* (LCT 8).
- Simple land cover of heather moor, rough grassland and peat bog.

- Limited areas of coniferous plantation forest leaving an open character.
- Little woodland or tree cover, and very limited settlement.
- Uninterrupted views across the coastal plain towards the North Sea.
- Prominent masts and other infrastructure.

Landscape Sensitivity Profile of LCT 10: *Smooth Moorland*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Landform is defined by the gentle eastern dip slope of the *Northumberland Sandstone Hills* NCA. The land rises from the coastal plain to a relatively level series of plateaux, before dropping sharply to the west at the scarp slope (within LCT8). The plateaux are flat or very gently undulating, with few prominent hills. Overall the land shelves to the east. Small burns drain the land, via a network of narrow gullies. Elevation and open, extensive nature affords expansive visibility across many parts.	Low-Moderate
Land cover	Primarily heather moorland with upland heath and blanket bog occupying large areas, giving the impression of an amorphous landscape of continuous heather coverage. Transition is gradual to bracken and gorse amongst open pasture with increasing but limited field boundaries. Areas of semi-improved grassland on lower slopes with increasing enclosure from hedges replacing drystone walls and post and wire of higher areas. Small but prominent, frequent geometrical coniferous plantation and occasional broad leafed woods provide only tree cover.	Low-Moderate
Landscape scale	Openness and relative uniformity, with limited topographic variety and few boundary features result in a larger scale landscape although overall extent slightly limits this.	Low-Moderate
VISUAL:		
Skylines	Topographic and simple vegetation cover affords largely simple consistent skylines but these are punctuated by prominent wind energy development at LCA10a and various masts and antennas.	Low-Moderate
Views and landmarks	Wandylaw and Middlemoor wind farms are highly prominent components in the landscape of LCA10a, outcompeting occasional older radio masts. Otherwise very limited focal points within the LCT, but prominent from major roads (A1, B6341). Occasional important vistas outwards from the LCT, particularly from LCA10a with panoramic views towards the coast and its important heritage landmarks, and	Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	some views to the Cheviot Hills to the west.	
Inter-visibility	Strong intervisibility to neighbouring and more distant LCTs from LCA10b, less pronounced intervisibility from LCA10a, but still possible in places across the coastal plain. LCA10b visible from areas of Alnwick.	Moderate-High to High
Visual receptors	Sensitive receptors limited to farmsteads and scattered settlement within the LCT, and main and local road corridors, including the A1. Some prominence to important residential receptors outside the LCT, such as from northern parts of Alnwick for LCA10b.	Moderate
PERCEPTUAL:		
Movement	Significant movement in the landscape of LCA10a with the operation of Middlemoor and Wandylaw wind farms. Movement along the local road network is apparent across LCA10b, but relatively limited.	Low-Moderate to Moderate
Built development	The presence of Middlemoor and Wandylaw wind farms is significant in LCA10a, and radio and television transmission masts with associated compounds and buildings at Alnwick Moor, Quarry House, Chatton Sandyfords and Brownieside are prominent.	
Remoteness	Despite lack of significant settlement, wind energy, the limited road network and forestry and farmstead settlement detract from any sense of deep remoteness although there is relative tranquillity and sense of openness away from roads and wind turbines.	Moderate
QUALITATIVE:		
Scenic quality	Smooth, relatively featureless landscape with blocky plantation, weak boundary features radio mast and wind energy development generally detract from the rural and peaceful landscapes and longer vistas to the east. Rich heather colours in late summer lift the bleakness of the LCT.	Low-Moderate to Moderate
Distinctiveness	Not a strongly distinctive or place defining landscape type, although cultural associations with Alnwick for LCA 10b. The Radar dome on the northern boundary of LCA10b is a distinctive landmark which provides a strong focal point and reference point.	Low-Moderate
Rarity	One of a series of upland moorland plateau landscapes in Northumberland, affording limited rarity.	Low-Moderate
HISTORIC & CULTURAL:		
Heritage assets	General absence of built heritage assets which influence the landscape but important pre-historic stone markings and earthworks across the LCT. Remnant railway line structures to LCA10b.	Low-Moderate
Recreation	Limited recreational value beyond informal use of rights of way networks and open access land. Quiet lanes afford cycling opportunity to LCA10a.	Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	This larger scale landscape with few focal points or features and relatively uniform topography and land cover provides limited inherent scenic character. This would normally suggest lower sensitivity to wind energy development. However the landscape is often prominent in wider vistas from the south and east and affords significant vistas to the coastal plain, including the Northumberland Coast AONB. The northern areas of LCA10b are in close proximity to parts of Alnwick and suggest a high degree of sensitive receptors for larger scale wind energy proposals. Intervisibility with more sensitive neighbouring landscapes from the LCT's fringe, such as LCT7: *Estate Valley* may be important in considering sensitivity of the landscape to future wind energy development. The fundamental character of LCA10a has been redefined over recent years with the establishment of Middlemoor and Wandylaw wind farms, comprising 28x 125m turbines (including 5 turbines within LCA 8c). This has effectively resulted in a 'wind farm landscape' for the LCA and has significantly altered the balance of defining landscape components. This may have reduced further the potential for harmful change to landscape character within the LCT by further wind energy developments although elevated western fringes of the LCT have the potential for sky-lining by turbines and significant increase in prominence from more sensitive landscapes between LCT10 and Northumberland National Park to the west. Further development of wind turbines within LCA10a should be assessed against the ability to concentrate rather than expand the extent of wind energy predominance in the landscape.	
Cumulative effects	The installations at Wandylaw and Middlemoor are in close proximity such that in most views these can be read as one large wind energy installation. Together these can be seen to have created a western skyline of wind turbines for larger central parts of the Northumberland Coast AONB. No wind energy development is present in LCA10b. Notwithstanding the tight visual interrelationship between Wandylaw and Middlemoor wind farms, it is possible to view these with other larger wind farms to the south-east across the coastal plain south of Amble/Hadston, including Sisters, North Steads and Lynemouth wind farms. However the distance of separation means such intervisibility is limited in significance. Further major wind energy development between these concentrations of wind turbines, particularly those across the coastal plain which can be viewed in panoramic vistas from higher points inland, may however result in a perceived consolidation of wind turbines across a wider view cone or arc, with the potential for significant change in landscape character through cumulative effects. Development of large scale wind energy in LCA10b would potentially serve to narrow the currently strategic gap between larger scale installations to the south east and south west, and thus begin to effectively consolidate potential chain of wind energy sites within a very wide series of view cones. Significant intervisibility with large wind energy installations to the south-west (Green Rigg, Ray) is not possible but future development in the hinterland LCTs, such as LCAs 8e and 8f would present potential for a central Northumberland chain of large turbines across higher ground.	

LCT 10: *Smooth Moorland* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 10a: Rosebrough Moor	L-M	M	M	M-H	M-H
LCA 10b: Alnwick Moor	M	M-H	M-H	H	H

Overall Landscape Sensitivity of LCT10: *Smooth Moorland*	In general LCT10 is suitable for small scale turbines below 26m in height to blade tip. LCA 10a presents less sensitivity than LCA 10b, and is suitable in principle to well-sited small-medium and medium scale turbines below 66m in height to blade tip. LCA 10a would generally be unsuitable for medium-large and larger turbines up to 135m to blade tip height, but these may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects, largely due to the high degree of inter-visibility with adjacent and more distant landscapes, would not be significant. Within LCA 10b, small-medium and medium scale turbines up to 65m height to blade tip are unsuitable in general, but may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects, would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important historic and designed foci in the landscape or adjacent more sensitive landscapes. Within LCA 10b medium-large and larger scale wind turbines above 66m height to blade tip would be unsuitable in principle, largely due to the high degree of inter-visibility with adjacent and some more distant landscapes, and longer visual impacts on settlement and designated landscapes.

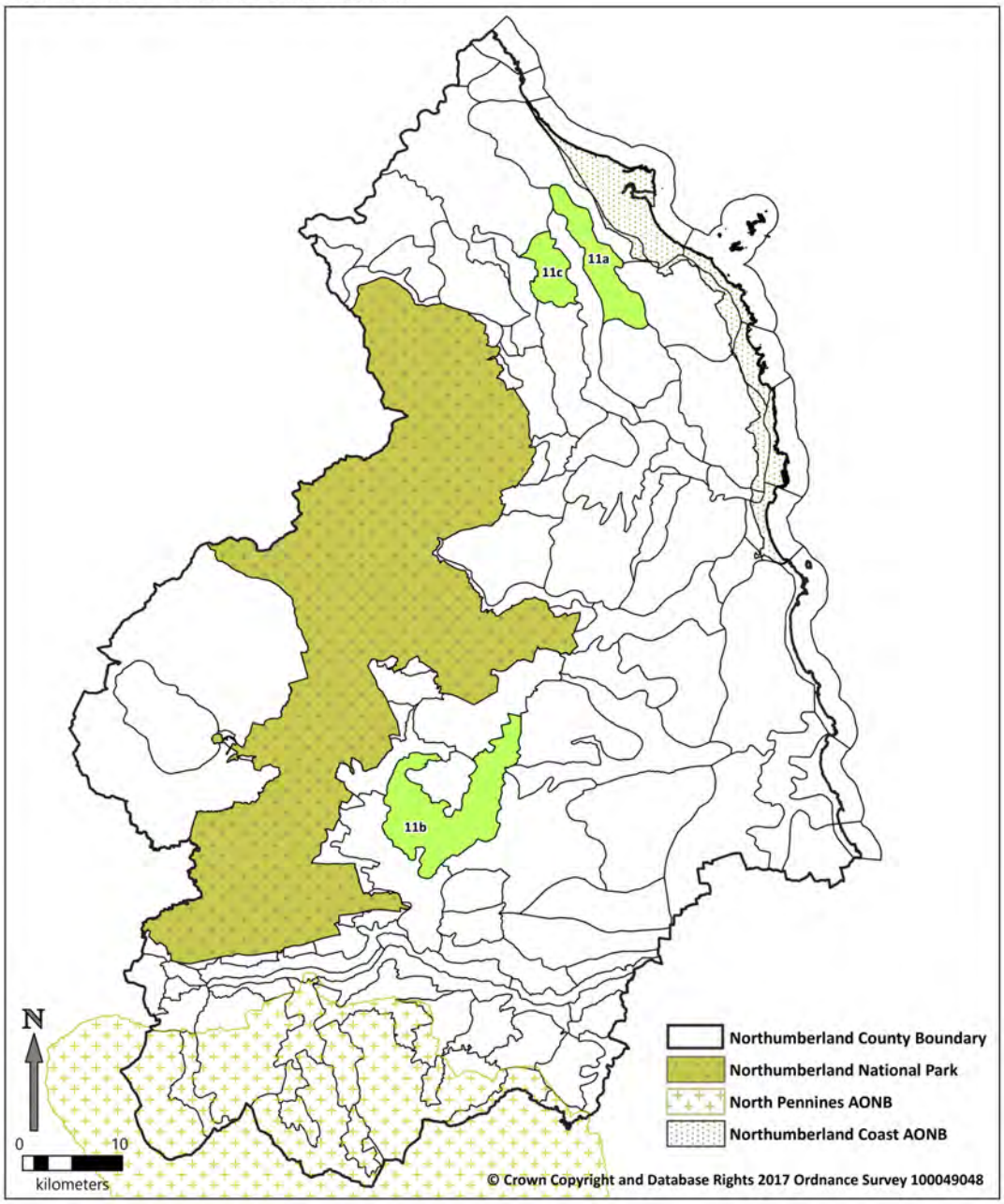
Landscape Sensitivity to Wind Energy Development
LCT 11: Sandstone Fringe Farmland

LCT11 is a transitional landscape between the exposed Sandstone Hills and more intensively farmed and settled lowland areas, and is a marginal area for agriculture both economically and geographically. The LCT is closely associated with the Outcrop Hills and Escarpments (LCT 8), occurring at either end of the chain of the Northumberland Sandstone Hills (NCA 2).

The LCT is represented by three character areas (LCA):

- ***11a Belford Hills***
- **11b *Buteland and Colt Crag***
- **11c *Hetton.***

Figure 15: LCT11 - Sandstone Fringe Farmland



Key Landscape Characteristics of LCT 11: *Sandstone Fringe Farmland*:

- Open, expansive, marginal upland fringe farmland.
- Gently undulating topography drained by minor burns, with wet pastures in shallow hollows.
- Occasional Whin Sill and sandstone outcrops and crags with associated active and disused quarries.
- Association with neighbouring sandstone hills.
- Mainly rough and semi-improved pastures, with patches of open grass moorland on highest ground.
- Varied pattern of enclosure; medium-to-large scale and defined by a mixture of stone walls and wire fencing.
- Areas of geometric coniferous forest and mixed woodland plantation.
- Sparsely populated landscape, with occasional farmsteads connected by narrow lanes.
- Historic elements include evidence of past mining including coal shafts, and ancient ridge and furrow.

Landscape Sensitivity Profile of LCT 11: *Sandstone Fringe Farmland*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	The landscape shelves down from the higher sandstone hills, to the coastal plain, or to the mid-Northumberland farmland. Relatively limited topographical variation, although associated with the more distinct landforms of the Outcrop Hills and Escarpments (LCT 8), such as the Kyloe Hills above Hetton. Sandstone, shale, limestone and mudstone are overlain with glacial drift, giving rise to a subtly undulating topography. Sandstone and whinstone outcrops occur and are quarried for aggregate and building stone. Frequent small surface ponds and mosses and small reservoirs such as Colt Crag reservoir in LCA11b.	Moderate
Land cover	Predominantly a landscape of rough and semi-improved pastures, often with wet rushy areas, with patches of open grass moorland on the higher ground, above 200m. Some arable farming, particularly in LCA11a and LCA11b. Frequent small coniferous belts and farm plantation across LCA11a and LCA 11c. Deciduous semi-natural woodlands occupy wer depressions and incised burns, although not widespread. Military firing ranges and associated infrastructure and tracks found within LCA11b	Low-Moderate
Landscape scale	Mainly a medium to large-scale landscape consequent to simple land cover components and lack of diversity in landform. Weak boundary fencing serves to emphasise larger landscape scale. In areas where	Low-Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	drystone walls are maintained, scale is occasionally reduced, supported locally by plantation.	
VISUAL:		
Skylines	Simple, long horizons and big skies consequent to simple elevated landform and limited tree or built structure. Slightly more variety is seen in views to the west where the Cheviot Hills provide a more dramatic horizon.	Moderate
Views and landmarks	Few significant landmarks within the LCT although LCA11a offers panoramic views to the coast including Bamburgh Castle, the Farne Islands and Holy island. Some views to Northumberland National Park to the west from LCA11b and LCA11c.	Moderate
Inter-visibility	Strong associations with the immediate valley and upland outcrops and escapement LCTs, but only LCA11a *Belford Hills* offers longer views across multiple LCTs towards and along the coast. LCA11a and LCA11c offer occasional vistas towards the Cheviot Hills to the west.	Moderate to Moderate-High
Visual receptors	A very low density of built development limits sensitive receptors to hamlets such as Holburn, occasional farmsteads, road networks (including the A68) and recreational users. Scale and density of transport routes vary, with main routes through or abutting LCA11a and LCA 11b. The northern fringe of Belford partly falls within the LCT.	Moderate
PERCEPTUAL:		
Movement	Some movement along transport routes. Very limited within LCA11c. Two of the 18 wind turbines of Green Rigg wind farm fall just within LCA 11b and in doing so add movement to this area. Otterburn military ranges fall partly within LCA 11b where military activity, smoke plumes and noise periodically introduce movement and noise.	Moderate to Moderate-High
Built development	Some human influence across Belford, hamlets and scattered farmsteads. Masts, overhead lines and reservoirs are occasionally prominent in LCA11b as is military range infrastructure in former minerals works, but overall a landscape with very limited built structure. Green Rigg wind farm partly overlays the LCT (although falling primarily within LCA8g) and is the only significant vertical feature in the landscape, although the majority of the wind farm is prominent from within LCA11b.	Moderate-High
Remoteness	LCA11a offers lower levels of remoteness as a consequence of greater levels of development, urban edge activity around Belford and main transport corridors close to the eastern boundary. LCA11b and 11c are more remote and within limited movement or activity and offer some relative tranquillity	Moderate to Moderate-High.

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
QUALITATIVE:		
Scenic quality	Although of semi-upland character with limited built development and relative tranquillity, the LCT has limited scenic value. Overall wide-open tracts with low variety of land cover or focal points, often with weak boundary features or block plantations. Longer views to east and west are of value but are not reflective of immediate character.	Low-Moderate
Distinctiveness	Some distinctive features, such as crags and small ravine woodlands but frequently without strongly defining character leading to weak sense of place.	Low-Moderate
Rarity	A more common landscape type with common features to other upland fringe character types across the county. However some combinations, such as the water bodies of LCA11a and crags of LCA11b offer some more unusual landscape components.	Moderate
HISTORIC & CULTURAL:		
Heritage assets	Rig and furrow and pre-historic cup and ring rock carving provide some historic importance to the landscapes, but with limited visual significance.	Low-Moderate
Recreation	Informal recreation across rights of way and access land, with high importance attached to St Cuthbert's Way long distance route.	Moderate
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	The LCT presents an extensive but predominantly open and unremarkable landscape component of Northumberland, although some areas provide historic, recreation and localised scenic value. Broadly, the absence of enclosure, low levels of human scale structures and moderate levels of receptors suggest a lower overall sensitivity to wind energy development. Despite this, the elevated nature of much of the LCT and some wider panoramic prominence, particularly across LCA11a, means that the landscapes afford expansive views into and across them from numerous viewpoints. LCA11a in particular forms part of the low upland ridgeline running north-south which partly frames the coastal plain and AONB. Whilst presenting limited inherent interest, visual prominence from neighbouring landscapes, particularly those associated with the setting of designated landscapes afford some increased sensitivity to wind energy development at larger scales. Further turbines within the landscape should therefore be apparent rather than visually prominent features, and the consideration of scale of new turbines will be the most significant factor in achieving this objective.	
Cumulative effects	Two 125m wind turbines of Green Rigg Wind Farm fall just within LCA11b *Buteland and Colt Crag* and six small (<25m) turbines have been consented across that LCA in a dispersed distribution, of which two are operational (at the time of study). One small-scale turbine is operational at Warenton Law within LCA11a. Operational large-scale wind turbines at Green Rigg, Ray and Wandylaw present clear intervisibility with major wind energy sites in neighbouring LCTs. Consequently major wind energy developments of medium to large	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	scale turbines within the LCT would present inherent potential for cumulative visual effects of multiple major installations within the same view corridors or panoramas. Care should be given to ensuing any further turbine development consolidates areas now characterised by wind energy rather than extend them in any significant direction. Particular harm could arise in relation to the role the LCT plays in the wider settings of the designated landscapes of Northumberland National Park and Northumberland Coast Area of Outstanding Natural Beauty, despite not being contiguous with those areas. An effective northern linear extension within LCA11a of the Middlemoor / Wandylaw wind farm array would have significant potential to consolidate the perceived wind farm 'enclosure' to the AONB when viewed from iconic view points such as Holy Island and Bamburgh Castle.	

LCT 11: *Sandstone Fringe Farmland* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 11a: Belford Hills	L-M	M	M-H	H	H
LCA 11b: Buteland and Colt Crag	L-M	M	M	M-H	H
LCA 11c: Hetton	L-M	M	M	M-H	H

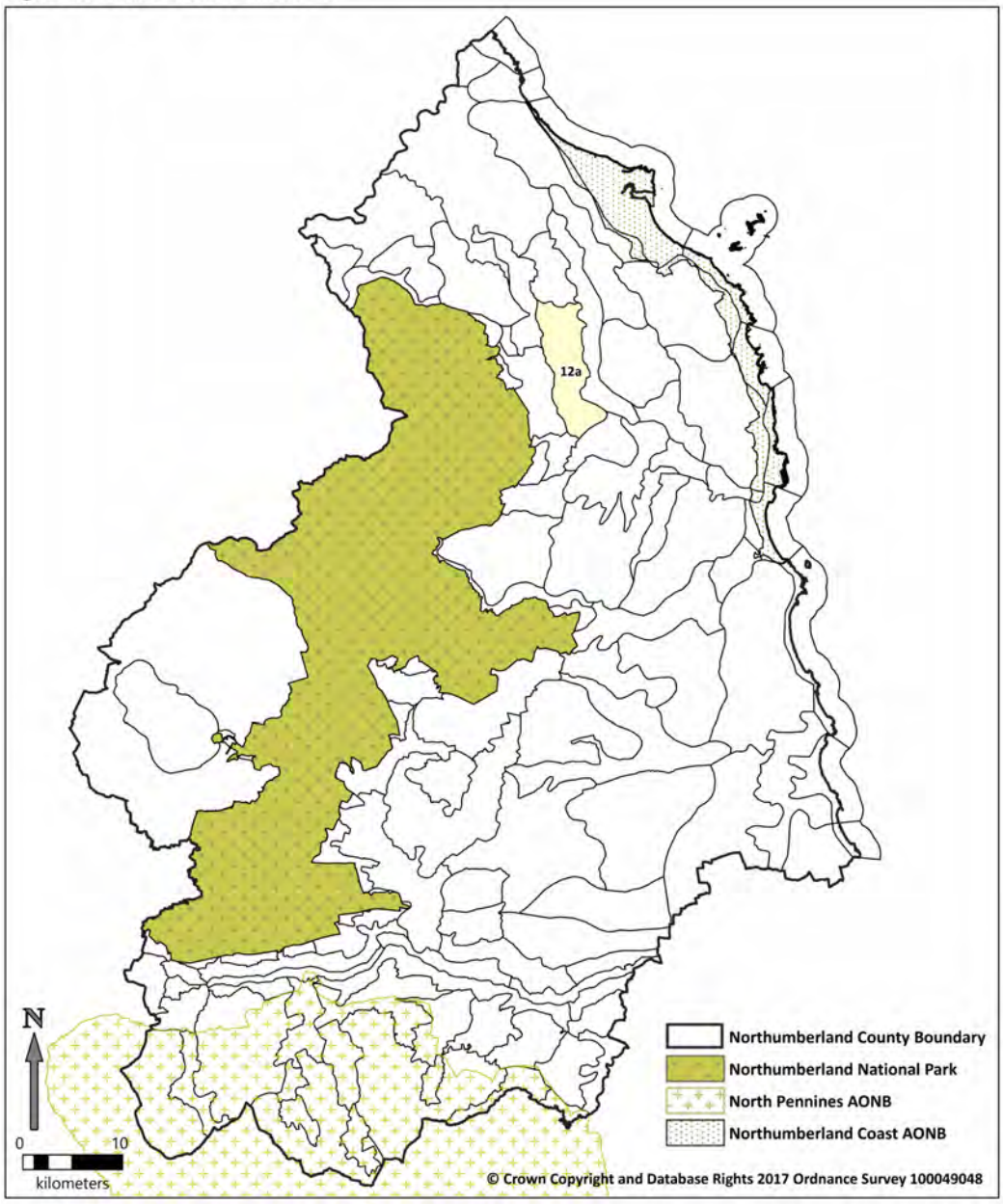
Overall Landscape Sensitivity of LCT11: *Sandstone Fringe Moorland*	In general LCT11 is suitable for small and small-medium scale turbines below 40m in height to blade tip. LCA 11a presents slightly higher sensitivity than LCA 11b and 11c, and is unsuitable in principle to turbines above 40m to blade tip height. However well-sited medium scale turbines between 41m and 66m in height to blade tip may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects, would not be significant. LCA 11b and 11c would generally be unsuitable for medium-large and larger turbines between 66m-100m to blade tip height, but these may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects, would not be significant. Medium-large and larger scale wind turbines would be unsuitable in principle in LCA11a, with large scale unsuitable in principle in LCAs 11b and 11c. Sensitivity to these scales of turbine is largely due to the high degree of inter-visibility with adjacent and some more distant landscapes, and longer visual impacts on settlement and designated landscapes. Cumulative impacts are also important considerations.

Landscape Sensitivity to Wind Energy Development
LCT 12: *Broad Farmed Vale*

LCT12 comprises only one landscape character area:

- **LCA 12a: *Breamish Vale***

Figure 16: LCT12 - Broad Farmed Vale



Key Landscape Characteristics of LCT 12: *Broad Farmed Vale*:

- Meandering river and floodplain within broad valley landscape.
- Distinct break between the vale and the sandstone hills to the east.
- Rolling mixed farmland.
- Irregular pattern of woodlands.
- Views to the Cheviot Hills to the west.

Landscape Sensitivity Profile of LCT 12: *Broad Farmed Vale*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Some moderate variation within broad vale topography with increases in elevation to east and west margins, more pronounced to the east by the sandstone hills. River Breamish/Till meanders south to north through lower lying but markedly undulating landform in places. Valley profile is not pronounced along much of river course, which in places has been straightened.	Low-Moderate
Land cover	Mostly medium-large arable fields, with significant areas of semi-improved pasture. Some older clusters of smaller, less regular fields remain. Often weak field boundaries. Clumps of broadleaf woodland, some associated with farmsteads. Coniferous shelterbelts more frequent to the south. More significant woodland is associated with parkland landscapes, especially Chillingham Castle.	Low-Moderate
Landscape scale	Medium scale, characterised by open landscape with generally weak field boundaries but set within adjacent partial enclosure by rising ground.	Moderate
VISUAL:		
Skylines	Generally simple with some variety provided by rising Cheviot Hills to west and more wooded sandstone hills to the east.	Low-Moderate
Views and landmarks	Limited significance of views although main roads (B6349 and B6348) transect the vale LCA east to west and provide vistas across the vale between higher neighbouring ground LCAs, whilst the busier A697 fringes the south west of the LCA. Chillingham estate to the eastern fringe of the LCA provides landscape and architectural focus, but from limited visual extent.	Low-Moderate
Inter-visibility	Strong intervisibility from within the vale to higher enclosing ridgelines of Cheviot foothills and the sandstone Outcrop Hills and Escarpments. Extensive views over and beyond the LCA from raised vantage points such as Ros Castle to the east	Moderate-High
Visual receptors	Sensitive receptors limited to small local settlements (Chatton, Chillingham Estate), scattered farmsteads and local transport routes.	Moderate
PERCEPTUAL:		
Movement	Appreciable movement in the landscape from roads and more locally along the river course.	Moderate
Built development	Chatton and Chillingham (settlement) are larger settlements relative to the rurality and remoteness of the area. Frequent farmsteads with large modern agricultural building punctuate the landscapes. The sawmill at Wooperton is a prominent industrial operation. The road network is the main infrastructure	Low-Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	of the LCA but apart from the A697 rarely prominent. Vertical structures are very limited, restricted to agricultural structures and telephone and local power lines.	
Remoteness	Away from the road network the vale LCA is strongly rural with moderate sense of tranquillity partly attributed to low density of settlement. Public rights of way to more remote areas of the LCA are relatively limited in mostly arable landscape and the road network is often perceptible.	Low-Moderate
QUALITATIVE:		
Scenic quality	Limited scenic value in isolation, although wider landscape views to higher ground east and west provide some scenic landscape value. Registered Parkland and heritage value of Chillingham affords enhanced local scenic value and dramatic views to the Cheviot Hills.	Moderate
Distinctiveness	Not strongly distinctive in isolation from its wider landscape context, although the meandering river course affords local sense of place.	Low-Moderate
Rarity	Not rare in context of the county but wider setting is distinctive.	Low-Moderate.
HISTORIC & CULTURAL:		
Heritage assets	The 'Devil's Causeway' Roman road runs north-south through the landscape. Some medieval ridge and furrow, particularly around Chatton which retains characteristically medieval settlement form. The 14th century Chillingham Castle is a popular visitor attraction, as is the parkland (in separate ownership), and is home to the Chillingham wild cattle herd. Views from the castle/parkland to the west are particularly attractive.	Moderate
Recreation	Mainly limited to visitor attraction of Chillingham Castle and parkland, particularly the wild cattle which has national profile. Elsewhere the area if of limited walking and cycling value in comparison to neighbouring areas.	Low-Moderate
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	A localised, contrasting pocket of relatively lowland, arable landscape separating areas of steeper gradient and upland ridges to the east and west with contrasting land cover to those neighbouring LCAs and significant intervisibility. Views to the Cheviot Hills within Northumberland National Park are significant to the west, over and beyond the intervening LCT 15 Upland Fringe Farmland. In general wind energy development should be limited to few individual or small groups of small or medium sized turbines associated with settlement, farmsteads or rural enterprise employment sites. Larger scale wind energy development would be likely to be disproportionate to the scale of the landscape and affect sensitive receptors therein.	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	The importance of views from higher ground east and west of the LCA, particularly from designated heritage assets such as Chillingham Registered Park and Garden, should be considered in wind energy proposals as likely constraints.	
Cumulative effects	There are no current wind energy installations within LCA12a. Occasional partial views to the Barmoor Wind Farm (6x 110m) are possible from within the LCT but these present a middle distance feature (>10km) across a narrow view arc. No other prominently visible turbines fall within neighbouring or near neighbouring LCAs (for example Wandylaw Wind Farm in LCA10a) as a consequence of the enclosing nature of the vale landscape setting.	

LCT 12: *Broad Farmed Vale* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 12a: Breamish Vale	M	M	M-H	H	H

Overall Landscape Sensitivity of LCT12: *Broad Farmed Vale*	In general LCT12 is suitable for wind energy development under 40m in height to blade tip where these are carefully sited and associated with the scale and location of farm buildings, other domestic scale features and woodland within the landscape. The landscape is generally unsuitable to accommodate wind turbines above this height. However landscapes may be suitable to medium scale turbines under 65m to blade tip height where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape and not interrupt important vistas across the landscape (rather than in to it). Medium-large scale and larger turbines would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development. This is particularly due to high inter-visibility and strong links with the adjacent landscapes framing Northumberland National Park designated landscape.

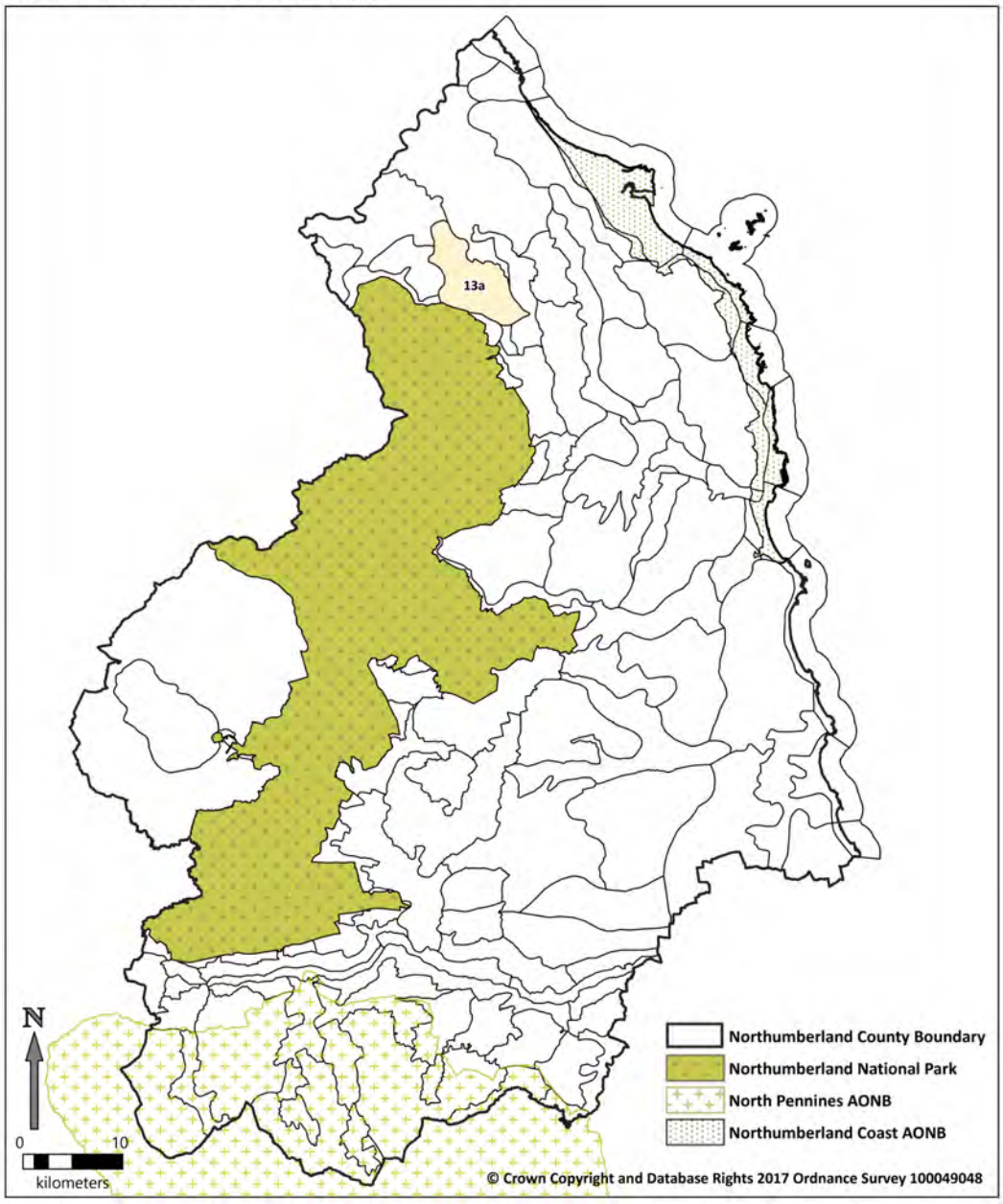
Landscape Sensitivity to Wind Energy Development
LCT 13: *Broad Floodplain Valley*

LCT13 comprises broad, open valleys, defined by higher ground at the margins, and a flat alluvial floodplain with meandering rivers.

This LCT is represented by one character area (LCA):

- **LCA 13a: *Till and Glen Valleys***

Figure 17: LCT13 - Broad Floodplain Valley



Key Landscape Characteristics of LCT 13: *Broad Floodplain Valley*

- Broad valley with flat floodplain and meandering river course.
- Intensively farmed agricultural landscape, with geometric woodland blocks.
- Settlement and farms clustered at the edge of the valley floor.

- Expansive landscape with views to the Cheviot Hills.
- Historic villages and farm buildings.

Landscape Sensitivity Profile of LCT 13: *Broad Floodplain Valleys*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	A gently undulating to flat, broad floodplain landscape over sedimentary deposit drift geology. The Wooler Water enters the broad valley floor to the north of Wooler, joining with the River Till and the broad valley of the River Glen which enters from the west. The River Till then meanders markedly across the valley floor to the north.	Low-Moderate
Land cover	Predominantly an arable farmed landscape with areas of pasture and geometric woodland block, particularly to the north and west. Limited riparian vegetation helps define meandering course of the rivers. Sand and gravel works and a small airfield provide other land uses to the western fringe.	Low-Moderate
Landscape scale	Mostly large scale with some more medium grain around woodland areas and settlement fringes.	Low-Moderate
VISUAL:		
Skylines	Skylines are mostly defined by rising ground over moorland fringe in adjacent LCAs, including the steeply rising ground of Northumberland National Park which the LCA abuts west of Wooler where ridgelines are smooth but undulating. To the east the steeper slopes and distinctive mix of wooded and smooth rolling of the outcrop hills and escarpments LCT serve to provide a clear topographical contrast with the LCA. Skylines are essentially free from man-made structures away from sightlines through high voltage power lines that run north-south through the centre of the LCA.	Moderate-High
Views and landmarks	Very limited points of visual focus within the LCA but important views outwards. The meandering rivers are distinctive topographical features but present low visual prominence within the valley. Key vistas across the valley to the west, into the Cheviot Hills are striking and expansive, and are enhanced by the contrast between the neighbouring topography.	Moderate-High
Inter-visibility	High degrees of intervisibility particularly into Northumberland National Park and Outcrop Hills and Escarpments, but also to rising ground to the north into the Open Rolling farmlands LCT. Extensive views across the whole of LCT13 from adjoining LCTs are possible as a consequence of low and relatively flat topography.	High
Visual receptors	Some important receptors along main transport route of the A697 between Wooler and Coldstream. Significant settlement of Wooler lies to the southern	High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	fringe of the LCA whilst dwellings are located in Doddington, Fenton, Milfield and across many scattered farmsteads on higher points around the flood plain. Recreational importance of the neighbouring Northumberland National Park may be adversely affected by wind energy development across the valley and elevates the sensitivity of this criterion.	
PERCEPTUAL:		
Movement	Some movement associated with the A697, and more occasionally from Milfield airfield.	Moderate
Built development	Agricultural development is scattered across the flat valley floor where land rises above the flood plain. Main settlement of the edge of Wooler and small hamlets fall around the fringe of the LCA.	Moderate
Remoteness	An intensively farmed landscape with scattered settlement and main road. Powerlines, pylons and airfield limit any sense of remoteness.	Low-moderate
QUALITATIVE:		
Scenic quality	Some moderate inherent scenic quality primarily focused within the river corridors themselves that afford attractive outlooks with pronounced meandering and some braiding, but with limited public access away from road crossings. Some attractive contrast between the LCA itself and the steeply rising Cheviot Hills which delineate the western edge.	Moderate-High
Distinctiveness	Presents moderate sense of place and setting within neighbouring upland features is distinctive	Moderate
Rarity	An infrequent landscape type within Northumberland	Moderate-High
HISTORIC & CULTURAL:		
Heritage assets	The Milfield Basin contains some of the most significant prehistoric landscapes in the country, including evidence of Mesolithic settlement, henges and later prehistoric occupation, in addition to the Anglo-Saxon 'palace' site of Maelmin. However these are not prominent in the landscape. Roman settlement sites, enclosures and camps can also be found in the LCA and as well as the estate landscape of Ewart Park	Moderate
Recreation	Limited to the local footpath network. Views from Northumberland National Park into and across the LCA, and towards it from within may be important in respect to the National Parks' statutory purposes.	Moderate-High.
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	The LCT context offers greater landscape value and sensitivity than its inherent landscape character alone. It lies as a relatively distinctive broad valley flood plain within a contrasting context of surrounding steep rising ground leading to the undeveloped rounded hills of the Cheviot Hills (within Northumberland National Park), the Igneous Foothills and Outcrop Hills and Escarpments. As such, views across the landscape from outside are comprehensive, and significant from within it to these higher areas.	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	Wind energy development within the LCA should not serve to diminish, interrupt or distract from important vistas between areas of higher ground fringing and partially enclosing the LCA, potentially affecting the setting of Northumberland National Park. Movement of turbine blades from elevated views against landscape backdrop could be prominent and a distraction in the landscape. However, vertical man made structures already dilute these views in the form of powerlines and pylons. Further development should however seek to avoid exacerbating this visual impact by limiting the scale and distribution of wind energy development such as smaller individual turbines associated with farmsteads. Wind energy development in the key river corridors should be avoided to conserve their localised special character. There may be safety/technical implications for wind energy development as a consequence the airfield/glider club operations at Milfield	
Cumulative effects	There are no existing wind energy developments within the LCT. However the pylons and power lines provide a prominent discordant feature in the landscape which would provide both a further complexity against larger scaled wind turbines, and a potentially dramatic indicator of scale. Such juxtaposition or combination of features in a single view cone should be avoided. Barmoor Wind Farm (6x 110m turbines) stands on elevated ground to the north-east in LCT16. Their precise location and a focus in the landscape towards the Cheviot Hills means these are significant but not overbearing features in the landscape. They are however seen against a backdrop of the Cheviot Hills in views from the north-east, and further development of medium or larger scaled turbines in LCT13 would be likely to exacerbate this visual contrast and detract fro the setting of Northumberland National Park over and above individual impacts.	

LCT 13: *Broad Floodplain Valley* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 13a: Broad Floodplain Valley	M	M-H	H	H	H

Overall Landscape Sensitivity of LCT13: *Broad Floodplain Valley*	In general LCT13 is suitable for small scale wind energy development under 26m in height to blade tip where these are carefully sited and associated with the scale and location of farm buildings, other domestic scale features and woodland within the landscape. The landscape is generally unsuitable to accommodate wind turbines above this height. However, the landscape may be suitable to small-medium scale turbines under 41m to blade tip height where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in

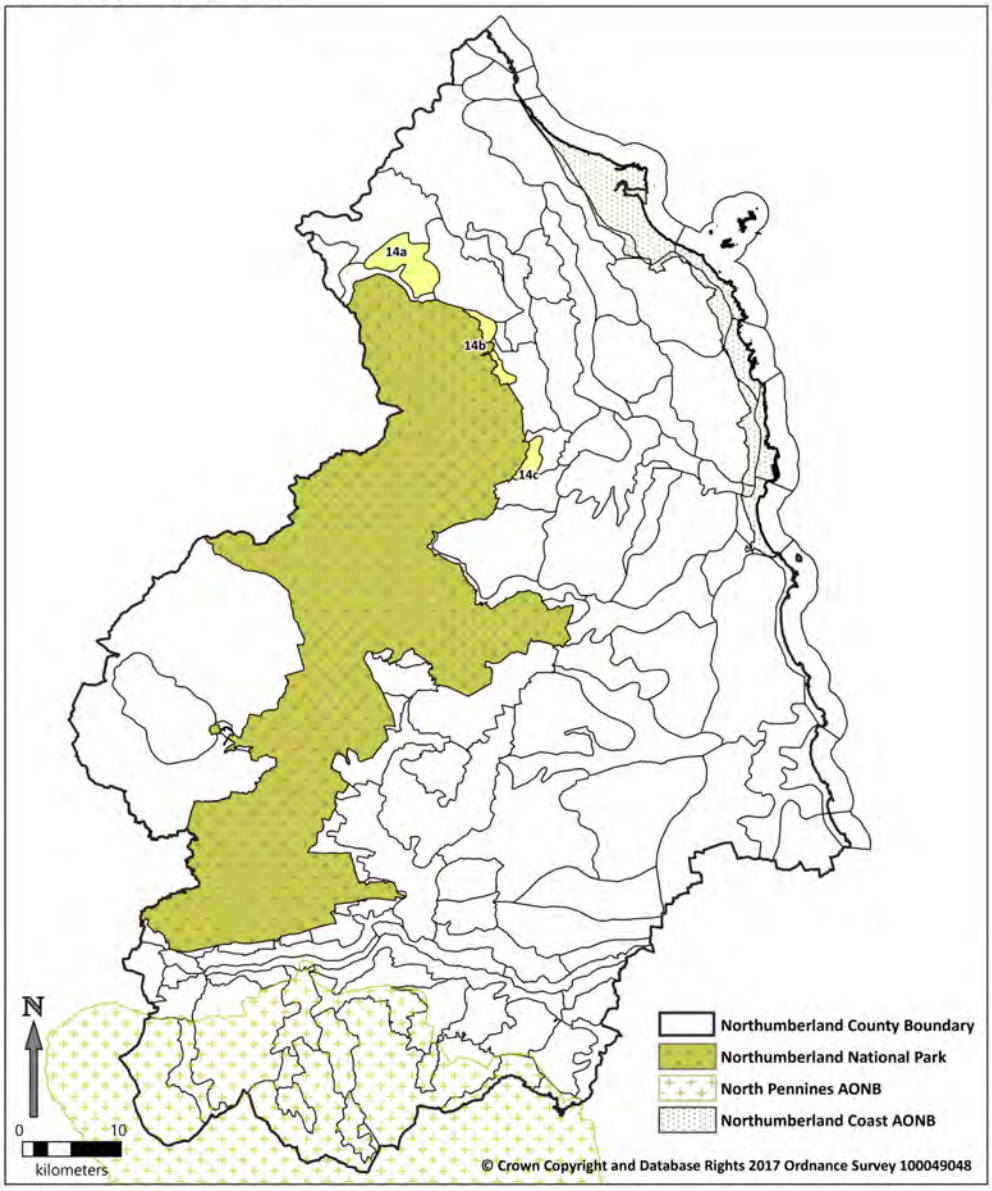
	the landscape and not interrupt important vistas across the landscape (rather than in to it). Medium, medium-large scale and larger turbines would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development. This is particularly due to high inter-visibility and strong links with the adjacent landscapes framing Northumberland National Park.

Landscape Sensitivity to Wind Energy Development
LCT 14: *Igneous Foothills*

The Igneous Foothills LCT comprises a series of steep sided rounded, outlying foothills of the eastern Cheviot Hills, close to or adjoining Northumberland National Park boundary. It presents a mix of upland and lowland characteristics and is divided into 3 landscape character areas (LCAs):

- **LCA 14a: *Moneylaws and Coldside,***
- **LCA 14b: *Wooler Foothills***
- **LCA 14c: *Old Fawdon***

Figure 18: LCT14 - Igneous Foothills



Key Landscape Characteristics of LCT 14: *Igneous Foothills*:

- Rounded hills cut by steep valleys.
- Association with the Cheviot Hills, either directly or separated by narrow valleys.
- Generally smooth hills with some rocky outcrops.

- A mix of upland land uses, including forestry and rough grazing, with some areas of pasture and arable farming.
- Little or no settlement, with only a few farmsteads.
- Frequent evidence in the landscape of historical activity such as settlements.
- Network of footpaths and open access land.

Landscape Sensitivity Profile of LCT 14: *Igneous Foothills*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Rolling steep sided hills forming eastern fringe of the Cheviot Hills. Generally simple with limited variety, although hills often pronounced in profile if not scale and elevation.	Moderate-High
Land cover	Simple agricultural (mainly arable with some grazing) and plantation/shelterbelt land use, occasionally varied around Wooler (LCA 14b) where residential, recreational and employment uses are evident.	Low-Moderate
Landscape scale	Large or medium-large scale west of Wooler. Defined by larger fields and open rough grazing, with low or weak hedge and post and wire boundaries in places.	Low-Moderate
VISUAL:		
Skylines	Large, simple, some limited variety where plantations skyline. More complexity within LCA 14b at Wooler with increase in urban uses and activities.	Moderate
Views and landmarks	Generally important eastern fringe of Cheviot Hills and seen extensively from lowland to the east and higher ground of the sandstone outcrops and escarpment.	Moderate-High
Inter-visibility	Significant intervisibility to lowland and upland neighbouring landscapes, including Northumberland National Park and to the rising landscapes of the sandstone outcrop hills and escarpment to the east.	High
Visual receptors	Low levels of residential buildings and therefore receptors limited to local transport routes and Public Rights of Way users. Local receptors in neighbouring areas are however sensitive, such as Wooler and Northumberland National Park.	Low-Moderate
PERCEPTUAL:		
Movement	Very limited, primarily to the local road network.	High
Built development	Very limited settlement with the exception of Wooler's western fringe. Occasional farmstead and free standing scattered cottages. Prominent pylons and power lines partially cross LCA14b south of Wooler.	Moderate to Moderate-High
Remoteness	Moderately isolated but accessible from main road corridors and proximity to Wooler, particularly LCA14b.	Moderate to Moderate-High
QUALITATIVE:		
Scenic quality	Varied scenic quality but some important areas in relation to the Cheviot Hills, Northumberland National	Moderate-High to High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	Park fringe and highly visible transitional landscape where some areas are attractive, such as to the west of Wooler and Old Fawdon Hill.	
Distinctiveness	A distinctive Northumberland landscape characterised by the large scale of the landscape with mixed land use reflecting the changing topography and relative tranquillity.	Moderate-High to High
Rarity	A rare landscape with relatively small area within a far more expansive upland fringe context.	Moderate-high to High
HISTORIC & CULTURAL:		
Heritage assets	A rich historic landscape but where features of interest are rarely visually prominent in the landscape. Heritage assets include hillforts and battlefield at Homildon hill.	Moderate-high to High
Recreation	Important accessible upland / Cheviot outlier landscape for informal recreation on footpath network and across Access Land, particularly west of Wooler, with numerous accessible summits. However more significant areas for outdoor enjoyment fall close by within Northumberland National Park.	Moderate to Moderate-High.
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	An upland transitional landscape which in places defines the change between the eastern Cheviot fringe as it falls to the lower vale and valley landscapes and then Sandstone Hills beyond. The landscape units are a significant component of the setting of Northumberland National Park and specifically the Cheviot Hills and present a semi-remote upland visual buffer from outwards views from the higher summits of the Cheviot Hills. Locally the landscape is of some simple but nevertheless scenic value and is often highly visible from surrounding landscape units. The Igneous Hills landscapes remain mostly simple and generally without prominent built structures or vertical components. Skylines may be simple but are often important in close and longer views. This setting and framing function of the Igneous Hills to Northumberland National Park, elevated land and important skylines with few vertical structures suggests the landscape would be more sensitive to wind energy development at medium to larger scales, even though landscape scale is generally large and human scale features are limited, which would otherwise indicate lower sensitivity. Smaller scale wind energy development may be acceptable away from ridgelines and higher ground which form part of the panoramic views into Northumberland National Park from the north, east and south.	
Cumulative effects	Very limited wind energy development is located within LCT14 or its surrounding landscapes. A single 24m turbine is located within LCT14b west of Wooler above Highburn House caravan park. The turbine is located close to an area of relatively prominent development and mixed land uses and thus does not present a particularly incongruous element or landscape intrusion. Prominent power lines and pylons which are a significant landscape detractor to the eastern fringe of the Cheviot Hills cross LCA14b. The pylons and power lines provide a prominent discordant feature in the	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	wider landscape which would provide both a further visual complexity against larger scaled wind turbines, and a potentially dramatic indicator of scale. Such juxtaposition or combination of features in a single view cone should be avoided. With the exception of the pylons, the absence of wind energy development or prominent wind energy installations within the near and medium visual envelope of LCT 14 suggests that development therein would be unlikely to lead to significant cumulative impact. Some longer views to the Cheviot Hills from the north east may however include the Barmoor wind farm (6x 110m turbines) and be viewed against the eastern fringe of Northumberland National Park including LCT14, and further development of medium to large turbines closer to Northumberland National Park may result in cumulative erosion of the setting of the designated landscape. Further wind energy development within the LCT should therefore be limited to small turbines set across lower lying land. Medium and larger turbines and groups of turbines would present a prominent and distracting form of development against an important landscape context of national importance, present new visual foci and compete with important vistas towards Northumberland National Park.	

LCT 14: *Igneous Foothills* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 14a: Moneylaws and Coldside	M	M-H	H	H	H
LCA 14b: Wooler Foothills	M	M-H	H	H	H
LCA 14c: Old Fawdon	M-H	M-H	H	H	H

Overall Landscape Sensitivity of LCT14: *Igneous Foothills*	In general LCT14 is only suitable for carefully sited single small scale turbines up to 25m height to blade tip within LCA 14a and 14b. These should be closely associated with the scale and location of farm buildings, other domestic scale features and woodland within the landscape. In general, wind turbines above 25m height to blade tip would in principle be unsuitable in all other areas of LCT14. However, small and small-medium scale turbines up to 40m height to blade tip may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. Medium, medium-large and larger scale turbines would significantly affect key characteristics and qualities of the landscape that are highly sensitive

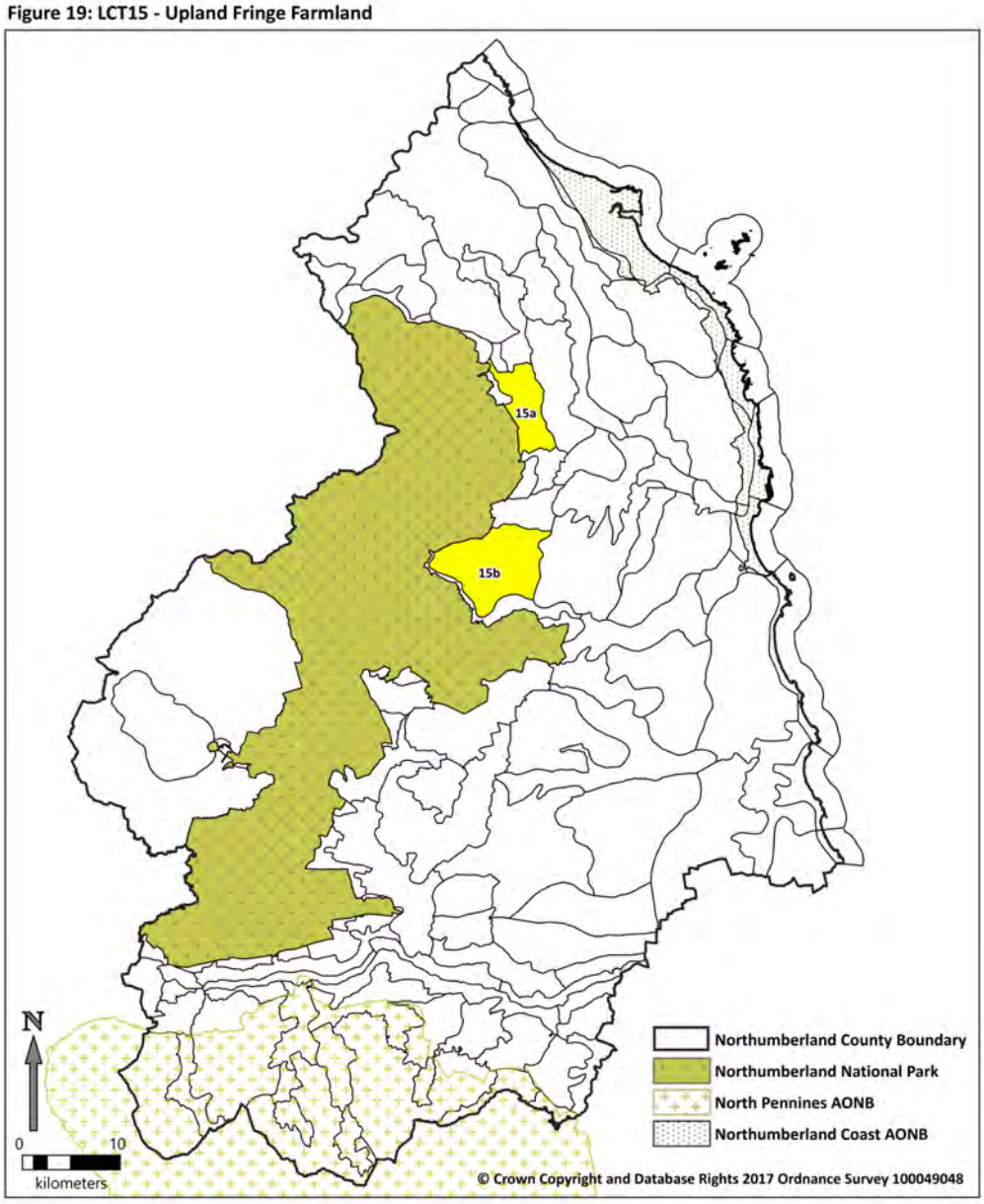
	to this type and scale of development. This is particularly due to the inherently sensitive characteristics of the Igneous Foothills, significant possibility of cumulative effects and high inter-visibility and strong links with the adjacent Northumberland National Park and its setting.

Landscape Sensitivity to Wind Energy Development
LCT 15: *Upland Fringe Farmland*

LCT 15 *Upland Fringe Farmland* is characterised by undulating farmland at the fringes of the higher ground of the Cheviot Hills, and characterised by dispersed woodland and plantations, and sparse settlement. It is represented by two landscape character areas (LCA):

- **LCA 15a: *Lilburn and Roddam***
- **LCA 15b: *Upper Coquet***

Figure 19: LCT15 - Upland Fringe Farmland



Key Landscape Characteristics of LCT 15: *Upland Fringe Farmland*:

- Medium-scale, undulating landform with minor watercourses feeding into the nearby river valleys.
- Mixture of arable and improved pasture, with frequent woodland blocks.
- Dispersed pattern of settlement with small villages and scattered farmsteads.

- Medium-scale landscape with views to the Cheviot Hills.
- Historic villages, landmark buildings and estate woodland.

Landscape Sensitivity Profile of LCT 15: *Upland Fringe Farmland*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	A markedly undulating landscape, lower lying than upland to the east and west, falling between the river valleys carved by the Coquet, Breamish and Till. Numerous small watercourses drain the area, flowing into the adjacent river valleys	Moderate to Moderate-high
Land cover	Mainly arable farmland with frequent coniferous shelter belts and small mixed woodlands and plantations. Deciduous riparian vegetation reveal the routes of small watercourses. Smaller areas of pasture across western areas and some undesignated estate parkland such as at Roddam and Lilburn Tower.	Moderate to Moderate-high
Landscape scale	Medium scale with complex mosaic of semi-regular fields patters punctuated by plantations and shelter belts. Some enclosure close to woodlands and in steeper smaller valleys.	Moderate
VISUAL:		
Skylines	Generally simple, not prominent and indistinctive visual horizons with some variation within the rolling landform. Woodland is a strong skyline feature in places.	Moderate-High
Views and landmarks	Undulating landform frequently limits distant views, however the more intimate valleys, particularly in the north contain views, some of which focus on the historic buildings, parkland and estate woodland. Further south the landscape is more open in character, and views are more expansive, with views to the Cheviot Hills possible.	Moderate
Inter-visibility	Some self-enclosed areas of landscape owing to local undulation but some significant intervisibility is possible from higher points with higher landscape units to the west and south-east and consequently into the LCT from those areas. Views into the area possible from within Northumberland National Park.	Moderate to Moderate-High
Visual receptors	A697 main road runs south to north through LCA15a, with a significant network of minor roads and Public Rights of Way elsewhere. Occasional small villages and estates lie across the landscape where residents are sensitive receptors.	Moderate to Moderate-High
PERCEPTUAL:		
Movement	Local transport routes and the main A697 present frequent movement in the landscape. Some agricultural activity.	Moderate to Moderate-High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
Built development	Some hamlet and small villages present limited settlement in the landscape as do frequent scattered farmsteads. Farmsteads and agricultural buildings are often masked by shelterbelts and woodland. Estate groups of historic buildings at Lilburn and Roddam. Major pylon and electricity lines cross LCA15a. No significant industrial influence.	Moderate to Moderate-High
Remoteness	Relatively tranquil but influence of A697 and pylons in LCA15a detracts from sense of remoteness. Absence of these features within LCA15b reinforces more remote rural character. Some limited areas of seclusion within deeper burn valleys, between woodlands and around historic farmsteads/halls. Western fringe of LCA15b has a stronger sense of remoteness.	Moderate to Moderate-High
QUALITATIVE:		
Scenic quality	Attractive, well-managed landscape particularly across LCA15b as it relates closely to the Coquet Valley and Northumberland National Park's eastern boundary across rising land. Estate lands and parkland contribute to attractive character to the north whilst the extensive mosaic of farmland and woodland to the south contrasts with adjoining river valley and moorland of the Cheviot fringe.	Moderate-High to High
Distinctiveness	Some clear sense of place. A distinctive Northumberland landscape, particularly in respect to the juxtaposition of managed farmed landscape and woodland mosaic and moorland hills and open river valleys.	Moderate-High
Rarity	Not an uncommon landscape across the north and west of the county.	Moderate
HISTORIC & CULTURAL:		
Heritage assets	Small estates, parkland, roman road, medieval hamlets and field systems and a rich archaeological heritage contribute to the landscape's visual character.	Moderate-High
Recreation	National Cycle Network route 68 to within LCA15a and a rich network of Public Rights of Way and quiet lanes offer considerable informal recreation value, supported by proximity to Northumberland National Park and larger estates such as Chillingham to the east.	Moderate-High
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	The markedly undulating landscape is characterised by managed arable and pasture farmland and woodlands with occasional influence of estate farmsteads and hamlets. The proximity to the eastern fringe of Northumberland National Park and absence of larger settlements contribute to an attractive and semi-remote landscape of a human scale. This is partly eroded by pylons and road infrastructure to the north, although these are localised. Sensitivity to medium and larger scale wind energy development will be more pronounced in closer proximity to the designated landscape and upland fringe, and to settlement. The undulating	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	landform, medium-scale and scattered human-scale components of managed farmland increase sensitivity to larger structures. Vistas from and to Northumberland National Park will be important considerations and increase sensitivity more generally. Larger turbines would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development, including the landscape setting and views to and from Northumberland National Park.	
Cumulative effects	No other wind energy installations are located within the LCT. High voltage transmission lines within LCA15a provide a reference point to scale for other vertical features and would potentially emphasise the scale of commercial wind farm installations. The pylons and power lines provide a prominent discordant feature in the wider landscape which would provide both a further visual complexity against larger scaled wind turbines, and a potentially dramatic indicator of scale. Such juxtaposition or combination of features in a single view cone should be avoided. The power lines and pylons are a significant landscape detractor to the north-eastern fringe of the Cheviot Hills and further prominent development would have a derogatory affect on the wider setting of Northumberland National Park in this area.	

LCT 15: *Upland Fringe Farmland* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 15a: Lilburn and Roddam	M	M-H	H	H	H
LCA 15b: Upper Coquet	M	M-H	H	H	H

Overall Landscape Sensitivity of LCT15: *Upland Fringe Farmland*	In general LCT15 is suitable for carefully sited single small scale turbines up to 25m height to blade tip. They should be closely associated with the scale and location of farm buildings, other domestic scale features and woodland within the landscape. In general, wind turbines above 25m height to blade tip would in principle be unsuitable within LCT15. However, small-medium scale turbines between 26m-40m height to blade tip may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape such as estate farmland and historic buildings and settlement. Medium, medium-large and larger turbines would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development. This is partially due to the relatively small

	scale and heritage and recreational importance of the LCT and its proximity to Northumberland National Park.

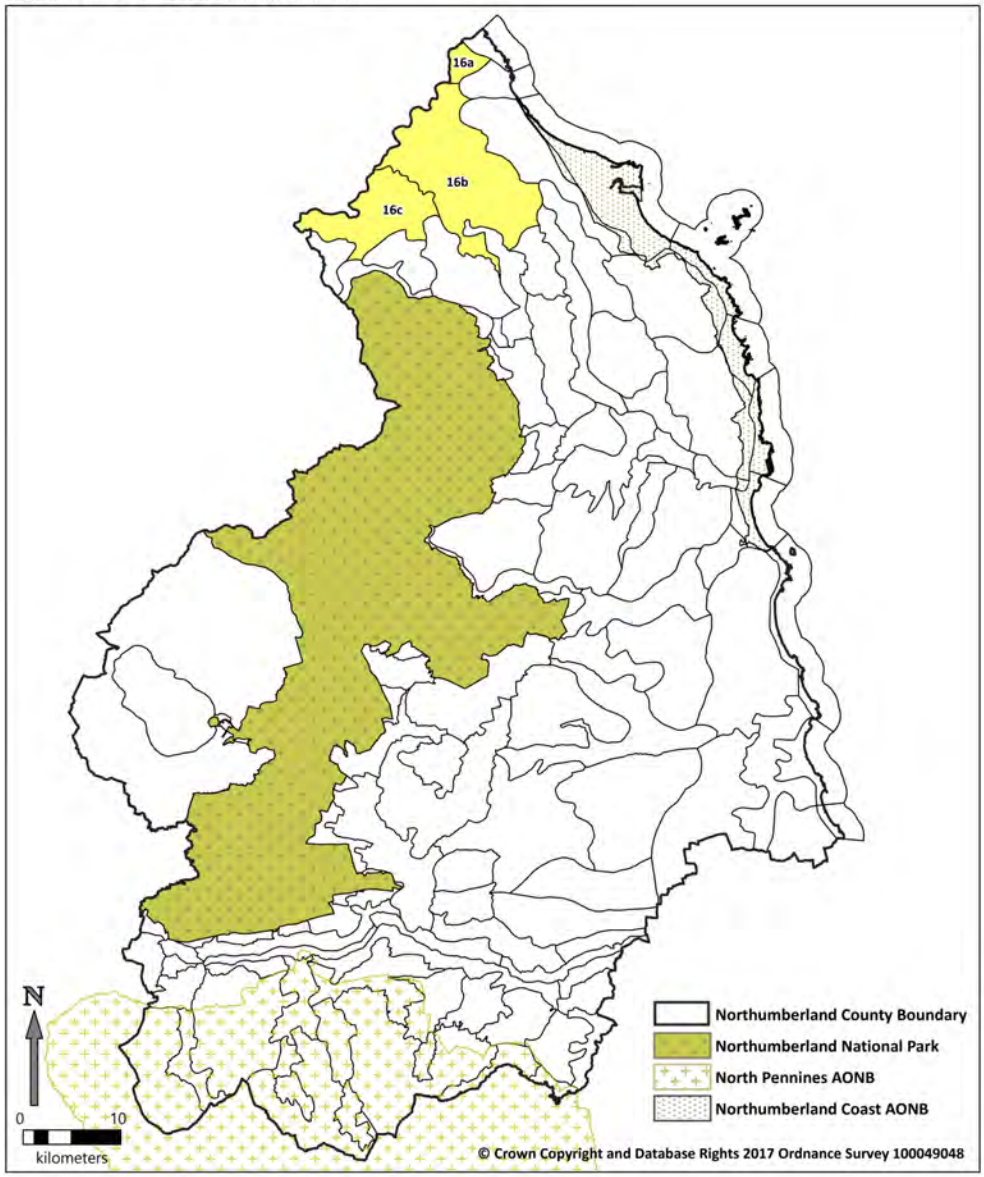
Landscape Sensitivity to Wind Energy Development
LCT 16: Open Rolling Farmland

This LCT comprises landscapes of gently rolling arable farmland, with scattered villages and occasional estates bounding the England-Scotland border and forming the southern side of the Tweed river corridor.

The LCT is represented by three character areas (LCA):

- **16a: *Halidon***
- **16b: *Duddo and Lowick***
- **16c: *East Learmouth*.**

Figure 20: LCT16 - Open Rolling Farmland



Key Landscape Characteristics of LCT 16: *Open Rolling Farmland*:

- Gently undulating farmland lying above the valleys of the River Tweed and River Till.
- Arable cultivation dominates the farmland with a strong pattern of enclosure and regular, medium sized fields.

- Scattered farmsteads, hamlets and small villages are dispersed throughout the landscape.
- Local influences of estates and planned villages such as Ford and Etal.
- The landscape has an open character and the regular landform and medium sized fields contribute a consistency across the area.
- Influences from a number of periods of history are evident including the route of the A697 along the Roman road, the Battle of Flodden Field, the planned villages of Ford and Etal, and estate landscapes such as Tillmouth Park.

Landscape Sensitivity Profile of LCT 16: *Open Rolling Farmland*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Gently undulating, gradually rising land from the Tweed and Till river valleys before falling towards the southern boundary around Ford. Generally simple landform over glacial till. In parts the river valleys are more pronounced and incised, and rocky outcrops are found in higher parts of the area. In other areas the Tweed Valley is broader and presents a open smooth landform.	Moderate
Land cover	Characterised by arable farming within wide network of regular medium-sized fields. Deciduous trees follow watercourses while coniferous or mixed plantation and shelterbelts punctuate more raised areas. Trees often associated with scattered farmsteads.	Moderate
Landscape scale	The landscape, dominated by well-managed arable farmland has a medium to large scale which offers only limited enclosure in steeper valleys and close to woods and shelterbelts.	Low-Moderate to Moderate
VISUAL:		
Skylines	Largely simple with some localised variety in steeper valley locations and across higher areas of LCA16b.	Moderate
Views and landmarks	Some expansive views possible from slightly raised areas, particularly to the Cheviot Hills. Halidon Hill within LCA16a offers panoramic views southwards across Berwick upon Tweed and the Tweed Valley and the coast beyond.	Moderate-High to High
Inter-visibility	Some intervisibility possible across more open areas of gentle topography. Halidon Hill presents stronger intervisibility with coastal LCAs and Berwick upon Tweed townscape.	Moderate to Moderate-High
Visual receptors	Proximity to Berwick upon Tweed and main transport corridors (A1 and East Coast Main Line) from Halidon Hill present significant receptors. LCAs 16b and 16c are punctuated with smaller settlements and farmsteads and dissected by local and main road networks including A697, A696 and B6354.	Moderate to Moderate-High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PERCEPTUAL:		
Movement	Moderate levels of movement, but localised to around Berwick upon Tweed and the main transport corridors. Wind energy movement from large turbines at Barmoor wind farm within LCA16b.	Moderate
Built development	Some settlement scattered across the LCT but overall a low density of built development with scattered farmsteads, hamlets and small villages. Villages reflect the Anglo-Saxon distribution of small nucleated villages separated by a wide area of surrounding land within which farm hamlets are located. Estate Villages found such as Ford.	Moderate to Moderate-High
Remoteness	A well-managed and generally accessible landscape, although often semi-tranquil away from main roads across LCA16b and 16c. Proximity to Berwick upon Tweed reduces any sense of remoteness across Halidon Hill.	Moderate
QUALITATIVE:		
Scenic quality	Relatively gentle topography and large arable farmscapes present limited scenic value. However river and stream valleys offer more constrained areas of high visual value, with wooded valley sides and watercourses and historic crossings. Views to Cheviot Hills within Northumberland National Park and the Northumberland Coast AONB offer scenic interest outside the LCT, whilst estate villages present attractive built heritage and designed landscapes.	Moderate to Moderate-High
Distinctiveness	Locally distinctive features such as the river valleys but generally not affording a strong sense of place.	Low-Moderate to Moderate.
Rarity	A more common landscape type.	Low-Moderate
HISTORIC & CULTURAL:		
Heritage assets	Some important heritage components, reflecting border country location. Flodden Field battleground (1513) is close to the village of Branxton, marked by tall stone cross. The course of the A697 was originally a Roman road and an important military route. Medieval villages, such as Norham, Lowick, Cornhill on Tweed and Wark are an important aspect of historic character, particularly where they are associated with fortifications.	Moderate-High
Recreation	Important for informal recreation with National Cycle Network routes 1 and 68 passing through this landscape, providing links from Berwick upon Tweed into Scotland. There is an extensive network of footpaths, including alongside the River Till and on the disused railways south of Cornhill on Tweed.	Moderate-High
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	An undulating, sometimes rolling landscape characterised by expansive arable farmland reflecting good soils and drainage. Openness prevails	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	although some enclosure is found in the valleys and between woodlands. Long views in and out of the LCT and graduated topographical variety suggests that wind energy within the LCT could be visible over longer distances, particularly from elevated sites north and west. Whilst the LCT's characteristics are not inherently highly sensitive to wind energy development, areas abutting more sensitive neighbouring landscapes present the possibility of visual harm to the settings of those designations, particularly from larger scale prominent wind energy development. Locally, river valleys within and partly delineating the LCT present important landscape components which would be sensitive to medium and larger scale proposals. Human settlement is scattered rather than extensive but provide sensitive receptors and human-scale landscape components which could contrast visually with commercial scale turbines. In general, wind energy development should be set back from the sensitive upland western fringe or where large turbines in particular could have a significant effect on the settled and smaller scale valleys and settlement by being out of scale and visually dominant. LCA16a at Halidon Hill would be more sensitive to wind energy development as a consequence of elevated prominence and proximity to sensitive receptors.	
Cumulative effects	The six 110m turbines of Barmoor wind farm on the southern fringe of LCA16b are highly prominent features on higher ground, visible over long distances to the north, east and west. Further medium or large scale wind energy development within the LCT, and particularly LCA16b would be likely to be visible in longer vistas from Northumberland National Park and more sensitive receptors in areas around Berwick upon Tweed and from main transport routes. Such views are often against a longer backdrop of the Cheviot Hills to the west. The large scale wind farm at Longformacus (48x 125m turbines) in Scotland to the north-east is clearly visible from several higher points across the LCT, but is of sufficient distance to be realtively unobtrusive or visually associated with Barmoor. However the Borders landscape is subject to intensive pressure for wind energy development at the time of this report. (Source: Scottish Borders Council) Smaller individual turbines are located at Kentstone Farm, Haggerston, Lowick and Cornhill-on-Tweed. These smaller turbines (all less than 40m height) have a limited visual prominence in the landscape and some lower level cumulative effects presented as travelling through the landscape. Other smaller turbines in neighbouring LCTs, particularly LCA3a *Haggerston*, are of limited visual influence despite low topographical variation and open vistas from higher land within LCA16b. The LCT will generally be less sensitive to further small scale wind energy where associated with scattered farmsteads, but cumulative effects should be considered at the local level, particularly where these concentrate wind energy development at a small scale between larger installations either side of the Scottish-English boarder.	

LCT 16: *Open Rolling Farmland* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 16a: Halidon	M-H	H	H	H	H
LCA 16b: Duddo and Lowick	M	M-H	M-H	H	H
LCA 16c: East Learmouth	M	M-H	M-H	H	H

Overall Landscape Sensitivity of LCT16: *Open Rolling Farmland*	In general LCT16 is not suitable for wind energy development. The only exceptions to this higher sensitivity are LCAs 16b and 16c which will be generally suitable for small scale wind energy development up to 25 blade tip height where these are well related to other human scale development such as farmsteads and settlement. LCA16a may be suitable for carefully sited small scale wind energy development up to 25m to blade tip height where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant, such as where closely associated with the scale and location of farm buildings, other domestic scale features and woodland within the landscape. LCAs 16b and 16c may be suitable for carefully sited small scale wind energy development up to 65m to blade tip height where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. In general, wind turbines above small-medium scale (>25m height to blade tip) in LCA16a, and above medium-large (>65m to blade tip height) in LCA16b ad 16c would in principle be unsuitable as they would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development. This is particularly due to the high inter-visibility with adjacent sensitive LCTs, heritage components in the landscape and sensitive receptors.

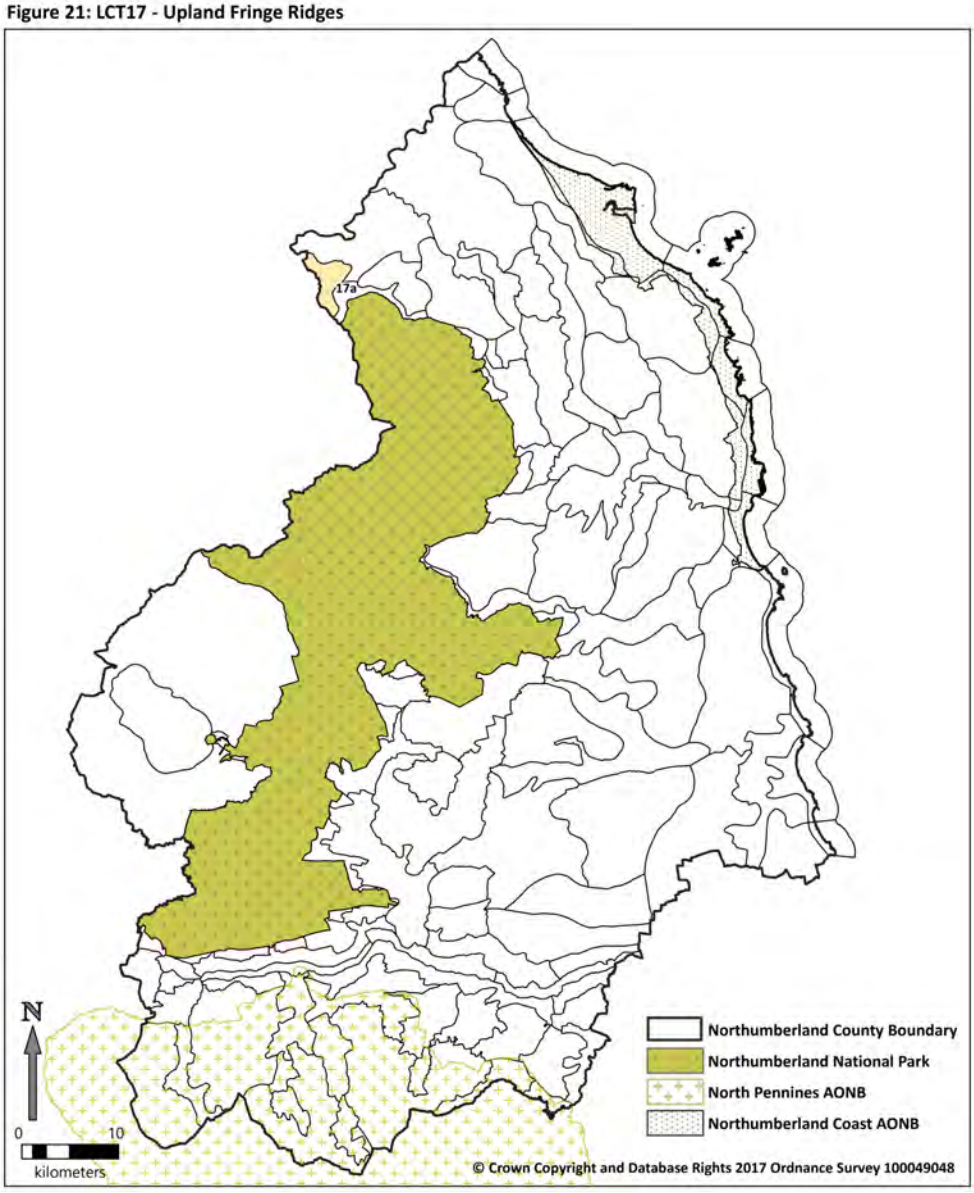
Landscape Sensitivity to Wind Energy Development
LCT 17: Upland Fringe Ridges

This LCT comprises long, farmed parallel ridges, running south-west to north-east, extending across the Scottish border. Large-scale, open landscape, with some woodland belts and shelterbelts. It occurs in a single area in the north-west of the county.

The LCT is represented by a single character areas (LCA):

- **17a: *Horse Rigg***

Figure 21: LCT17 - Upland Fringe Ridges



Key Landscape Characteristics of LCT 17: *Upland Fringe Ridges:*

- Series of long, narrow parallel ridges, aligned from the south-west to north-east.
- Occasional rock outcrops.
- Ground rises towards the south-west.
- Views north-east towards Coldstream and the Tweed valley.

- Large fields and shelterbelts.
- Steep south-eastern edge facing the Cheviot Hills.
- Upland fringe character.

Landscape Sensitivity Profile of LCT 17: *Upland Fringe Ridges*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	A distinct series of rolling smooth ridges which forms part of a more extensive feature which extends into Scotland to the south west. The land rises to summits of 200m and 221m. Topography includes occasional rocky outcrops, but the landform is generally smooth, dropping more sharply into the Bowmont Water valley to the south.	Low-Moderate to Moderate
Land cover	Predominantly arable farmland despite relative elevation. Large open fields with often low or weak hedge boundaries. Some pasture and woodland is also found, with rectilinear and sometimes sky-lining coniferous plantation. Deciduous tree belts are also present, as well as clusters of trees around farmsteads	Moderate
Landscape scale	A large scale landscape although vistas within the LCT are self-contained by the rolling landform. Large field patterns with weak hedge lines emphasise the large scale.	Low-Moderate to Moderate
VISUAL:		
Skylines	Generally self-contained simple smooth skylines, sometimes defined by plantation. At other times in views along ridges the skyline is more complex as a consequence of other LCT profiles.	Low to Low-Moderate.
Views and landmarks	No significant distinctive features or visual foci. Vistas towards the Tweed Valley to the north east and those over the Bowmont Water valley to the Cheviot Hills to the south occasionally possible.	Low to Low-Moderate.
Inter-visibility	Some intervisibility possible from this relatively elevated area, particularly to the south and east.	Moderate-High
Visual receptors	Low number of receptors as a consequence of sparse settlement and population and absence of main transport routes.	Low-Moderate
PERCEPTUAL:		
Movement	Limited, a quiet tranquil landscape unit	Low-Moderate
Built development	Limited primarily to scattered farmsteads and isolated dwellings. Some farmsteads with large agricultural buildings are prominent.	Low-Moderate
Remoteness	Although tranquil with limited movement, human influence pervades through prominent farmsteads and arable landscape. Small-scale minerals operations add to a perception of human activity and active land	Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	management.	
QUALITATIVE:		
Scenic quality	Limited significant scenic interest although distinctive landform with occasional outcrops add some interest, as do views outwards.	Moderate to Moderate-High
Distinctiveness	Not strongly representative of the county	Low-Moderate
Rarity	A more common landscape, with features of some rarity, such as rocky outcrop and parallel ridges.	Moderate
HISTORIC & CULTURAL:		
Heritage assets	Low levels of heritage components. Some vernacular cottages. The large, relatively late, rectilinear enclosures create a formal historic structure to the landscape, albeit with few characteristic structures.	Low-Moderate
Recreation	Limited to local interest across rights of way network.	Low-Moderate
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	The landscape of the Upland Fringe Ridges presents some topographical distinctiveness, but large scale arable and improved pasture farming practice results in a smooth landscape of limited inherent interest. Intervisibility and views into and out of the LCT vary, and of some importance locally but not extensively. The landscape unit is however relatively elevated and longer views to large scale turbines would be likely from most directions. Visual receptors are limited but there is otherwise a degree of tranquillity as a consequence of remoteness and low levels of settlement and road density. Vistas across the LCT from Northumberland National Park's northern elevated areas are possible. Landscape components generally suggest a lower sensitivity to wind energy development. However it is significant in respect to the setting of Northumberland National Park and this elevates its overall sensitivity above that associated with its component characteristics alone.	
Cumulative effects	No wind energy infrastructure is located within the LCT. Small and medium scale turbines are unlikely to be read in the same vistas as other installations within Northumberland, but views into Scotland and significant wind energy infrastructure may be possible. Proximity to Northumberland National Park northern boundary suggest development of larger installations or medium turbines to the south of the LCT may present harm to the setting of the designated landscape.	

LCT 17: *Upland Fringe Ridges* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 17a: Horse Rigg	L-M	M	M-H	H	H
Overall Landscape Sensitivity of LCT17: *Upland Fringe Ridges*	In general LCT17 is suitable for carefully sited single small and small-medium scale turbines up to 40m height to blade tip. They should be closely associated with the scale and location of farm buildings, other				

	domestic scale features and woodland within the landscape. In general, wind turbines above 40m height to blade tip would in principle be unsuitable within LCT17. However, medium scale turbines between 41m-65m height to blade tip may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci or sensitivities in the landscape. Medium-large scale and larger turbines would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development. This is particularly due to the high inter-visibility with Northumberland National Park and the Tweed Valley.

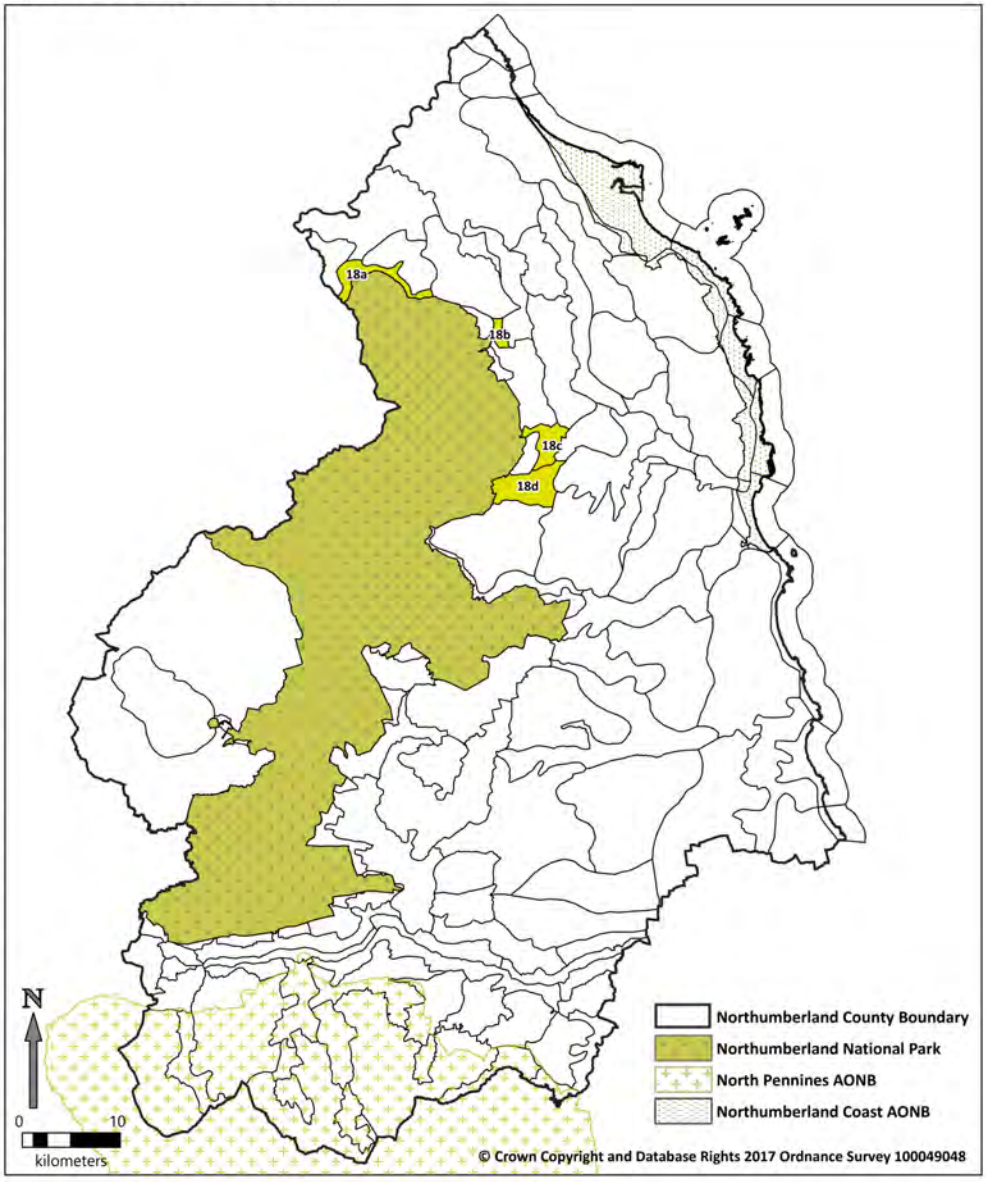
Landscape Sensitivity to Wind Energy Development
LCT 18: Upland Fringe Valley

This LCT comprises valley landscapes lying at the periphery of the Cheviot Hills, and representing a transition between the incised upland valleys and broad lowland valleys. The valleys are typically rural in character, with limited urban influence.

The LCT is represented by three character areas (LCA):

- **18a:** ***Bowmont Valley***
- **18b*****: Wooler Vale***
- **18c*****: Upper Breamish***
- **18d*****: Upper Aln***

Figure 22: LCT18 - Upland Fringe Valleys



Key Landscape Characteristics of LCT 18: *Upland Fringe Valley*:

- Shallow, glaciated valleys with gravel river beds, often delineated by woodland.

- Mixed arable farmland and pasture.
- Scattered settlement concentrated within small villages, hamlets and farmsteads.
- Strong visual relationship with the uplands.

Landscape Sensitivity Profile of LCT 18: *Upland Fringe Valleys*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Simple, usually distinctive valley floor landscapes between the incised upland valleys and broad lowland valleys. Flat bottomed or gently undulating valleys of glacial deposits and geomorphological surface features lie between widening valley sides with upland surrounds of the Cheviot foothills and other outlying uplands such as the Moneylaws and Heddon Hill. Rivers are variously straight flowing (Wooler Water) or distinctly meandering (Bowmont Water). Strong visual association with the Cheviot uplands to the west which the rivers drain eastwards.	Low-Moderate to moderate
Land cover	Mixed arable, improved pasture and deciduous linear/riparian woodland cover. Shelterbelts and small coniferous plantation, particularly to the southern LCAs. Former minerals operations, such as at Branton.	Moderate
Landscape scale	Medium and medium-small landscape scale, defined by both the degree of topographic enclosure and grain of agricultural and forestry land use.	Moderate to Moderate-High
VISUAL:		
Skylines	Varied dependent upon degree of enclosure by valley sides and direction of view along or up river corridor.	Moderate-Moderate-High
Views and landmarks	Strong visual influence of Northumberland National Park's Cheviot Hills uplands to the south and west and longer views along valley lines towards Outcrop Hills and Escarpment landscape areas to the east. Often a strong contrast between the flat valley floor and upland valley sides.	Moderate-High
Inter-visibility	Strong intervisibility between the flat valley character areas and the valley side and upland landscapes they bound, even if those vistas are not particularly extensive.	Moderate-High
Visual receptors	Mixed degree of receptors across the four character areas. LCA18b includes parts of Wooler and main transport routes. The other LCAs have limited scattered settlement and minor road local transport networks. Proximity to Northumberland National Park increases sensitivity in vistas from and towards the LCT.	Moderate-High
PERCEPTUAL:		
Movement	LCAs 18b and 18c experience significant movement along the A697 and settlement-edge activity.	Moderate to Moderate-High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	Elsewhere movement is limited to minor road network. Natural movement in the landscape is perceptible at closer distances to the shallow river beds and can be seasonally varied.	
Built development	Varies considerably across the four LCAs. LCA18b includes areas of settlement to the southern edge of Wooler, some light industrial units and significant infrastructure such as the A697 and high voltage power lines and pylons. A large caravan park is a significant feature in LCA18b. Restored minerals operations are located at Branton. In other areas settlement is highly limited to farmsteads and occasionally small hamlets in tranquil settings.	Moderate to Moderate-High
Remoteness	Mixed across the LCAs. LCAs18a and 18d are quiet remote rural settings whilst 18b and 18c are influenced by development, population and movement.	
QUALITATIVE:		
Scenic quality	Mixed scenic value broadly dependent upon the degree of settlement and human activity. LCa18a and LCA18d present quiet rural valley floor landscapes beneath steep upland surrounds of some scenic value. Elsewhere scenic value of the LCA itself is limited.	Low-Moderate to Moderate
Distinctiveness	Not strongly distinctive in the county context, with scenic and sense of place qualities more dependent upon immediately neighbouring landscape settings.	Low-Moderate to Moderate
Rarity	Not a particularly rare landscapes in Northumberland but with distinguishing wider context character.	Moderate.
HISTORIC & CULTURAL:		
Heritage assets	Important historical sites ranging from evidence of medieval cultivation and settlement, to small gardens and designed landscapes. These include the Anglo-Saxon palace complex of Ad Gefrin on the northern slopes of Yeavering Bell, Alnham medieval village and a number of bastle and tower houses.	Moderate-High
Recreation	Gateway landscapes to the northern parts of Northumberland National Park. Locally recreation opportunity limited to local rights of way and cycle routes	Moderate.
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	Considerable variety in character exists within the set of four landscape character areas which broadly share topographic features and landscape contexts with the Cheviot fringe, but with some variation in degree of settlement, scenic value and tranquillity. The Bowmont Valley and Upper Aln present tranquil landscapes within attractive settings with low levels of settlement and primarily in agricultural land use. Elsewhere higher levels of development and movement and lower levels of tranquillity present relatively busy landscape contexts. Whilst the LCT's characteristics are not inherently highly sensitive to wind energy development *per se*, close proximity to more sensitive neighbouring	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	landscapes – particularly Northumberland National Park, present some vulnerability of visual harm to the settings of those landscapes, especially from larger scale wind energy development. Locally, river valleys within and partly delineating the LCT present important landscape components which would be sensitive to medium and larger proposals as a consequence of landscape scale and relative enclosure. In places there is a higher concentration of sensitive receptors to larger scale wind energy development, although these coincide with the areas of existing built development and movement in the landscape. In general wind energy development should be restricted to smaller individual turbines set back from the sensitive upland western and southern LCT fringes or where large turbines in particular could have a significant effect on the settled and smaller scale valleys and hamlets by contrasting with human scale and being visually dominant.	
Cumulative effects	No existing wind energy installations are located in LCT18. A 21m single turbine is permitted close to the eastern fringe of LCA18c at Powburn. Large wind energy installations are otherwise distant from the LCT and unlikely to have cumulative implications from within LCT18. The narrow, arcing extent of LCA18a would be particularly sensitive to multiple wind energy developments, potentially serving to visually frame Northumberland National Park boundary. The pylons and high voltage power lines across LCA18c provide a prominent discordant feature in the landscape which would provide both further visual complexity against larger scaled wind turbines, and a potentially dramatic indicator of scale of commercial scaled turbines. Such juxtaposition or combination of features in a single view cone should be avoided, particularly in the wider context of Northumberland National Park's north-eastern setting.	

LCT 18: *Upland Fringe Valley* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 18a: Bowmont Valley	M	M-H	H	H	H
LCA 18b: Wooler Vale	L-M	M	M-H	H	H
LCA 18c: Upper Breamish	M	M-H	H	H	H
LCA 18d: Upper Aln	M	M-H	H	H	H

Overall Landscape Sensitivity of LCT18: *Upland Fringe Valley*	In general LCT18 is suitable in principle for single or small groups of carefully sited small scale turbines up to 25m height to blade tip, and up to 40m in LCA18b. They should be closely associated with the scale and location of farm buildings and other domestic scale features in the landscape, and generally away from the small scale valleys and Northumberland National Park fringe. For LCAs 18a, 18c and 18d the landscape will generally be unsuitable for

	wind turbines above 26m, and over 40m in LCA18b. However in these LCAs turbines between 26m and 40m may be suitable within LCAs 18a, 38b and 38c, and between 41 and 65m in LCA18b where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. With the exception of LCA18b (where medium scale wind turbines may be acceptable *as above*), medium, medium-large scale and larger turbines within the LCT would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development, largely as a result of the inter-visibility with neighboring landscapes, and particularly Northumberland National Park, and impacts upon sensitive local receptors.

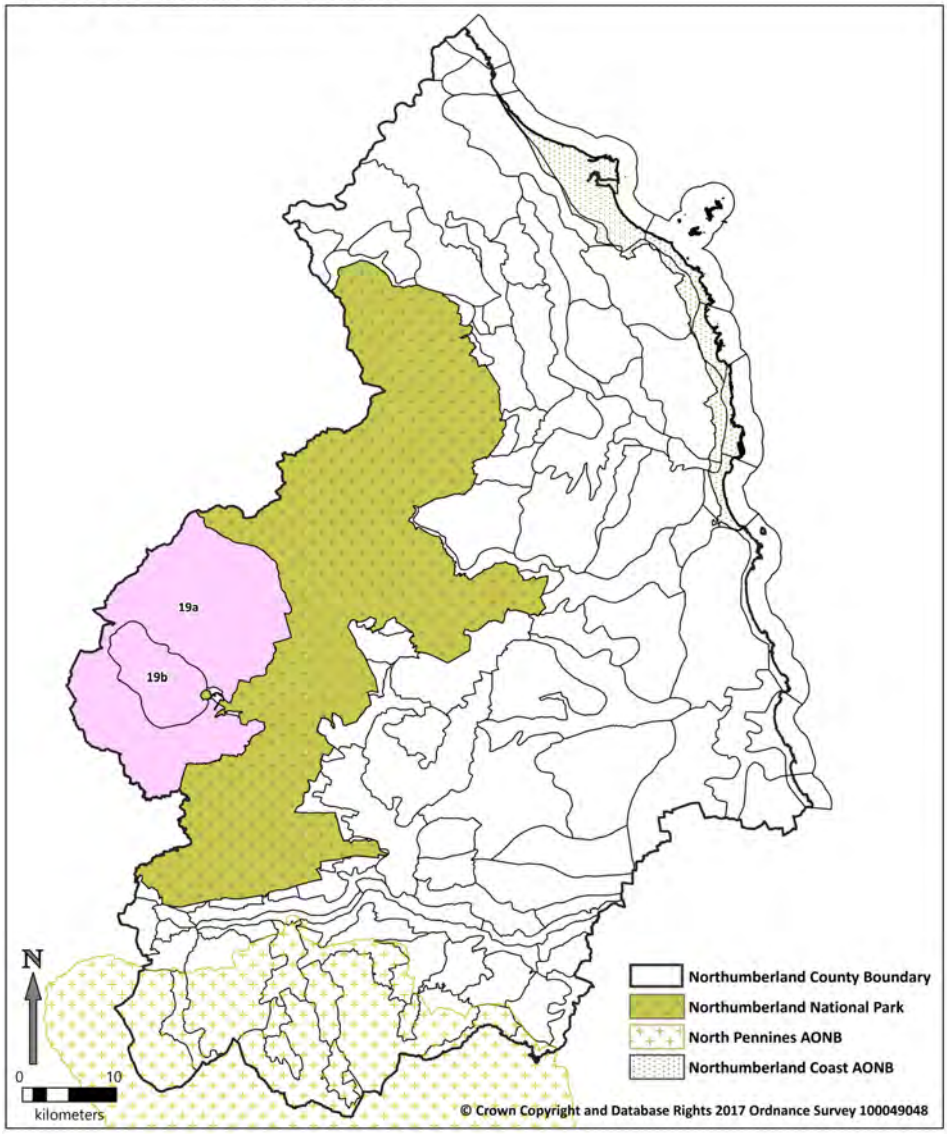
Landscape Sensitivity to Wind Energy Development
LCT 19: Moorland and Forest Mosaic

This LCT covers most of the isolated western part of the county, to the west of Northumberland National Park. It extends into Northumberland National Park, and also beyond the border into Scotland, forming one of the largest areas of forest in Britain. Within the study area, this landscape includes Kielder Forest and Kielder Reservoir, and much of Redesdale Forest.

The LCT is represented by two character areas (LCA):

- **19a: Kielder and Redesdale Forests**
- **19b: Kielder Reservoir.**

Figure 23: LCT19 - Moorland and Forest Mosaic



Key Landscape Characteristics of LCT 19: *Moorland and Forest Mosaic*:

- Simple, expansive upland landscape, generally over 250m.
- Gently rolling topography incised by burns that are often concealed by plantations.

- Mosaic of large-scale coniferous plantations, open grass, heather moorlands and mires, with limited areas of in-bye pasture.
- Enclosed landscape with limited outward views.
- A dynamic landscape with significant areas of on-going felling and restocking.
- Some broadleaved woodlands and woodland edges that soften the plantation character.
- A generally uninhabited landscape, with only occasional farmsteads and forestry settlements.
- Reservoirs that offer expansive views across open water, in contrast to the enclosed character of surrounding forest.

Landscape Sensitivity Profile of LCT 19: *Moorland and Forest Mosaic*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Topography of high rolling or undulating plateaux generally over 250m, with harder underlying sandstones forming ridges separated by softer eroded shales. In post-glacial times meltwater accumulated in the upland troughs creating areas of raised and blanket bog, for example at Kielder Moor where heather, cotton grass, deer grass and sphagnum moss occur on blanket peat. In the north of the area, the undulating ridges are less common. Here flat tabular hills such as at Peel Fell and Carter Fell are more common. Keilder Reservoir provides a vast artificial waterscape in the flooded the upper valley of the River North Tyne. The man-made the reservoir has naturalistic edges, narrow inlets of water, and peninsulas of land. Some waterside areas remain as open moorland.	Moderate
Land cover	Predominantly large-scale extensive coniferous plantation and moorland, with the reservoir landscape presenting a central large-scale contrasting land cover. Rotational timber felling and planting patterns define large areas. Extensive restructuring of the plantations with selective thinning and deciduous planting to reflect a more natural plant succession and visual softening.	Low-Moderate
Landscape scale	Large scale and simplicity of land use and cover over LCA19a. Some more complex reservoir fringe land use and cover within the Kielder basin of LCA19b.	Low-Moderate
VISUAL:		
Skylines	Generally simple, undulating with single land use mix of coniferous planation or moorland visible.	Low to low-Moderate
Views and landmarks	LCA19a provides limited focal landmarks due to enclosure of the woodland and extensive land use. In contrast LCA19b provides some contrasting land mark features associated with the reservoir and bankside infrastructure	Low-Moderate to Moderate-High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
Inter-visibility	Occasional vistas to other LCAs from higher moorland points (primarily into Scotland or Northumberland National Park) are possible but infrequent due to enclosure of the plantations. The basin topography of Kielder reservoir is wholly enclosed. Very limited intervisibility is possible between the edges of LCA19a and LCA 20c *Upper North Tyne Valley.*	Low to Low Moderate.
Visual receptors	Few receptors within LCA19a reflecting an absence of transport routes and settlement. Recreational use of the reservoir basin gives rise to limited receptor sensitivity by recreational users. Kielder Observatory is located to the north west of the reservoir within LCA19a. It is likely that wind energy development which breaches the horizon in a 360^{o} arc would have a highly deleterious effect on astronomical activities at this high profile public facility.	Low-Moderate, occasionally High
PERCEPTUAL:		
Movement	Very limited movement within the forest as a consequence of very limited settlement or transport routes across LCA19a. LCA19b *Kielder Reservoir* is an important recreation area with at peak times considerable vehicle movements and water and land based activities such as sailing and wind surfing.	Low-Moderate to Moderate
Built development	Significant water related infrastructure at the reservoir, some dramatic in scale such as the dam wall, which falls mainly within Northumberland National Park. Primarily, 'buildings' are limited to loose concentrations of forestry and water workers' dwellings, community infrastructure and visitor facilities at Kielder 'village' at the west of the reservoir. Kielder observatory is a striking building remote from other settlement. None of these developments is prominent in the wider landscape.	Low-Moderate
Remoteness	Forestry and water resource activity and recreational use and facilities limit remoteness in those specific areas, but in places the LCT can be perceptually remote.	Low-Moderate
QUALITATIVE:		
Scenic quality	Limited inherent scenic quality across the wider LCT although vistas across the waterscape of Kielder Reservoir is an attraction to many visitors. Increasing scenic quality in areas where forestry remodelling is becoming established.	Moderate to Moderate-High
Distinctiveness	Scale and duality of land cover/uses result in some limited distinctiveness but few features of particular significance within LCA19a. Kielder reservoir, as the focus of LCA19b is a striking landscape feature if not wholly unique.	Moderate-High
Rarity	LCA19a comprises a combination of topography and	High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	land cover not uncommon across Northumberland. In part driven by scale of the waterscape and absence of intervisibility to other landscapes, LCA19b is a rare landscape, exceptional at the national level.	
HISTORIC & CULTURAL:		
Heritage assets	Limited heritage features which contribute to the landscape character or foci of the LCT, for example ancient earthworks and occasional cairns.	Low-Moderate
Recreation	High value recreational resource on and around Kielder Reservoir. Walking, cycling, riding and water sports is supported within the large landscape by purpose-built facilities, car parking and accommodation.	High
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	This expansive LCT offers several landscape characteristics which may be less sensitive to wind energy development than the remote upland landscape would otherwise suggest. There is a strong uniformity and simplicity across the LCT, at a large landscape scale with few human-scale features against which larger turbines would contrast. Despite proximity to Northumberland National Park the landscape is often self-contained to a large extent, although the relationship to Northumberland National Park should be significant considerations in respect to wind energy proposals. The landscape is largely managed with widespread forestry activity and water management infrastructure of national significance. These uses have shaped the character of the landscape over a relatively recent time-depth, and has resulted in dynamic changes which continue with forestry clearance and replanting. Locally, the LCT provides high recreational value, particularly on and around Kielder Reservoir. Forest tracks are important for mountain-biking and other outdoor pursuits, for which open vistas or scenic value varies in respect to their recreational importance. Kielder Forest and Water Park (and the whole of Northumberland National Park) is the UK's first dark sky park known as *Northumberland International Dark Sky Park.* Kielder Observatory is a celebrated and recent example of a quasi-public facility being established to further astronomical study and public access to it. Wind energy development of any scale which would breach existing skylines would potentially harm the astronomic value of the area and the effectiveness of the observatory. Large-scale wind turbines would have inherent potential to seriously harm such landscape/'skyscape' character and the observatory should be considered to be a highly sensitive receptor that would limit potential sites for wind energy across the LCT.	
Cumulative effects	No wind energy schemes are installed or permitted across the LCT and cumulative effects therein are therefore unlikely to arise in relation to initial proposals. Intervisibility from within the LCT to other landscape units is limited by both rolling topography and extensive coniferous plantation. There is a relative absence of wind energy development in areas contiguous with the LCT, which primarily comprises areas in Cumbria, Scotland or Northumberland National Park, often remote from the high capacity grid and also influenced by proximity to MoD sites.	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	Visual impacts upon the setting of Northumberland National Park will be an important consideration fro proposals across the eastern flank of the LCT.	

LCT 19: *Moorland and Forest Mosaic* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 19a: ***Kielder and Redesdale Forests***	L-M	M	M-H	M-H	H
LCA 19b: ***Kielder Reservoir***	M	M-H	H	H	H

Overall Landscape Sensitivity of LCT19: *Moorland and Forest Mosaic*	In general the whole of LCT19 is suitable in principle for single or small groups of carefully sited small scale turbines up to 25m height to blade tip. Within LCA19a the landscape is suitable in principle for turbines up to 40m to blade tip height. For LCAs 19a, the landscape will generally be unsuitable for wind turbines above 40m. However turbines between 41m and 100m to blade tip height may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant, including those on the Kielder Observatory. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. Within LCA19b, the same principles will apply but only to wind turbines between 26m and 40m to blade tip height. The landscape of LCA19a will be unsuitable in principle to turbines above 100m to blade tip height. Medium, medium-large scale and larger turbines within the LCA19b would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development, largely as a result of the visual and perceptual effects upon the recreational and scenic landscape importance of Kielder Reservoir.

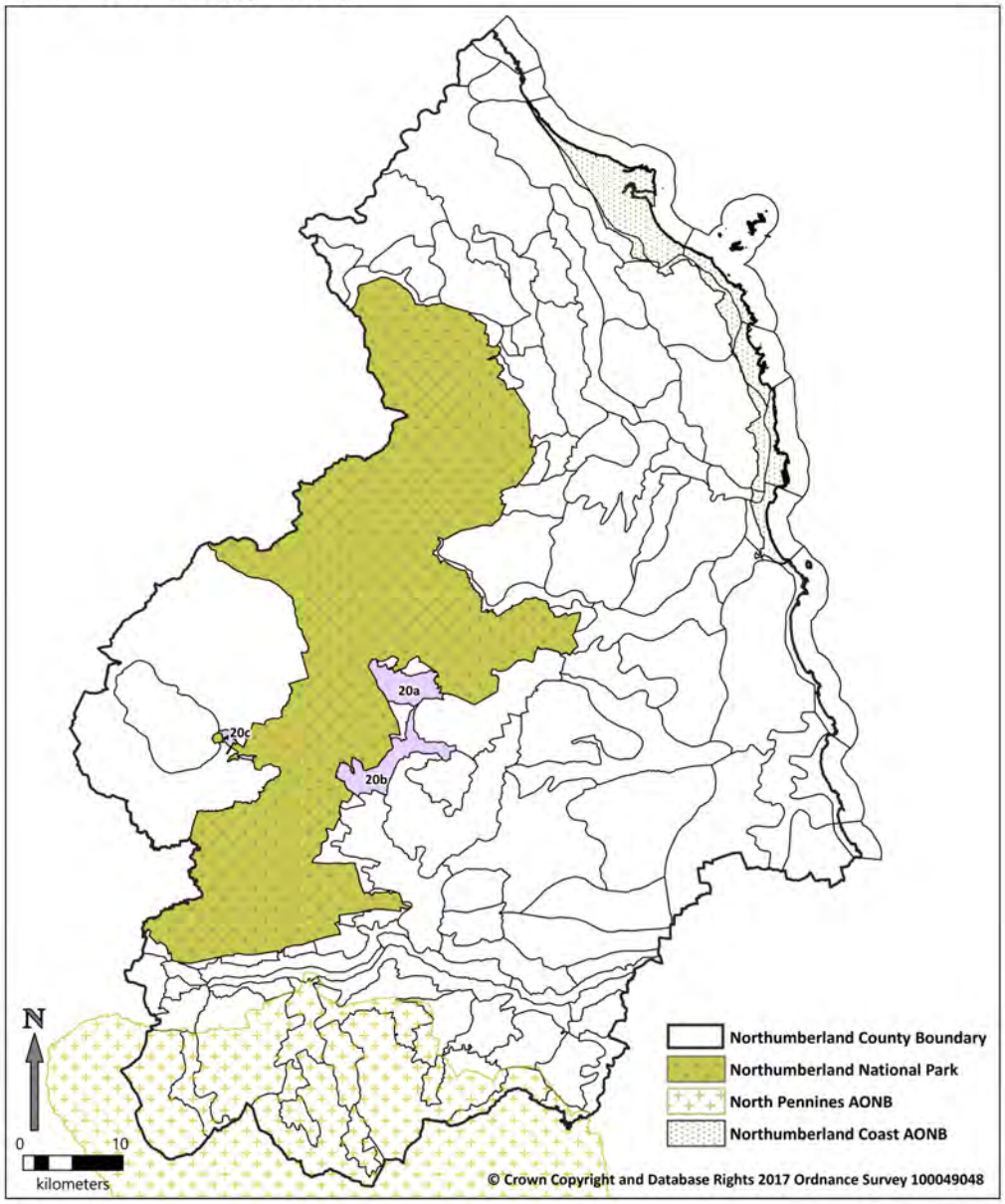
Landscape Sensitivity to Wind Energy Development
LCT 20: Rolling Upland Valleys

This LCT comprises broad valleys which carve through larger blocks of upland landscape. The valleys contrast strongly with the neighbouring upland LCTs. This landscape includes the valleys of the Rivers Rede and North Tyne and their tributaries, although parts of these valleys extend into Northumberland National Park, and are therefore outside the study area.

The LCT is represented by three character areas (LCA):

- **20a *Otterburn and Elsdon Valley,***
- **20b *Bellingham and Woodburn Valley***
- **20c *Upper North Tyne Valley***

Figure 24: LCT20 - Rolling Upland Valleys



Key Landscape Characteristics of LCT 20: *Rolling Upland Valleys*:

- Broad valleys with gently convex valley sides.

- Tributary burns, often well-wooded, carving incised valleys into the hillsides.
- Clearly defined floodplain and mixed farmland on valley floors.
- Consistent pattern of textured rough pastures divided by stone walls on valley sides, with open moorland above.
- Meandering rivers are sometimes marked by alders, but are not generally prominent landscape features.
- Steep, wooded bluffs flanking edges of the floodplain.
- Shelterbelts and clumps of Scots pine or mixed woodland on lower slopes and occasionally on valley floors.
- Historic sandstone villages and dispersed farmsteads on lower slopes.
- Rich archaeology including ridge and furrow and fortified bastle houses.

Landscape Sensitivity Profile of LCT 20: *Rolling Upland Valleys*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Simple, broad valley landscape with steeper incised tributaries with strong glacial and meltwater influences. Well-defined floodplain with prominent bluff to its edges, with rivers and burns often of low visual prominence. Meandering courses of river Rede, isles Burn and North Tyne. Glacial drift and alluvium soils gradually thin with increased elevation to where underlying sandstone and shale outcrops. Occasional waterfalls reflecting horizontal geological banding.	Low-Moderate
Land cover	Floodplain meadows and pastures, and in some places patches of arable land. Valley sides pasture transitions to rough grazing and open moorland with gorse. Oak and ash wooded narrow tributary valleys. Other semi-natural woodland is mainly riparian or on steeper bluffs. Some mixed species shelterbelts around farmsteads. Lower ground enclosed by weak fences and hedges with drystone walls prominent across valley sides.	Moderate
Landscape scale	Large to medium scale landscape with a sense of enclosure is felt most keenly in the smaller, narrower tributary valleys, where linear semi-natural broadleaved woodlands flank the watercourses, for example along Tarset, Hareshaw and Lisles Burns. By contrast, the valleys around Otterburn, Elsdon and north of Bellingham are shallow, medium to large-scale valleys with relatively little woodland on valley floors or sides.	Low-Moderate
VISUAL:		
Skylines	Simple, gently rolling skylines, primarily pasture or rough grazing land with little man made structure apart	Low-Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	from walls and occasional farmstead. Plantation and shelter bets occasionally form the skyline.	
Views and landmarks	Occasional vistas from valley sides across the LCT, often down the valley corridor and occasionally to higher ground of Northumberland National Park.	Low-Moderate
Inter-visibility	Some intervisibility possible, particularly to uplands within Northumberland National Park and across LCT8 *Outcrop Hills and Escarpments* and LCT11 *Sandstone Fringe Farmland* to the east. LCA20a Otterburn and Elsdon Valley has strong proximity to LCT 21 the *Rolling Uplands* and lends an empty, upland feel to the landscape where longer views across the LCT are possible.	Moderate-High
Visual receptors	As a settled landscape there are residential receptors within villages such as Bellingham and Otterburn, from scattered farmsteads and from transport routes such as the A68, A696 and B6320.	Moderate
PERCEPTUAL:		
Movement	Occasional to frequent movement as a consequence of local transport routes and larger settlement, but also agricultural activity across the valley floors. Occasional aircraft disturbance in relation to the Otterburn MoD ranges.	Moderate
Built development	Villages of Bellingham, Otterburn and East and West Woodburn are main settlements of the LCT focused upon river crossings with some vernacular merit. Elsewhere scattered farmsteads lie primarily across the valley floors. Overall a well-settled landscape type although retaining some sense of peacefulness consequent to relative remoteness.	Low-Moderate
Remoteness	Some, but interupted sense of remoteness as a consequence of transport routes, settlement and managed agricultural landscape over much off the LCT. Military operations at Otterburn MoD camp add occasional noisy disturbance. A small radio mast stands at Stannersburn.	Low-Moderate to Moderate
QUALITATIVE:		
Scenic quality	Some wider appeal as a consequence of open vistas across shallow upland river valleys and expansive pastoral and grazed landscape with drystone walls and riparian woodlands. LCAs have a very distinctive, unspoilt and historic character and are strongly influenced by the wider upland setting. However overall the LCT provides for moderate scenic value as a consequence of the visual impact of transport infrastructure and some visually prominent gricultural built development. Although limited in extent, the relative lack of development across LCA20c offers an attractive visual context.	Moderate to Moderate-High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
Distinctiveness	Limited distinctive features which might define a strong sense of place. There is generally a horizontal emphasis to the landscape, unusual in an upland context.	Low-Moderate
Rarity	Not a rare landscape across north and western parts of Northumberland although reasonably limited in extent.	Moderate
HISTORIC & CULTURAL:		
Heritage assets	Historic assets are important in the LCT with Roman sites and roads including Dere Street, medieval village form, rig and furrow pasture and fortified bastle houses and peel towers. Medieval landscape of open field systems of ridge and furrow cultivation is easily appreciated within the modern field pattern and adds to the historic character of the area. Past industrial activity and mining is evident in the landscape of LCA20b.	Moderate
Recreation	Recreational facilities in LCT20 include developments such as caravan parks and golf courses. There is a good network of rights of way, and small areas of access land. A short section of the Pennine Way, National Trail passes through LCA20b.	Moderate-High
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	LCT20 *Rolling Upland Valleys* combines relatively gentle, open and peaceful landscape components with a settled character and deep historic time-depth. Although within a wider upland context the landscape is often horizontal in character and relatively compact in extent. Vertical features are generally absent from the landscape and a human scale often pervades consequent to settlement and smaller field pattern, particularly on lower slopes and valley floors. Historic assets and relatively frequent sensitive receptors further suggest a higher sensitivity to medium and larger scale wind energy development. Scattered agricultural farmsteads may be able to accommodate well-located small-medium scale wind energy development of single masts that assimilate within the landscape without significant visual prominence.	
Cumulative effects	Two small (<25m) wind turbines stand within the LCT - to the north of West Woodburn within LCA20b and on the boundary with Northumberland National Park on higher ground at Sheel Law north of Bellingham. Neither of these turbines is highly conspicuous in the wider landscape and limited further development of this scale is unlikely to give rise to strong cumulative landscape effects. The eastern-most areas of LCA20b falls close to Ray Wind Farm where 16 125m turbines lie across LCT8. Several turbines are conspicuous from within LCA20b, east of East Woodburn. The LCT also forms a significant element of the landscape context between Ray Wind Farm and Northumberland National Park boundary west of West Woodburn. Development within the LCA and LCT more widely would present inherent potential for harmful change to the setting of Northumberland National Park and its upland, remote character which the LCT helps reinforce. Development of more than small-medium scale wind energy installations with LCA20a and LCA20b would present a risk of significant cumulative	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	landscape impacts in combination with Ray and Green Rigg wind farm, which although less prominent from within the LCT has the potential to further alter overall character of the wider area to that of a wind farm landscape.	

LCT 20: *Rolling Upland Valleys* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 20a: Otterburn and Elsdon Valley	L-M	M	M-H	H	H
LCA 20b: Bellingham & Woodburn Valley	L-M	M	M-H	H	H
LCA20c: Upper North Tyne Valley	L-M	M	M-H	H	H

Overall Landscape Sensitivity of LCT20: *Rolling Upland Valleys*	In general the whole of LCT20 is suitable in principle for single or small groups of carefully sited small and small-medium scale turbines up to 40m height to blade tip. The landscape will generally be unsuitable for wind turbines over 40m. However turbines between 41m and 65m to blade tip height may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant, including those on Northumberland National Park, settlement receptors, heritage assets and the Pennine Way. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. Medium-large scale and larger turbines within the LCT above 66m to blade tip height would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development, largely as a result of cumulative effects, sensitivity of receptors and setting of Northumberland National Park.

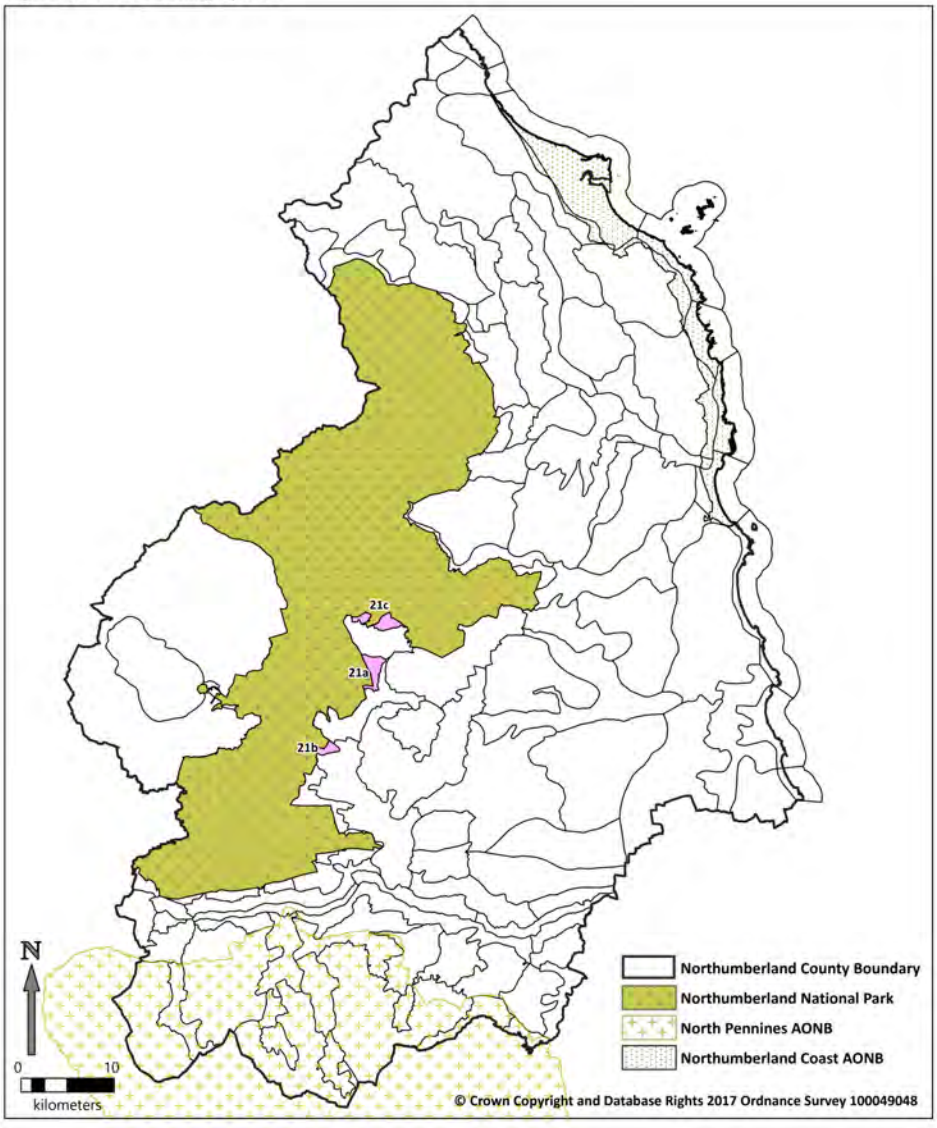
Landscape Sensitivity to Wind Energy Development
LCT 21: Rolling Uplands

This LCT comprises large areas of the eastern part of the *Border Moors and Forest National Charater Area* although much of it is located within Northumberland National Park and outside the present study area. Three small areas of this landscape extend outside Northumberland National Park, where they are associated with the *Rolling Upland Valleys* (LCT 20).

The LCT is represented by three character areas (LCA):

- **LCA 21a: *Ealingham Rigg***
- **LCA 21b: *Corsenside Common***
- **LCA 21c: *Otterburn Plateau.***

Figure 25: LCT21 - Rolling Uplands



Key Landscape Characteristics of LCT 21: *Rolling Uplands*:

- Broad, open, large-scale, rolling moorland plateau.
- Simple, smooth flowing landform, often featureless with high degree of uniformity.

- Extensive areas of semi-natural vegetation including a matrix of heather, mat-grass moorland, raised bogs or mires and patches of bracken.
- Sparse settlement including isolated farmsteads and Victorian hunting lodges.
- Drained by a network of burns that have eroded deep but not visually prominent ravines.
- Sparse tree cover – occasional coniferous shelterbelts and clumps, with limited areas of semi-natural woodland along burns.
- Uniformity of land cover broken in places by in-bye pastures associated with farmsteads.
- Military training use over a significant part of the area.

Landscape Sensitivity Profile of LCT 21: *Rolling Uplands*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Smooth, rolling and simple appearance to the topography with localised variety only. Where the underlying sandstone breaks the boulder clay surface, contrasting craggy outcrops add visual interest. In the east, sandy soils are well drained by a network of burns which carve deep ravines but are not a major feature of the landscape as a whole.	Low-Moderate to Moderate
Land cover	In areas where the glacial deposits are deep, land cover is primarily grassy moorland, peat bog and mosses. Some heather moorland used for sheep grazing with extensive areas are also managed as grouse moor. Where post and wire fencing divides areas, the effects of differential grazing regimes are sometimes evident. Tree cover is sparse although there are geometric shelterbelts, for instance at Leighton Hill.	Low-Moderate to Moderate
Landscape scale	A large scale, empty landscape arising from broad extent (into Northumberland National Park) with limited enclosure, sub-division or human influence. Some moderate natural enclosure is found locally within valleys of LCA21c.	Low-Moderate
VISUAL:		
Skylines	Plateau landscape and very limited woodland or structures present simple predictable skylines	Low-Moderate
Views and landmarks	Occasional views are possible from higher points, particularly from LCA21b *Ealingham Rigg* over valleys to the east and over settlement of Otterburn but plateau landform mostly limits vistas. Ealingham Rigg itself is a more pronounced landmark.	Moderate
Inter-visibility	Variations in intervisibility across the 3 LCAs. LCA21a and LCA20c have limited intervisibility beyond neighbouring LCTs, particularly LCA8f *Harwood Forest*, LCA11b *Butelaw and Colt Crag* and LCA29 *North Tyne Valley*. LCA21b offers occasionally strong intervisibility with neighbouring LCTs. All LCAs have strong visual	Moderate to Moderate-High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	linkages to Northumberland National Park.	
Visual receptors	Generally limited receptors within the LCT but local transport routes and scattered farmsteads within LCA21a and LCA21b.	Low to Low-Moderate
PERCEPTUAL:		
Movement	Limited movement in the landscape, limited to sporadic military training activity within Otterburn ranges within LCA21c. Slightly greater movement along A68 bounding LCA21a.	Moderate-High to High
Built development	Limited to a few scattered farmsteads. Lattice radio mast at Ealingham Rigg.	Moderate-High to High
Remoteness	Limited to local traffic network, low-key agricultural activity and occasional military training activities.	Moderate to moderate-High
QUALITATIVE:		
Scenic quality	Landscape with limited scenic value, although generally open, semi-wild upland and without strong visual detractors. Rock outcrops within LCA21c offer some interest. Although bounding Northumberland National Park across all three LCAs it presents limited focal points or features of visual attractiveness.	Moderate
Distinctiveness	Rocky outcrops and valleys afford some limited distinctiveness.	Moderate
Rarity	Open uplands relatively uncommon but not rare. A less frequent landscape with occasional distinguishing features.	Moderate
HISTORIC & CULTURAL:		
Heritage assets	Some important archaeological interest, but rarely visually significant in the landscape. Rig and furrow, hill forts, bastles, earthworks, Dere Street Roman road.	Moderate to Moderate-High
Recreation	MoD ranges at Otterburn periodically restrict recreational access. LCA21a and LCA21b present open access and footpaths with direct linkages to Northumberland National Park. The Pennine Way National Trail crosses LCA21a.	Moderate to Moderate-High
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	Large scale, simple rolling landform, low complexity of land cover and pattern and minimal settlement generally affords lower sensitivity to wind energy development. However, the LCAs are relatively small and never distant from rural settlements, presenting sensitive receptors for larger scale turbines outside the LCAs. Scattered agricultural farmsteads may be able to accommodate well-located smaller scale wind energy development of single masts that assimilate within the landscape without significant harm. LCAs Immediately abut Northumberland National Park and this considerably increases sensitivity due to potential effects on its setting and visual harm to views into and out of Northumberland National Park. Important heritage assets are primarily archaeological and may be less vulnerable to landscape change. The LCAs afford some low-key recreational value, but this is limited in	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	relation to that of the adjoining Northmberland National Park and subject to military range restrictions. Minimal movement, development or infrastructure in the LCT would mean the landscape is relatively sensitive to the introduction of medium and larger turbines. Groups of medium-to-larger scale wind turbines would be likely to present moderate-to-high harm to the integrity of the LCT.	
Cumulative effects	There are no existing wind energy developments within the LCT. Some limited visual intervisibility is possible with Ray Wind Farm from LCA21a at around 3km distance, but is not prominent from LCA21c or LCA21a. Green Rigg Wind Farm is partly visible from higher parts of LCA21b at around 5km distance. Where views of turbines are visible from within the LCT they are often against the mostly simple, mainly horizontal skyline. Despite the relative proximity to these large wind farms, there is not significant visual effect within the LCT and therefore cumulative impacts may be possible depending on scale or location, but not necessarily significant. Medium-distance horizons limit very long vistas and frequent changes in topography allows for screening of small-medium turbines over medium to long distances. A potential for cumulative visual and character effects exists by way of relative proximity to Ray and Green Rigg Wind Farms. Consideration to the effect of a wind farm concentration in relative proximity to Northumberland National Park boundary, and views to it from the east are therefore important considerations in this LCT in respect to wind energy proposals.	

LCT 21: *Rolling Uplands* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m - 135m**
LCA 21a: Ealingham Rigg	M	M-H	H	H	H
LCA 21b: Corsenside Common	M	M-H	M-H	H	H
LCA 21c: Otterburn Plateau	M	M-H	M-H	H	H
Overall Landscape Sensitivity of LCT21: *Rolling Uplands*	In general the whole of LCT21 is suitable in principle for single or small groups of carefully sited, small scale turbines up to 25m height to blade tip. The landscape will generally be unsuitable for wind turbines over 25m. However within LCA21a turbines between 26m and 40m to blade tip height, and between 26m-65m in LCAs 21b and 21c, may be suitable where it can be shown that effects on the most sensitive characteristics				

	and cumulative effects would not be significant, including those on Northumberland National Park, settlement receptors and heritage assets. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. Turbines of more than medium-large scale, (or medium scale for LCA 21a), would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development, largely as a result of cumulative effects, sensitivity of receptors and setting of Northumberland National Park.

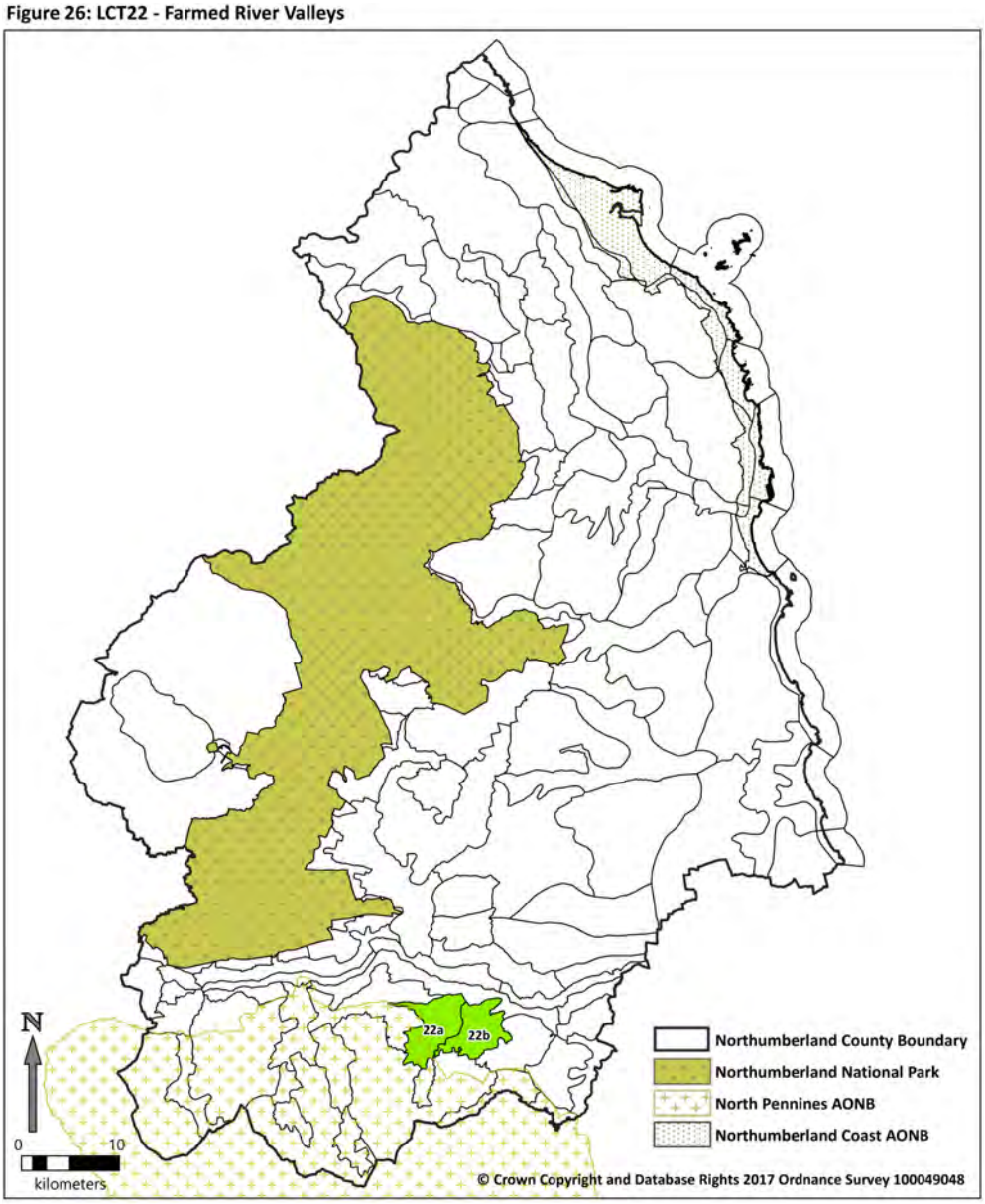
Landscape Sensitivity to Wind Energy Development
LCT 22: *Farmed River Valleys*

This LCT forms an upland fringe farmland landscape between the North Tyne and Derwentdale which has been dissected by deeply incised burn valleys.

This LCT is represented by two landscape character areas (LCA):

- **LCA 22a:** ***Devil's Water and Hinterland***
- **LCA 22b:** ***Dipton Wood and Slaley***

Figure 26: LCT22 - Farmed River Valleys



Key Landscape Characteristics of LCT 22: *Farmed River Valleys*:

- East-west ridges supporting upland fringe mixed farmland;
- Dissected and drained by incised burns running along deep clefts or deans (narrow, steep-sided valleys);

- Rocky ledges, waterfalls and narrow haughs (areas of low-lying floodplain) within deans mark the proximity of bedrock to the surface;
- Semi-natural ancient woodland within denes and coniferous plantations in the wider hinterland;
- Varied field patterns – irregular and sinuous close to settlements, rectilinear and planned on upper slopes;
- Mixed farming – arable and sheep or horse pasture (improved and some wet);
- Mixture of field boundaries, including hedges with hedgerow trees, post and wire fencing, and stone walls particularly around settlements;
- Settlement comprises small villages and dispersed farmsteads, country houses and halls, and mill villages.

Landscape Sensitivity Profile of LCT 22: *Farmed River Valleys*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	The varied, rolling landscape is unified by its strong and distinct topographic pattern of east-west rounded stepped terraces and drainage pattern of burns within incised valleys, reflecting the banding and faulting within the sandstone rock strata. Crags and wooded denes are landform features.	Moderate-high to High
Land cover	Varied land cover pattern of wooded gorges and denes, exposed rock with waterfalls, commercial forestry and mixed farming. Domestic / human-scale features include hedges, hedgerow trees and dry stone walls.	Moderate to Moderate-high
Landscape scale	Valleys, woodland, domestic / human-scale features such as field boundaries and undulating landform create medium-small scale landscape with some enclosure. Small-scale intimate valleys contrast with areas of more open, larger scale farmland.	Moderate to Moderate-high
VISUAL:		
Skylines	Generally simple, not prominent and indistinctive visual horizons with some variation within the rolling landform. Woodland is a strong skyline feature in places.	Low-moderate to Moderate
Views and landmarks	The landscape is not a feature in recognised views or from important viewpoints, but crags and wooded denes provide landscape foci together with local views within valleys and to historic buildings.	Low-moderate to Moderate
Inter-visibility	Self-contained valley landscape is visually enclosed by topography and woodland, with restricted inter-visibility. Increased inter-visibility from higher more open farmland with occasional views to adjacent landscapes including moorland ridges and uplands to the north, south and west.	Low to Low-moderate
Visual receptors	Sensitive visual receptors include residents of Slaley situated along a localised ridge, small villages and	Low-moderate to Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	dispersed properties, with intermittent views from minor local roads.	
PERCEPTUAL:		
Movement	Occasional to frequent man-made movement on minor local roads and agricultural activities.	Moderate to Moderate-high
Built development	No industrial or significant infrastructure or transport routes but built modification of the landscape includes villages, scattered settlement and local roads. Few vertical structures include a short line of pylons and two small to medium scale single wind turbines. Rural character of traditional small-scale villages and farms. Moderate sense of naturalness.	Moderate to Moderate-high
Remoteness	Some sense of seclusion within the valleys but generally an accessible landscape where proximity to settlement and other human activity reduces the sense of remoteness.	Moderate to Moderate-high
QUALITATIVE:		
Scenic quality	Natural river valley features including incised burns, waterfalls and ancient woodland within narrow, steep-sided valleys provide scenic quality. Partly lies within the North Pennines AONB. Lack of field boundary management in some places. Generally a visually and functionally intact landscape.	Moderate to Moderate-high
Distinctiveness	Natural river valley features are distinctive and provide a strong 'sense of place', although not especially representative of Northumberland.	Moderate to Moderate-high
Rarity	An infrequent LCT with only two LCAs covering a relatively small part of Northumberland. Distinctive natural river valley features are rare within the County.	Moderate-high to High
HISTORIC & CULTURAL:		
Heritage assets	Saxon and medieval villages, surviving ridge and furrow and sixteenth and seventeenth century field patterns influence landscape character and views. Historic earthworks, mills and other listed buildings.	Moderate to Moderate-high
Recreation	Landscape-based recreation is limited to a small, local rights of way network.	Low-moderate to Moderate
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	A rolling and in places deeply incised upland fringe farmed landscape, lying between and contrasting with upland moorland and Derwentdale within the North Pennines AONB to the south, and the Tyne Gap valley landscape to the north. The upland fringe is particularly sensitive to wind energy development where larger turbines could have a significant effect on the settled and smaller scale valleys and lowland landscapes to the north by being out of scale and visually dominant. Strong pastoral emphasis and inter-visibility on the higher ground that borders moorland landscapes contribute to the character of LCA 22a. Although not remote, and modified by farming and commercial forestry, the presence of extensive native woodlands, estate plantings and stone buildings gives the LCT a rural, naturalistic, and traditionally managed	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	character. The simpler landform and land cover pattern, and more open, medium to larger scale farmland of LCA 22b indicate potentially lower sensitivity to medium scale wind energy development.	
Cumulative effects	There are currently a small number of single small-scale wind turbines within LCA 22a. These do not adversely affect landscape character; cumulative effects are currently insignificant. There are currently no wind turbines visible within neighbouring LCTs.	

LCT 22: *Farmed River Valleys* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 22a: Devil's Water and Hinterland	M	M-H	H	H	H
LCA 22b: Dipton Wood and Slaley	M	M-H	M-H	H	H

Overall Landscape Sensitivity of LCT22: *Farmed River Valleys*	In general LCT22 is suitable for single or a small group of carefully sited small scale turbines up to 25m height to blade tip. They should be closely associated with the scale and location of farm buildings in the landscape. In general, wind turbines above 25m height to blade tip would in principle be unsuitable within LCT22. Small-medium scale turbines and medium scale turbines within LCA22b may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. Medium-large scale and larger turbines within the LCT, and medium scale turbines within LCA22a would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development, including the landscape setting and views to and from the North Pennines AONB.

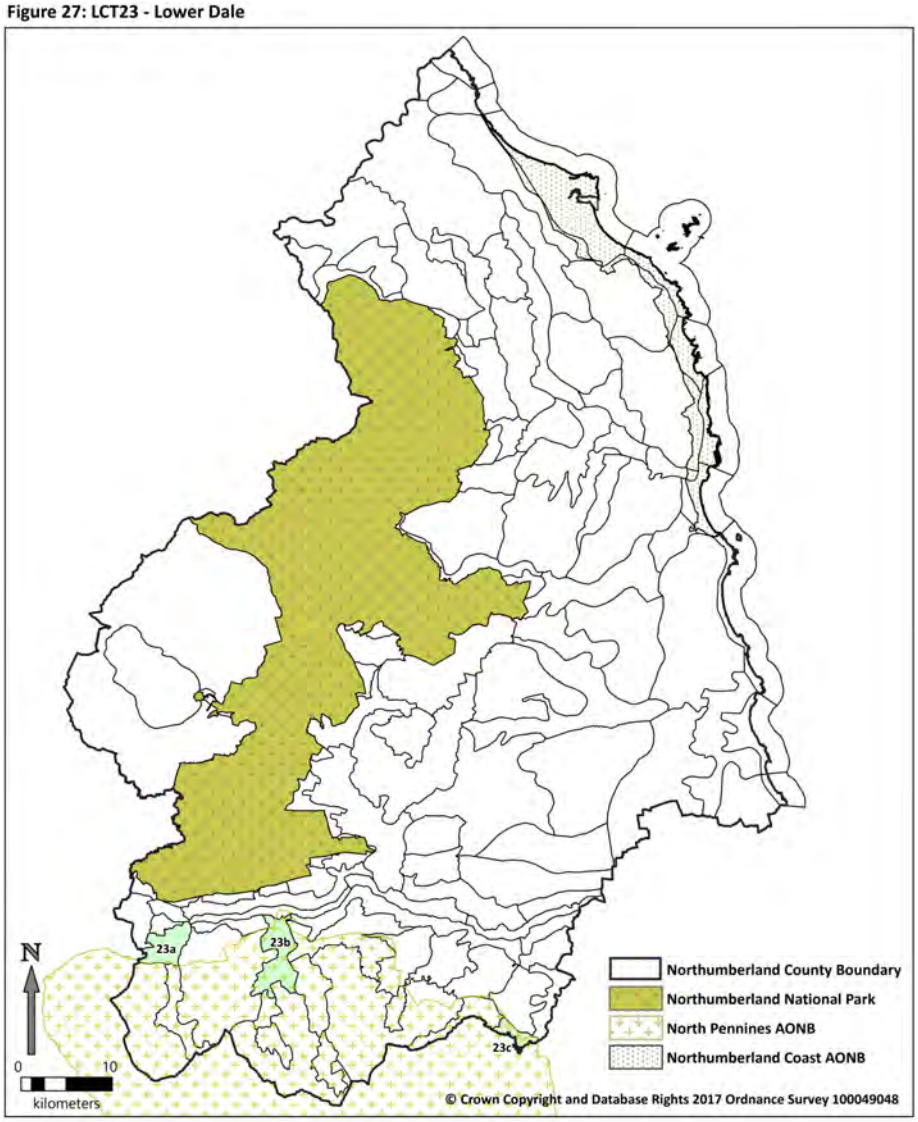
Landscape Sensitivity to Wind Energy Development
LCT 23: *Lower Dale*

This LCT comprises the lower sections of the dales which run north and east out of the North Pennines. Although the typical dale has characteristic 'upper', 'middle' and 'lower' sections, not all *Lower Dale* areas are associated with corresponding *Middle Dale* (LCT 24) and *Upper Dale* (LCT 27) areas.

This LCT is represented by three landscape character areas (LCA):

- **LCA 23a: *Lower South Tyne***
- **LCA 23b: *Lower Allenheads***
- **LCA 23c: *Lower Derwent***

Figure 27: LCT23 - Lower Dale



Key Landscape Characteristics of LCT 23: *Lower Dale*:

- Broad dales with narrow floodplains or gorges on the valley floor;
- Winding, often shallow and rocky rivers and tributary burns, with peaty brown fast-flowing water;

- Limestones, sandstones and shales that outcrop occasionally on the sides of gorges and dale-side quarries;
- Tree-lined watercourses, with ancient ash and oak woods in gorges and denes (narrow, steep sided valleys);
- Frequent hedgerow oak, ash, sycamore and wych elm and untrimmed hedgerows;
- Pastoral landscape comprising improved and semi-improved pastures and hay meadows;
- Old field systems with sub-regular or linear patterns of hedges and walls;
- Relicts of ridge and furrow and cultivation terraces;
- Old villages of vernacular sandstone buildings on the dale floor;
- Scattered stone farmsteads and field barns;
- Intimate and visually enclosed character contrasting with high moorland ridgelines.

Landscape Sensitivity Profile of LCT 23: *Lower Dale*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Broad upland valleys with a fairly shallow and even sloping landform, gently stepped in places, dissected by a drainage pattern of fast flowing burns in small tributary valleys running into the main rivers of the dale. Varied and relatively complex landform features include meandering rivers and streams in steep, incised gills and deep gorges, with rocky outcrops and waterfalls. Locally modified by quarrying.	Moderate-high to High
Land cover	Logical pattern of land use and vegetation cover related to landform, drainage and exposure - mosaics of improved and semi-improved pasture and occasional flower-rich hay meadows and grazing on upper slopes and wetter land, with managed grasslands and riparian woodland on the valley floor. Generally small and medium sized regular or linear field patterns, with abundant domestic / human-scale features such as tall hedgerows, trees and stone wall boundaries. Overall the landscape has a well-wooded feel.	Moderate to Moderate-high
Landscape scale	Relatively broad scale of the open pastoral dales, contrasting with the valleys that are visually enclosed by riparian woodlands, trees and hedgerows, with a much more intimate, domestic / human-scale.	Moderate to Moderate-high
VISUAL:		
Skylines	The dales are defined by simple, high moorland ridgelines that overlook the valleys and form a backdrop, with little variety. Largely undeveloped visual horizons increase sensitivity.	Low-moderate to Moderate
Views and landmarks	The landscape features in views from higher ground but not from important viewpoints. Crags and wooded gorges provide landscape foci together with local views	Low-moderate to Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	within valleys to characteristic rocky outcrops and waterfalls.	
Inter-visibility	The self-contained, deep valley landform restricts inter-visibility, although the more open upper dale landscape provides views of neighbouring valley and moorland slopes. Overlooked from higher ground.	Moderate to Moderate-high
Visual receptors	Sensitive visual receptors include residents of small hamlets and villages and dispersed properties, walkers and cyclists on recreational routes. Also views from minor local roads and main 'A' roads.	Low-moderate to Moderate
PERCEPTUAL:		
Movement	Occasional to frequent man-made movement along recreational routes and roads, including some 'A' roads, although some areas are much calmer.	Moderate to Moderate-high
Built development	Lack of significant industry and infrastructure, although there are active and abandoned limestone quarries. Few vertical structures include occasional telecommunications masts and two small to medium scale single wind turbines in LCA 23b. Some views to a power line to the north. 'A' roads wind through the valleys or along the valley edge. Generally a settled, rural landscape, with small hamlets and medium sized medieval villages on the dale floor, and scattered farms and barns connected by winding local roads. Moderate to moderate-high sense of naturalness.	Moderate to Moderate-high
Remoteness	Tranquil upland fringe landscape, with a sense of seclusion within the valleys, but generally an accessible landscape where proximity to settlement and other human activity reduces the sense of remoteness.	Moderate to Moderate-high
QUALITATIVE:		
Scenic quality	Natural river valley features including meandering rivers and incised burns, waterfalls and ancient woodland within narrow, steep-sided gorges provide high scenic quality. Loss of some field boundaries on upper slopes and lack of woodland management, but generally a visually and functionally intact landscape of high quality. The LCT lies within or adjacent to the North Pennines AONB.	Moderate to Moderate-high
Distinctiveness	Natural broad river valleys with incised tributaries and other features are distinctive and provide a strong 'sense of place', although not especially representative of Northumberland.	Moderate to Moderate-high
Rarity	An infrequent LCT in the upland fringes of the Pennine dales covering a relatively small part of Northumberland. Distinctive natural river valley features are relatively rare within the County.	Moderate-high to High
HISTORIC & CULTURAL:		
Heritage assets	Vernacular buildings, medieval villages and pastoral land use give a strong sense of both visual unity and	Moderate to Moderate-high

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	cultural continuity. Relicts of ancient agriculture – ridge and furrow, lynchets and cultivation terraces – are widespread. Historical quarrying has also shaped the landscape. Country houses such as Whitfield Hall in LCA 23b, associated estate villages, and Featherstone Castle parkland in LCA 23a contribute to the historic landscape character of the area. However, there is no strong historic influence on the character of LCA 23c.	
Recreation	Footpath networks including Isaac's Tea Trail and the Pennine Way National Trail, and National Cycle Network routes provide important links into and through the North Pennines AONB, and to Derwent Reservoir. Disused railway is an important recreational route through LCA 23a.	Moderate to Moderate-high
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	Broad upland landscape fringing the North Pennine AONB moorland, with contrasting deeply incised, well-wooded, intimate valleys falling towards the Tyne Gap valley landscape to the north. The upland fringe is particularly sensitive, where larger wind turbines could have a significant effect on the settled and smaller scale valleys and lowland landscapes to the north by being out of scale and visually dominant. In parts tranquil, although not remote and generally accessible, the vernacular buildings, medieval villages and relicts of ancient agriculture give the LCT a rural, naturalistic, and strongly pastoral character.	
Cumulative effects	There are currently a small number of single small-scale wind turbines within LCA 23b. These do not adversely affect its landscape character; cumulative effects are currently insignificant. There are limited views to occasional small turbines on high ground to the south (and to tall masts to the east).	

LCT 23: *Lower Dale* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 23a: Lower South Tyne	M	M-H	H	H	H
LCA 23b: Lower Allenheads	M	M-H	H	H	H
LCA 23c: Lower Derwent	M	M-H	H	H	H
Overall Landscape Sensitivity of LCT23: *Lower Dale*	In general LCT23 is suitable for single or a small group of carefully sited small scale turbines up to 25m height to blade tip. They should be closely associated with the scale and location of farm buildings in the upland fringe landscape, where there is some association with the open moorland and fell. They should, however, be sited away from the sensitive valley sides and floor which should remain free of wind energy development. In general, wind turbines above 25m height to blade tip would in principle				

	be unsuitable within LCT23. Small-medium scale turbines may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant; they should avoid the sensitive upland fringe and they should not out-compete important foci in the landscape. Medium scale and larger turbines within the LCT would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development, including the upland fringe, landscape setting and views to and from the North Pennines AONB.

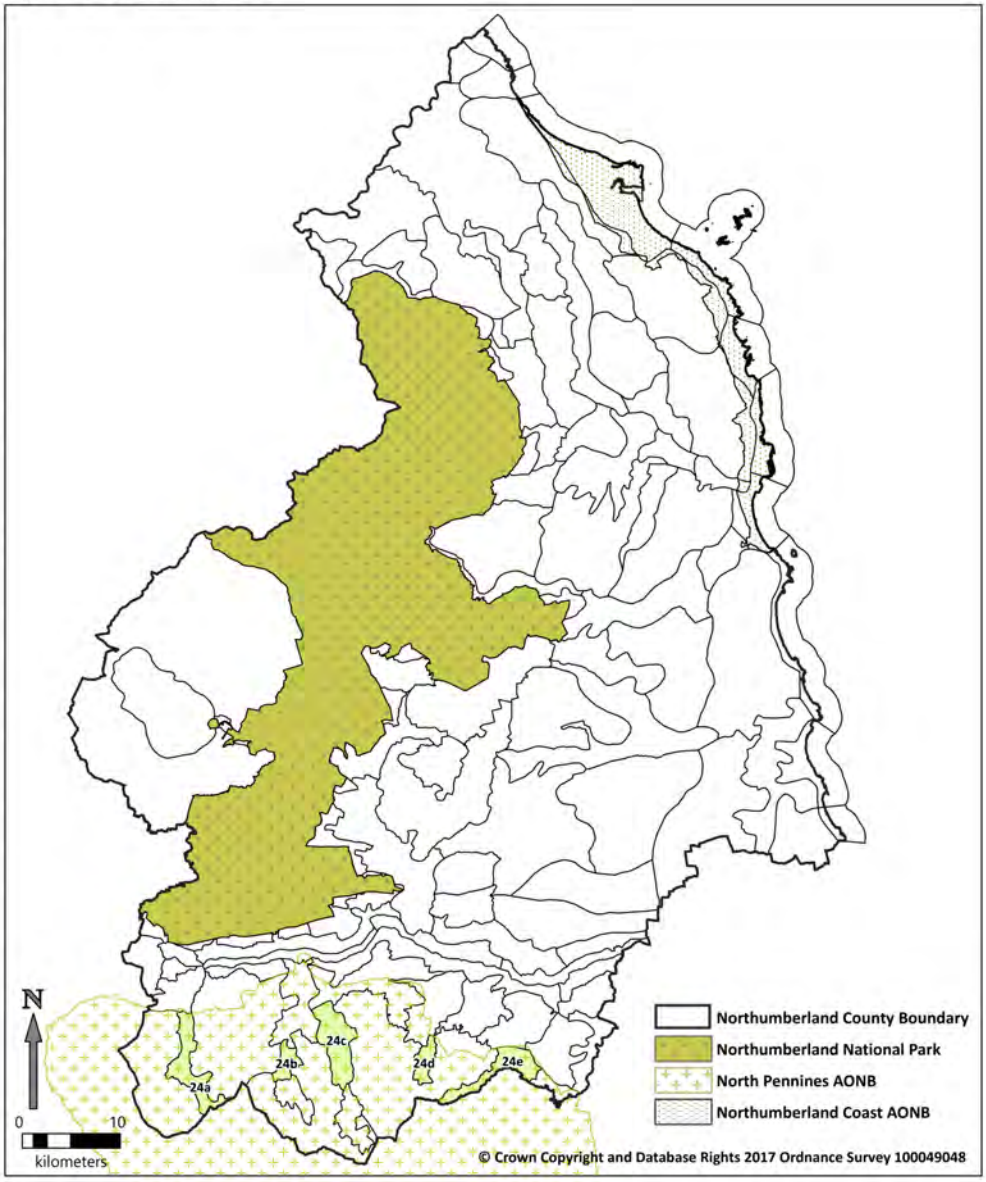
Landscape Sensitivity to Wind Energy Development
LCT 24: *Middle Dale*

This LCT comprises the intermediate sections of the dales that run principally north and also eastwards from the North Pennines. Although the typical dale has characteristic 'upper', 'middle' and 'lower' sections, not all *Middle Dale* areas are associated with corresponding *Lower Dale* (LCT 23) and *Upper Dale* (LCT 27) areas. This LCT occurs wholly within the North Pennines AONB.

This LCT is represented by five landscape character areas (LCA):

- **LCA 24a: *Middle South Tyne***
- **LCA 24b: *Middle West Allen***
- **LCA 24c: *Middle East Allen***
- **LCA 24d: *Middle Devil's Water***
- **LCA 24e: *Middle Derwent***

Figure 28: LCT24 - Middle Dale



Key Landscape Characteristics of LCT 24: *Middle Dale*:

- Broad upland valleys with moderately sloping, often gently stepped valley sides, incised by narrow steep-sided gills;
- Rocky rivers and tributary burns, with fast-flowing peaty brown water, within narrow floodplains on valley floors;
- Improved and semi-improved pastures and flower-rich upland hay meadows;
- Strong regular or sub-regular patterns of dry stone walls with occasional ash, oak and sycamore field trees;
- Sparsely wooded, with narrow ash and oak-birch woodlands along rivers, streams and dale-side gills, and scattered plantations of Scots pine, larch or spruce.
- Small villages, hamlets and farm clusters linked by valley floor roads, with scattered farms and field barns on dale sides. Buildings of local stone with stone flag or slate roofs;
- Active and abandoned limestone and whinstone quarries prominent on the dale sides;
- Relicts of the lead mining industry, including buildings, waste heaps, smelter flues and reservoirs;
- Importance as historical routes of communication underlined by river, road and railway corridors, including Isaac's Tea Trail walking route, South Tynedale Railway (preserved scenic narrow gauge railway), Maiden Way Roman Road and Whitley Castle / *EPIACUM* Roman Fort;
- The major waterbody of Derwent Reservoir significantly contributes to the character of LCA 24e *Middle Derwent*, extending over the border into County Durham;
- Visually open, but enclosed by encircling moorland ridgelines;
- Settled tranquil upland landscape with a strong sense of cultural continuity.

Landscape Sensitivity Profile of LCT 24: *Middle Dale*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Broad upland valleys with a fairly shallow and even sloping landform, gently stepped in places, dissected by a drainage pattern of fast flowing burns in small tributary valleys running into the main rivers of the dale. Varied and relatively complex landform features include meandering rivers and streams in steep, incised gills and deep gorges, with rocky outcrops and waterfalls. Locally modified by stone quarrying and lead mining.	Moderate-high to High
Land cover	Generally regular pattern of land use and complex mix of vegetation cover related to landform, drainage and exposure - mosaics of improved and semi-improved pasture and occasional flower-rich hay meadows and grazing on upper slopes and wetter land, with managed grasslands and riparian woodland on the valley floor. Strong field boundary pattern with abundant domestic / human-scale features such as tall hedgerows, trees and stone walls (quarried from local sandstones,	Moderate to Moderate-high

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	limestones and whinstone). Generally sparsely wooded although some areas have a well-wooded appearance. LCA 24e is a heavily wooded dale.	
Landscape scale	Relatively broad scale of the open pastoral dales, contrasting with the narrow incised valleys that are visually enclosed by riparian woodlands, trees and hedgerows, with a much more intimate, domestic / human-scale.	Moderate to Moderate-high
VISUAL:		
Skylines	The dales are visually open but defined by smooth, simple, high moorland ridgelines that encircle and overlook the valleys and form backdrops, with little variety. Mostly undeveloped visual horizons, increasing sensitivity, although tall masts at Catton Beacon are visually significant to the north of LCA 24c and from adjacent character areas.	Low-moderate to Moderate
Views and landmarks	The landscape features in views from higher ground but not from important viewpoints. Crags and wooded gorges provide landscape foci together with local views within valleys to characteristic meandering rivers, rocky outcrops and waterfalls. Derwent Reservoir is a key landmark and visual focus in LCA24e.	Low-moderate to Moderate
Inter-visibility	The largely self-contained, deep valley landform restricts inter-visibility. The more open upper dale landscape provides views of neighbouring valley and moorland slopes, but limits inter-visibility.	Low to Low-moderate
Visual receptors	Sensitive visual receptors include residents of Allendale Town, small hamlets and villages and numerous scattered properties, walkers and cyclists on recreational routes. Also views from minor local roads and main 'A' roads, and from the scenic route of the preserved South Tynedale Railway.	Moderate to Moderate-high
PERCEPTUAL:		
Movement	Occasional to frequent man-made movement along recreational routes and roads, including some 'A' roads, although some areas have little movement.	Moderate to Moderate-high
Built development	Lack of significant industry and infrastructure, although there are active and abandoned stone quarries and lead mines. Few vertical structures include communication masts e.g. Catton Beacon and at Knarsdale, and a number of small to medium scale single wind turbines within or adjacent to LCA 24c and 24d. The A689 and A686 run through the valleys or along the valley edge of LCA 24a & 24b. Allendale Town is the largest settlement, but generally a domesticated settled, rural landscape, with small hamlets and medium sized medieval villages on the dale floor, and scattered farms and barns connected by winding local roads. Higher sense of naturalness on the upper, wilder	Moderate to Moderate-high

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	slopes and in the smaller dales.	
Remoteness	Tranquil upland fringe landscape, with a sense of seclusion within the valleys of the smaller dales, but generally an accessible landscape where proximity to settlement and other human activity e.g. Derwent Reservoir visitor destination, reduces the sense of remoteness.	Moderate to Moderate-high
QUALITATIVE:		
Scenic quality	Natural river valley features including meandering rivers and incised burns, waterfalls and ancient woodland within narrow, steep-sided gorges provide high scenic quality. Loss of some field boundaries on upper slopes but generally a well-managed, visually and functionally intact landscape. The LCT lies entirely within the North Pennines AONB.	Moderate to Moderate-high
Distinctiveness	Natural upland moorland and broad river valleys with incised tributaries and other features provide a strong 'sense of place' representative of Northumberland, although not especially distinctive to the County.	Moderate to Moderate-high
Rarity	A relatively infrequent LCT in the upland fringes of the Pennine dales, enclosed by encircling moorland ridgelines of southern Northumberland. Distinctive natural river valley features are relatively rare within the County.	Moderate-high to High
HISTORIC & CULTURAL:		
Heritage assets	Vernacular buildings, medieval villages and pastoral land use give a strong sense of both visual unity and cultural continuity. Relicts of ancient agriculture – ridge and furrow, lynchets and cultivation terraces – are widespread. Historical stone quarrying and lead mining has also shaped the landscape. The remains of Blanchland Abbey, towers, and several country houses reflect other historical aspects of the landscape. Importance as historical routes of communication underlined by the Maiden Way Roman Road and Whitley Castle / *EPIACUM* Roman Fort within LCA 24a.	Moderate to Moderate-high
Recreation	Footpath networks including Isaac's Tea Trail, Pennine Way National Trail and Maiden Way Roman Road, and National Cycle Network routes provide important links through the North Pennines AONB, and to Derwent Reservoir which is a popular facility. Disused railway is an important recreational route including the preserved scenic South Tynedale Railway through LCA 24a. Open access to the Whitley Castle / *EPIACUM* Roman Fort.	Moderate to Moderate-high
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	Broad upland landscape fringe encircled by moorland ridges of the North Pennines AONB, with contrasting deeply incised, well-wooded, intimate valleys falling towards the Tyne Gap valley landscape to the north. The upland fringe is particularly sensitive, where larger scale wind energy	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	development in particular could have a significant effect on the settled and smaller scale valleys and lowland landscapes to the north by being out of scale and visually dominant. In parts tranquil, although not remote and generally accessible, the vernacular buildings, medieval villages and relicts of ancient agriculture give the LCT a rural, naturalistic, and strongly pastoral character that is highly sensitive to medium and larger scale wind energy development.	
Cumulative effects	There are a number of operational or approved single small to medium-scale wind turbines within the LCT. These are mostly located throughout or adjacent to the northern part of LCA 24c where sequential cumulative effects could occur whilst moving through the landscape should all approved turbines become operational or if further turbines are approved. Two small to medium scale single wind turbines are located within the neighbouring LCAs 25d and 25e but there are no views of larger wind turbines from within LCT 24. Additional small or small to medium-scale wind energy development in the LCT should be carefully sited to avoid cumulative effects (either combined within a single view or sequential). Additional wind turbines within or adjacent to LCA 24c may create significant cumulative effects where they are conspicuous, becoming key features and affecting the character of the landscape.	

LCT 24: *Middle Dale* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 24a: Middle South Tyne	M	M-H	H	H	H
LCA 24b: Middle West Allen	M	M-H	H	H	H
LCA 24c: Middle East Allen	M	M-H	H	H	H
LCA 24d: Middle Devil's Water	M	M-H	H	H	H
LCA 24e: Middle Derwent	M	M-H	H	H	H

Overall Landscape Sensitivity of LCT24: *Middle Dale*	In general LCT24 is suitable for single or a small group of carefully sited small scale turbines up to 25m height to blade tip. They should be closely associated with the scale and location of farm buildings in the upland fringe landscape, where there is some association with the open moorland and fell. They should, however, be sited away from the sensitive valley sides and floor which should remain free of wind energy development. In general, wind turbines above 25m height to blade tip would in principle be unsuitable within LCT24. Small-medium scale turbines may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci

	in the landscape. Medium scale and larger turbines within the LCT would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development, including the upland fringe, landscape setting and views to and from the North Pennines AONB. They could also become conspicuous in views from the neighbouring Moorland Ridges LCT which is highly sensitive to wind energy development.

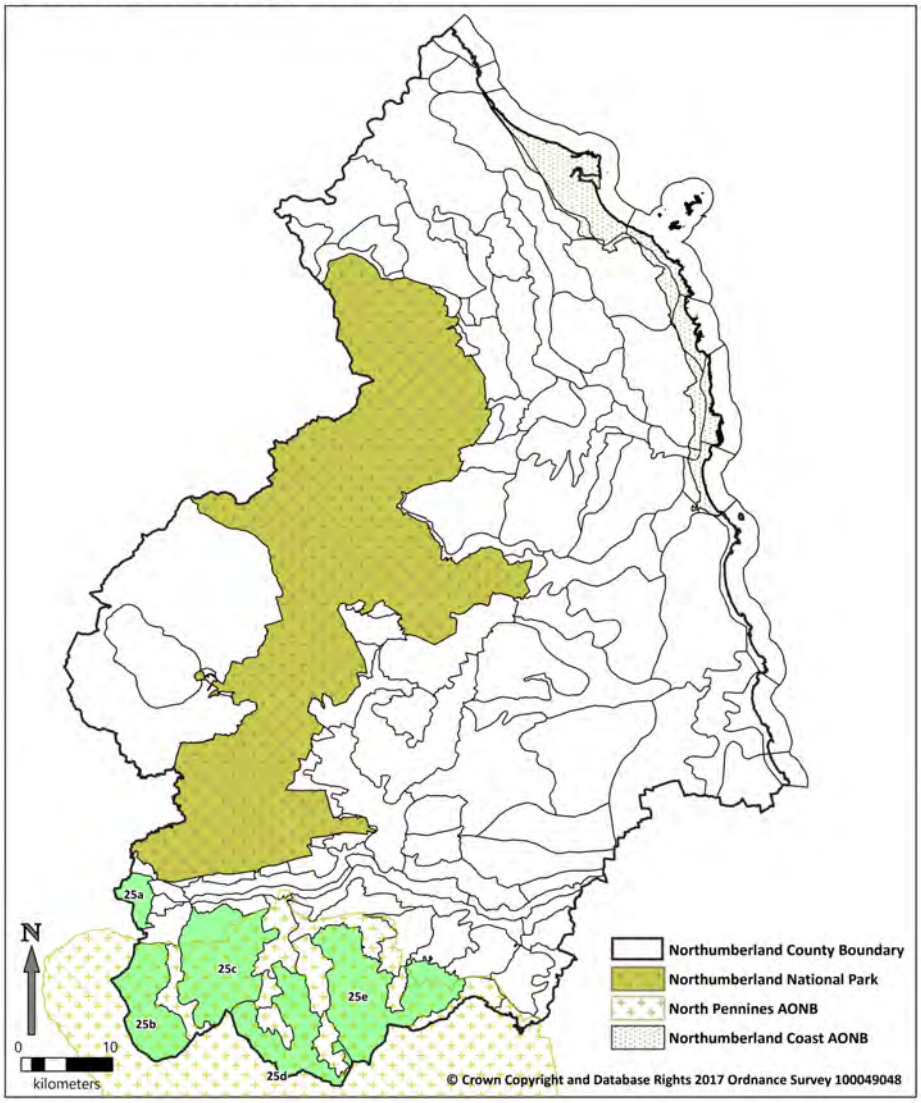
Landscape Sensitivity to Wind Energy Development
LCT 25: *Moorland Ridges*

This LCT is found within the North Pennine uplands south of the Tyne Gap and forms an important visual backdrop to the lower lying dales which dissect it. This upland landscape, ranging from around 450m to 600m, is culturally linked to the dales below. Their interface is marked by narrow bands of transitional landscapes, where semi-improved pasture and coniferous shelterbelts meet the broad pattern of fences and stone walls. Most of this landscape is within the North Pennines AONB (with the exception of LCA 25a and an area in the northern part of LCA 25c).

This LCT is represented by five landscape character areas (LCA):

- **LCA 25a: *Blenkinsopp Common***
- **LCA 25b: *Hartleyburn and Knarsdale Commons***
- **LCA 25c: *Whitfield Moor***
- **LCA 25d: *Allen Common and Mohope/Acton Moors***
- **LCA 25e: *Hexhamshire and Bulbeck Commons***

Figure 29: LCT25 - Moorland Ridges and Summits



Key Landscape Characteristics of LCT 25: *Moorland Ridges*:

- Broad divided ridges and high flat-topped summits;
- A strong horizontal grain to the topography;
- Gritstones and limestones outcrop locally in low grey crags and scree slopes;
- Hard igneous dolerites (such as Whin Sill) outcrop in larger crags and scree slopes;
- Dissected by rocky, quick flowing becks or burns in steep sided gullies, with stands of juniper;
- Extensive tracts of blanket bog with cotton grass, sphagnum moss and heather moorland, with sparse tree cover;
- Drier slopes clothed in upland heath of heather and bilberry or acid grasslands;
- Burning patterns on grouse moors create a patchwork of older and younger heather;
- Extensive grazing by hardy hill sheep;
- Few man-made features other than occasional fences, grouse butts, cairns and sheepfolds;
- Unfenced roads marked by snow poles with gates or cattle grids at the moor wall;
- Some relicts of lead mining – bell pits, hushes, waste heaps, railways, reservoirs and water leats (artificial watercourse), smelter flues and chimneys;
- Panoramic long distance views out across unbroken moorlands or adjoining dales;
- A remote and elemental landscape with a near wilderness quality in places.

Landscape Sensitivity Profile of LCT 25: *Moorland Ridges*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Simple, smoothly flowing, upland plateau landform with a strong horizontal grain and stepped profile, heavily influenced by the underlying geology. Broad, gently undulating, divided ridges and elongated flat-topped summits, with notable landform features including outcrops such as Whin Sill, crags and scree slopes. Rocky, quick flowing becks form steep gullies or gills.	Low-moderate to Moderate
Land cover	Relatively consistent land cover in muted mosaics of blanket bog, grass and heather moorland. Seasonal patterns are a result of heather burning and extensive sheep grazing. Domestic / human scale features are generally absent apart from occasional stone walls.	Low-moderate to Moderate
Landscape scale	A large scale, open, horizontal landscape predominantly unenclosed. Incised valleys are smaller in scale and more enclosed.	Low-moderate to Moderate
VISUAL:		
Skylines	Prominent, open, sweeping skylines almost entirely undeveloped and where vertical features are few, such as occasional masts, telegraph poles and roadside snow	Moderate-high to High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	poles.	
Views and landmarks	Visual simplicity with open, deep panoramic views across the moors and adjoining dales, and shallower panoramic views across sequential ridges. The LCT forms the backdrop of views from the lower lying dales which dissect it, and in part from the Tyne Gap in the north from where there are views from Hadrian's Wall. Few focal points or landmark features.	Moderate to Moderate-high
Inter-visibility	High levels of inter-visibility throughout and between character areas.	Moderate-high to High
Visual receptors	A sparsely populated landscape with views principally from settlements within the adjoining dales and South Tyne Valley, local roads and scenic walking and cycling routes.	Low-moderate to Moderate
PERCEPTUAL:		
Movement	Very little man-made movement generally, principally from the A69 which cuts through LCA 25a. A greater perception of movement at the LCT edges closer to the more settled valleys.	Moderate to Moderate-high
Built development	Occasional man-made features include scattered relicts of lead mining, grouse butts, sheepfolds and occasional masts on the moors. The A69 and a parallel line of pylons influence the northern part of LCA 25a. Panoramic views include distant built development including wind farms.	Moderate to Moderate-high
Remoteness	A remote and elemental landscape with a near wilderness quality in places, reducing towards the edges where there is a gradual transition into adjoining dales. Access to most parts of the LCT is very difficult, with a high degree of seclusion and tranquillity.	Moderate to Moderate-high
QUALITATIVE:		
Scenic quality	High scenic quality. Most of the LCT is within the North Pennines AONB with the exception of LCA 25a and an area in the north of LCA 25c which are of similar character and are of similar high scenic value. Generally well-managed, with some issues around moorland management.	Moderate-high to High
Distinctiveness	Distinctive upland ridges with a strong 'sense of place' and a strong association with the adjoining valley landscapes.	Moderate-high to High
Rarity	The *Moorland Ridges* LCT covers an extensive part of southern Northumberland south of the Tyne Gap, and extends into County Durham and Cumbria.	Low-moderate to Moderate
HISTORIC & CULTURAL:		
Heritage assets	Occasional stone walls increase in number at the LCT edges and reflect late 18th century enclosure of common ground. Industrial archaeology is an important feature of this LCT, with extensive remains of former lead mines on Wellhope Moor, and the extensive flue	Low-moderate to Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	network from the Allen smelt mill at Dryburn Moor. Although rich in prehistoric archaeology, much is buried or comprises subtle features which are masked by vegetation, for example stone circles, cairn fields or burial mounds. Some Roman features.	
Recreation	Sections of the Pennine Way National Trail, Isaac's Tea Trail and other way-marked routes cross the moors, including a section of National Cycle Network route 7 (part of the very popular Coast to Coast [also known as the Sea to Sea] recreational route). The majority of the landscape is open access land where landscape-based recreation in particular enjoyment of the scenic landscape is important.	Moderate-high to High
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	The physical characteristics of the landscape i.e. the generally large scale, open, simple and consistent landform and land cover, would suggest that the Moorland *Ridges* LCT is not particularly sensitive to wind energy development. However, the LCT forms an important visual backdrop to the lower, middle and upper dales LCTs which dissect it. Consequently the moorland ridges are an important characteristic of the dales, and vice versa. Their interface is marked by narrow bands of transitional landscapes. This upland landscape is also culturally linked to the dales below. The distinctive perception of remoteness, wilderness and naturalness, and the high scenic value of the moors are characteristics enjoyed by visitors to whom landscape-based informal recreation is important. These characteristics are highly sensitive to wind energy development of any scale.	
Cumulative effects	There are no wind turbines within the LCT. There are views of a small number of small to medium scale turbines in adjoining LCTs and over the border in County Durham, and distant views to larger turbines to the north (Green Rigg, Bavington Mount, Kirkheaton and Ray wind farms). These do not adversely affect the character of the *Moorland Ridges* LCT; cumulative effects are currently insignificant. Due to the importance of the landscape in views from surrounding LCTs it is important that additional development beyond the LCT does not result in cumulative effects adversely affecting the landscape character of the *Moorland Ridges* LCT.	

LCT 25: *Moorland Ridges* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 25a: Blenkinsopp Common	H	H	H	H	H
LCA 25b: Hartleyburn and Knarsdale Commons	H	H	H	H	H
LCA 25c: Whitfield Moor	H	H	H	H	H
LCA 25d: Allen Common and Mohope/Acton Moors	H	H	H	H	H

LCA 25e: Hexhamshire and Bulbeck Commons	H	H	H	H	H
Overall Landscape Sensitivity of LCT25: *Moorland Ridges*	Many of the key characteristics and qualities of LCT25 are highly sensitive to all scales of wind energy development. Landscape character, views and/or visual amenity are highly likely to be significantly affected and thus in general any scale of wind energy development would be unsuitable within LCT25. However, there may be scope for limited wind energy development associated with the A69 corridor in the north of LCA 25a.				

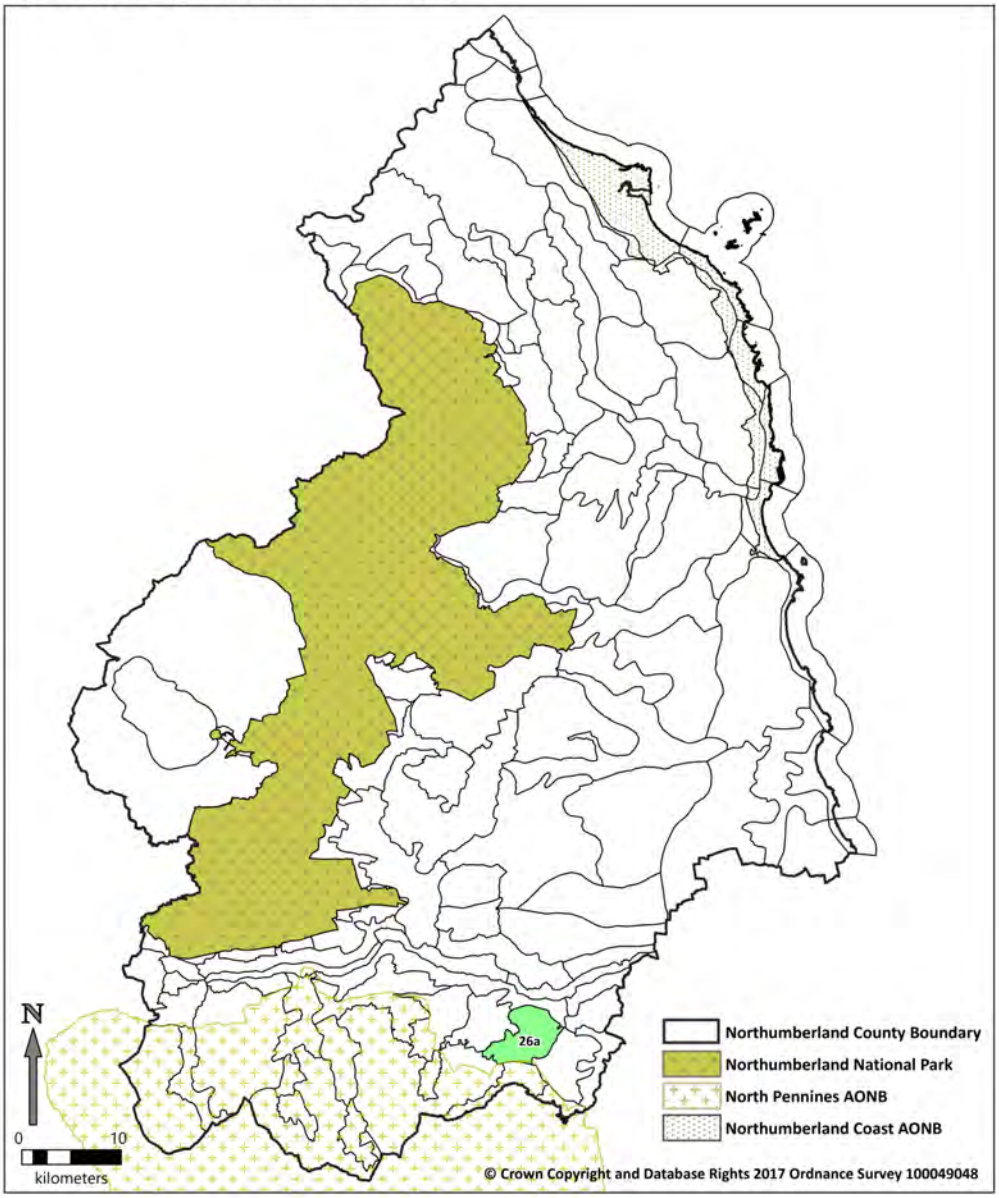
Landscape Sensitivity to Wind Energy Development
LCT 26: *Upland Farmland and Plantations*

This LCT forms a transitional landscape gradually falling northwards from the North Pennine dales (Middle Dale) to the Tyne Gap valley.

This LCT is represented by one landscape character area (LCA):

- **LCA 26a: *Healey***

Figure 30: LCT26 - Upland Farmland and Plantations



Key Landscape Characteristics of LCT 26: *Upland Farmland and Plantations*:

- Transitional landscape between the North Pennine dales (Middle Dale) and the Tyne Gap;
- Series of rounded terraces gently rolling down into the Tyne valley to the north;
- Forested landscape with medium to large rectilinear blocks of coniferous plantations including Scots pine and larch, and mixed roadside tree belts;

- Regular medium to large-scale geometric field pattern defined by hedges with hedgerow trees and areas of stone walls;
- Mixture of arable and pasture (sheep grazing);
- Drainage pattern is not strong, consisting of relatively insignificant minor burns;
- Sparse settlement confined to former country houses now used for various purposes.

Landscape Sensitivity Profile of LCT 26: *Upland Farmland and Plantations*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Sandstone banding of the bedrock is reflected in the gently rolling landform in a series of rounded terraces which descend northwards into the Tyne valley. Insignificant shallow burns provide some variety but with no strong drainage pattern.	Low-moderate to Moderate
Land cover	A somewhat varied but coherent land cover reflecting the underlying variety of soils, comprising a mosaic of heavy, seasonally waterlogged clays and more fertile and free-draining brown earths on the sandstone. Coniferous plantations and patches of gorse and bracken in verges and hedgerows reflect the acidic sandy soils. Large mixed conifer plantations and roadside shelter belts. Geometric field pattern of mixed arable and pastoral land use, with boundary hedgerows and stone walls. These, together with domestic buildings provide human scale features in the landscape.	Moderate to Moderate-high
Landscape scale	Generally a medium-large scale landscape although reduced by the wooded enclosure in some areas and the domestic / human scale landscape elements and buildings.	Low-moderate to Moderate
VISUAL:		
Skylines	Smooth upland slopes provide largely simple visual horizons, with some variation within the rolling landform. Blocks of plantation forestry are simple features on the skyline. Predominantly undeveloped although a line of pylons crosses the skyline in the north of the LCT.	Low-moderate to Moderate
Views and landmarks	Significant coniferous plantations provide containment and limit views. No key views to/from important viewpoints, but elevated features such as trees and buildings provide localised landmark foci. There are long distance views, funnelled between forestry or otherwise panoramic, outwards from more elevated areas. The LCT features in views from neighbouring landscapes including the Pennine fringe.	Moderate to Moderate-high
Inter-visibility	The relatively high forest cover and gentle topography limit inter-visibility. However, there is high inter-	Moderate to Moderate-high

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	visibility with neighbouring and more distant landscapes from elevated parts e.g. views from elevated sections of road northwards to the Tyne valley sides and eastwards to the Pennine fringe.	
Visual receptors	No substantial settlements; sensitive receptors include residents of dispersed farms and cottages, and intermittent views from the local rights of way network and from the rolling minor local roads and the A68.	Low-moderate to Moderate
PERCEPTUAL:		
Movement	Occasional man-made movement on minor local roads, and agricultural activities. More frequent movement on the A68.	Moderate to Moderate-high
Built development	No industrial or significant settlement or other development, with built modification of the landscape limited to scattered farms and cottages, local roads and the A68. Few vertical structures include occasional communications masts and a short line of pylons across northern parts. Overriding rural character of traditional settlement pattern, with a moderate sense of naturalness.	Moderate to Moderate-high
Remoteness	Some sense of tranquillity within the farmland but generally an accessible landscape where proximity to settlement and other human activity reduces the sense of remoteness.	Moderate to Moderate-high
QUALITATIVE:		
Scenic quality	Healey Hall, Slaley Hall and Minsteracres with associated parkland and estate landscape features provide ornamental (designed) scenic quality. Lack of field boundary management in some places. Overall a visually and functionally intact landscape but not of especially high natural scenic beauty.	Low-moderate to Moderate
Distinctiveness	Indistinct landscape character lacking features or elements likely to be considered as important examples within Northumberland. No strong 'sense of place'.	Low to Moderate-low
Rarity	An infrequent LCT with only one LCA covering a relatively small part of Northumberland. However, upland farmland, forestry plantations and estate influences are not particularly rare features or elements within the Northumberland landscape.	Low-moderate to Moderate
HISTORIC & CULTURAL:		
Heritage assets	Country houses with associated parkland and estate landscapes such as Slaley Hall and Minsteracres (monastery) influence the character of the landscape, but there are few other heritage assets.	Low-moderate to Moderate
Recreation	Slaley Hall former country house and estate is now used for recreational purposes as a hotel and golf course. The local rights of way network provides limited informal recreation.	Low-moderate to Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	A transitional landscape, similar in geology and topography to land to the west but the LCTs land use pattern and lack of a strong drainage network distinguish it from the *Farmed River Valleys* (LCT 22). Many of the key characteristics and qualities of the landscape generally suggest low – moderate sensitivity to medium to large scale wind energy development if located within areas of more modified landscape, such as the A68 road corridor. The high proportion of forestry cover could reduce the impact of turbines in the landscape. However, elevated parts of the LCT are inter-visible with neighbouring landscapes and its upland fringe character makes it sensitive to wind energy development that could affect the adjoining settled and smaller-scale lowland valley landscape to the north. The LCT provides a backdrop in views from all around, including the North Pennines AONB to the south, and is important to the setting of the designated landscape where wind energy development could affect its special characteristics and scenic quality.	
Cumulative effects	There are currently no wind turbines within LCT 26 but wind turbines are visible within neighbouring LCTs i.e. Kiln Pit Hill and Boundary Lane wind farms approximately 2km to the east. These do not adversely affect landscape character of LCT26; cumulative effects are currently insignificant.	

LCT 26: *Upland Farmland and Plantations* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 26a: Healey	M	M-H	H	H	H

Overall Landscape Sensitivity of LCT26: *Upland Farmland and Plantations*	In general LCT26 is suitable for single or a small group of carefully sited small scale turbines up to 25m height to blade tip. They should be closely associated with the scale and location of farm buildings in the landscape, on lower lying land. In general, wind turbines above 25m height to blade tip would in principle be unsuitable within LCT26. Small-medium scale turbines may be suitable within LCA26a where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. Even small and small-medium sized turbines could become prominent or dominant if located in elevated locations away from forestry. Medium scale and larger turbines within the LCT would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development, including the upland fringe, landscape setting and views to and from the North Pennines AONB. They

	could also become conspicuous in views from neighbouring landscapes to the north. If turbines are sited immediately adjacent to, or within woodland areas, trees would act as a scale indicator accentuating turbine size.

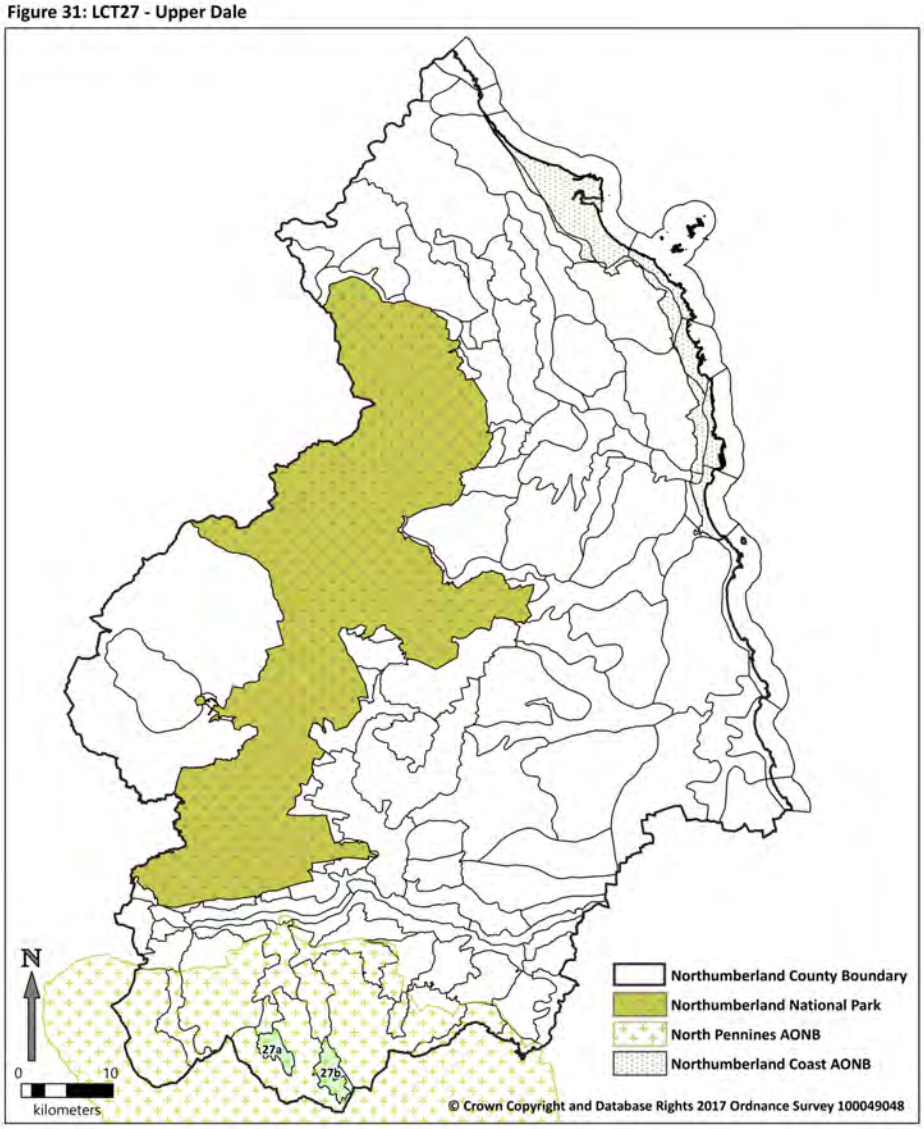
Landscape Sensitivity to Wind Energy Development
LCT 27: *Upper Dale*

This LCT comprises a pastoral landscape in the upper reaches of the North Pennine dales. It occurs wholly within the North Pennines AONB.

This LCT is represented by two landscape character areas (LCA):

- **LCA 27a:** ***Upper West Allen***
- **LCA 27b:** ***Upper East Allen***

Figure 31: LCT27 - Upper Dale



Key Landscape Characteristics of LCT 27: *Upper Dale*:

- Upper reaches of the North Pennine dales consisting of varied valley topography;
- Fast-flowing, rocky River West Allen and River East Allen, with smaller tributary burns and becks;
- Shallow, infertile or waterlogged soils;
- Wet rush pastures, upland hay meadows and rough grazing in moorland fringes;
- Regular field patterns of dry stone walls;

- Scattered field barns;
- Few trees or woodlands except for occasional conifer plantations;
- Scattered small farms with occasional farm clusters and hamlets;
- Relicts of the lead mining industry, including mine buildings, waste heaps, smelter flues, reservoirs and hushes, often with specialised biodiversity;
- Reservoirs in LCA 27b;
- Visually open but enclosed by encircling moorland ridgelines;
- Remote, wild and tranquil landscapes on the margins of settled and agricultural land.

Landscape Sensitivity Profile of LCT 27: *Upper Dale*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Broad upland valleys with a fairly shallow and moderately sloping landform, gently stepped in places, dissected by a drainage pattern of fast flowing burns in small tributary valleys running into the main rivers of the dale. Varied and relatively complex landform features include meandering rivers and burns in narrow, incised gills or sikes. Locally modified by the lead mining industry.	Moderate-high to High
Land cover	Generally regular pattern of land use and consistent vegetation cover related to landform, drainage, exposure and land management – pastoral landscape with muted patchworks of wet, rush pastures, upland hay meadows and rough grazing. Regular field boundary pattern with stone walls and wire fences, and scattered domestic / human-scale features including stone field barns and sheepfolds. Generally sparsely wooded although some land at the dale head has been afforested with regular blocks of spruce e.g. at Allenheads.	Moderate to Moderate-high
Landscape scale	Relatively broad scale of the open pastoral dales, contrasting with the narrow incised valleys with a more intimate, domestic / human-scale, and wooded areas.	Moderate to Moderate-high
VISUAL:		
Skylines	The dales are visually open but defined by smooth, simple, high moorland ridgelines that encircle and overlook the valleys and form backdrops, with little variety. Undeveloped visual horizons, increasing sensitivity.	Low-moderate to Moderate
Views and landmarks	The landscape features in views from higher ground but not from important viewpoints. Occasional localised landform features provide landscape foci in views along the dale funnelled by the rising dale sides.	Low-moderate to Moderate
Inter-visibility	Generally high levels of inter-visibility from the open upper dale landscape to neighbouring valley and	Moderate to Moderate-high

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	moorland slopes. Widely overlooked from encircling higher ground.	
Visual receptors	Sensitive visual receptors include residents of the only settlement at Allenheads and numerous scattered properties in the dale floor and onto the dale sides, walkers and cyclists on recreational routes. Also views from minor local roads and the B6295.	Moderate to Moderate-high
PERCEPTUAL:		
Movement	Occasional to frequent man-made movement along recreational routes and minor roads, although some areas have little movement.	Moderate to Moderate-high
Built development	Lack of significant industry and infrastructure, although there are abandoned lead mines. Few vertical structures include occasional communication masts and an approved small scale wind turbine. Allenheads is the only settlement, but generally a domesticated settled, rural landscape, with numerous scattered farms, barns and cottages connected by winding minor roads. Higher sense of naturalness and wilderness on the upper, wilder slopes and along smaller tributary burns.	Moderate to Moderate-high
Remoteness	Tranquil upland fringe landscape, with a sense of seclusion and remoteness within the valleys of the smaller burns and on the open rough moorland valley sides. More accessibility along the dale floor where proximity to settlement and other human activity e.g. Allenheads along the B6295, reduces the sense of remoteness.	Moderate to Moderate-high
QUALITATIVE:		
Scenic quality	Natural river valley features including meandering rivers and incised burns provide high scenic quality. Loss of some field boundaries on upper slopes but generally a well-managed, visually and functionally intact landscape. The LCT lies entirely within the North Pennines AONB.	Moderate-high to High
Distinctiveness	Natural upland moorland and broad river valleys with incised tributaries and other features provide a strong 'sense of place' representative of Northumberland, although not especially distinctive to the County.	Moderate to Moderate-high
Rarity	A relatively infrequent LCT in the upland fringes of the Pennine dales, enclosed by encircling moorland ridgelines of southern Northumberland. Distinctive natural river valley features are relatively rare within the County.	Moderate-high to High
HISTORIC & CULTURAL:		
Heritage assets	Vernacular farm buildings and pastoral land use give a strong sense of both visual unity and cultural continuity. Relicts of the lead mining industry shape the landscape.	Low-moderate to Moderate
Recreation	Limited local footpath network and a small part of	Low-moderate to

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	National Cycle Network route 7 (part of the very popular Coast to Coast [also known as the Sea to Sea] recreational route) within the LCT provide links through the North Pennines AONB.	Moderate
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	Broad upland landscape fringe encircled by moorland ridges of the North Pennines AONB, with contrasting incised river valleys of more intimate scale. Generally high levels of inter-visibility from the open upper dale landscape to neighbouring valley and moorland slopes. Widely overlooked from encircling higher ground of high scenic quality increases sensitivity of this LCT to wind energy development. Some areas are relatively accessible but overall the LCT has a strong rural, naturalistic, pastoral character that is parts tranquil, wild and remote and thus highly sensitive to wind energy development.	
Cumulative effects	There is currently one approved small scale wind turbine within the LCT that does not adversely affect landscape character; cumulative effects are currently insignificant. There are currently no wind turbines visible within neighbouring LCTs.	

LCT 27: *Upper Dale* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 27a: Upper West Allen	M	M-H	H	H	H
LCA 27b: Upper East Allen	M	M-H	H	H	H

Overall Landscape Sensitivity of LCT27: *Upper Dale*	In general LCT27 is suitable for single or a small group of carefully sited small scale turbines up to 25m height to blade tip. They should be closely associated with the scale and location of farm buildings in the upland fringe landscape, where there is some association with the open moorland and fell. They should, however, be sited away from the sensitive valley sides and floor which should remain free of wind energy development. In general, wind turbines above 25m height to blade tip would in principle be unsuitable within LCT27. Small-medium scale turbines may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. Medium scale and larger turbines within the LCT would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development, including the upland fringe, landscape setting and views to and from the North Pennines AONB. They could also become conspicuous in views from the neighbouring *Moorland Ridges* LCT which is highly sensitive to wind energy development.

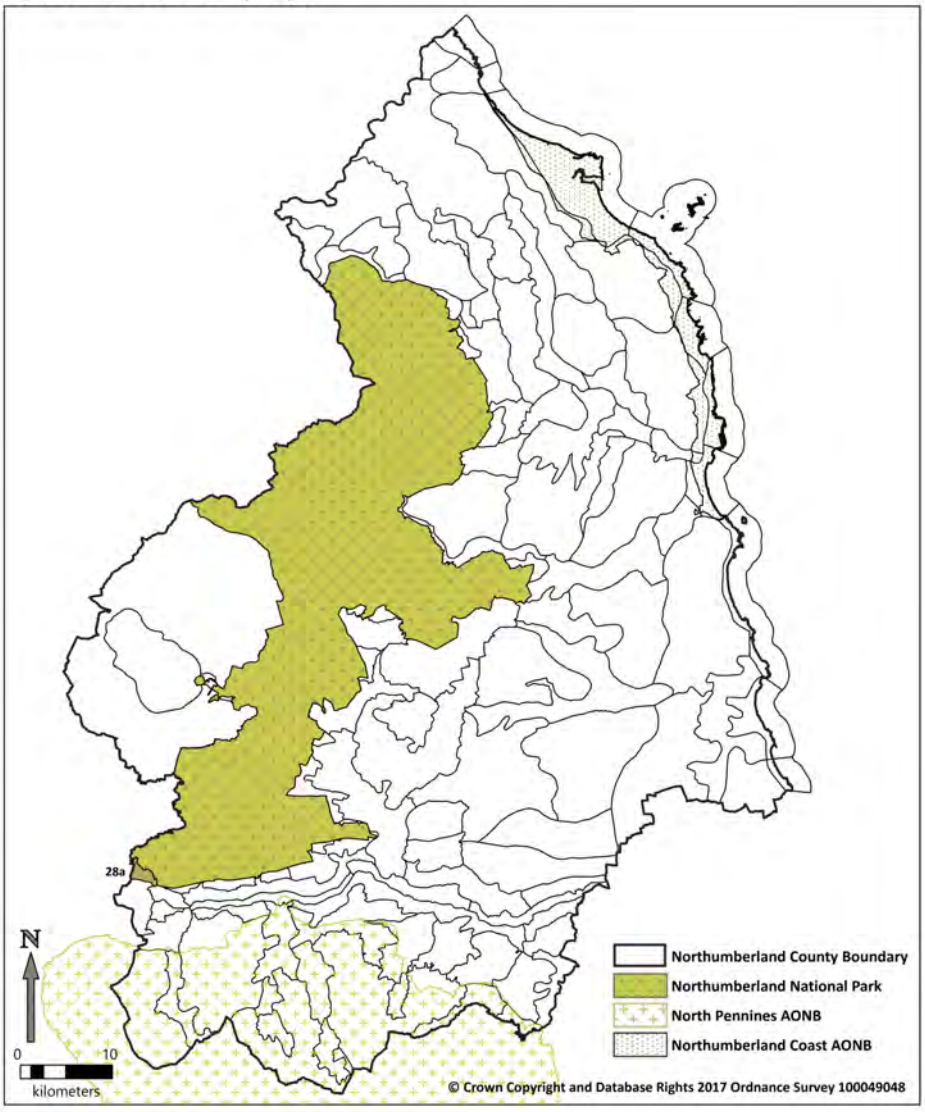
Landscape Sensitivity to Wind Energy Development
LCT 28: *Basin Valley and Fringes*

This LCT lies at the far west of the County and includes the watershed at the head of the Tyne Gap between the River Irthing, which flows west into Cumbria, and the Tipalt Burn, which flows east to the South Tyne. This landscape is adjacent to Northumberland National Park and continues west along the Irthing valley, beyond the study area.

This LCT is represented by one landscape character area (LCA):

- **LCA 28a: *River Irthing***

Figure 32: LCT28 - Basin Valley Fringes



Key Landscape Characteristics of LCT 28: *Basin Valley and Fringes:*

- Transitional landscape on the watershed between the South Tyne valley to the east and the Carlisle Basin to the west;
- Transitional landscape between higher moorland ridges to the north (Thirlwall Common – in Northumberland National Park) and to the south (Blenkinsopp Common – LCT 25a);

- Narrow, wooded, steep-sided, deep gorge-like valley carved by the River Irthing along the LCTs western boundary (the County boundary with Cumbria);
- Predominance of pasture, scrub and rough grazing;
- Semi-natural woodland along river and tributary burns, and mature trees associated with settlement;
- Field pattern defined by stone walls, post and wire fences or hedgerows;
- Significant historic sites reflecting the LCTs importance as a defensive frontier over the centuries.

Landscape Sensitivity Profile of LCT 28: *Basin Valley and Fringes*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Narrow, steep-sided, deep gorge-like valley along the LCTs western boundary (the County boundary with Cumbria) where the sinuous course of the River Irthing has cut through the sandstone. Elsewhere gentler slopes fall from the rugged moorland on the edge of Northumberland National Park, southwards. Occasional, irregular Whin Sill outcrops are distinctive landform features.	Moderate to Moderate-high
Land cover	Varied land cover pattern; the steep-sided gorge-like valley is heavily wooded both on the valley floor and with 'hanging' woods. Wet pasture, hedgerows and gorse are also found on the valley floor. Elsewhere in-bye pastures and rough grazing fields are bounded by a mixture of stone walls, hedgerows and post and wire fences, with occasional hedgerow trees and wooded copses often near domestic-scale farm buildings.	Moderate to Moderate-high
Landscape scale	The intimate gorge-like river valley is a small scale landscape contained by the steep wooded sides. This contrasts with the more open transitional pastureland where occasional long distance views southwards to the open moorland give the perception of a medium-large scale landscape, albeit containing small-scale land cover patterns with human-scale features.	Moderate to Moderate-high
VISUAL:		
Skylines	Smooth flowing generally featureless, rounded skylines, not prominent or particularly distinctive. Pylons are visible on distant skylines to the south. The skyline is not a feature from within the valley due to dense woodland.	Moderate to Low-moderate
Views and landmarks	The landscape features in views from higher ground including Northumberland National Park. Occasional localised landform features provide landscape foci. The landscape provides an important backdrop to the setting of Hadrian's Wall and the remains of Thirwall Castle.	Moderate-high to High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
Inter-visibility	River valley landform and woodland restrict inter-visibility but elsewhere there are longer distance views to neighbouring moorland slopes.	Low to Moderate
Visual receptors	A number of sensitive visual receptors would be potentially affected by a change in views and visual amenity, including residents, travellers on the B6318 and railway, walkers, cyclists and tourists.	Moderate to Moderate-high
PERCEPTUAL:		
Movement	Man-made movement in the landscape is predominantly in the more settled lowland in the south including the B6318 and railway, with occasional movement elsewhere including a small scale wind turbine close to Barron House.	Moderate to Low-moderate
Built development	Nucleated villages at Greenhead, Longbyre and Gilsland and scattered farmsteads are located on the settled lower-lying ground along the B6318. Although there are other dispersed farms and a railway on the higher slopes these are more rugged with a more natural character. Telegraph poles, occasional communication masts, a small wind turbine and views of pylons to the south are conspicuous structures.	Moderate to Low-moderate
Remoteness	The intimate river valley and deep gorge is in parts secluded, and there is a sense of remoteness on the rugged valley fringe slopes although this perception is reduced by human activity, settlement and transport routes.	Moderate to Low-moderate
QUALITATIVE:		
Scenic quality	High natural scenic quality of the gorge-like river valley landscape. Elsewhere the valley fringe pastureland is generally well managed and visually intact. Development could affect the special qualities and integrity of the adjacent Northumberland National Park.	Moderate-high to High
Distinctiveness	The gorge-like river valley landscape is distinctive with a strong sense of place, representative of Northumberland and distinctive in the County. The presence of Hadrian's Wall through the landscape enhances distinctiveness.	Moderate-high to High
Rarity	A unique LCT enclosed by moorland ridgelines of Northumberland National Park and southern Northumberland. Distinctive natural river valley features are relatively rare within the County.	Moderate-high to High
HISTORIC & CULTURAL:		
Heritage assets	Significant historic features include Hadrian's Wall World Heritage Site, the Stanegate Roman Road and the remains of Thirlwall Castle.	Moderate-high to High
Recreation	Significant recreational use including Hadrian's Wall Path National Trail, the Pennine Way National Trail and National Cycle Route 72 'Hadrian's Cycleway'.	Moderate-high to High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	This is a generally open, transitional landscape lying between higher moorland ridges to the north (Thirlwall Common – in Northumberland National Park) and to the south (Blenkinsopp Common – LCT 25a) which gives it a rugged upland character, with contrasting incised, narrow, wooded, steep-sided, deep gorge-like river valley of more intimate scale. The variety of landform and land cover, scenic quality of the landscape, its distinctiveness and rarity, are characteristics that make this LCT especially sensitive to wind energy development. Inter-visibility with neighbouring upland moorland slopes increases sensitivity of some parts of the LCT. Lower, southern areas are relatively accessible but overall the LCT has a rural, naturalistic, pastoral character that is highly sensitive to wind energy development. The historic and recreational importance of the landscape, adjacent to Northumberland National Park and important to the setting and enjoyment of Hadrian's Wall World Heritage Site further increase the LCTs sensitivity to wind energy development.	
Cumulative effects	There is currently one small scale wind turbine within the LCT. This does not adversely affect landscape character; cumulative effects are currently insignificant. There are currently no wind turbines visible within neighbouring LCTs.	

LCT 28: *Basin Valley and Fringes*- Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 28a: River Irthing	M-H	H	H	H	H

Overall Landscape Sensitivity of LCT28: *Basin Valley and Fringes*	In general LCT 28 is unsuitable in principle for wind energy development. Single or a small group of carefully sited small scale turbines up to 25m height to blade tip may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be closely associated in location and scale to farm buildings in the valley fringes. They should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. Small-medium and larger turbines would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development, including the landscape setting and views to and from Northumberland National Park. They could also become conspicuous in views from the neighbouring *Moorland Ridges* LCT which is highly sensitive to wind energy development.

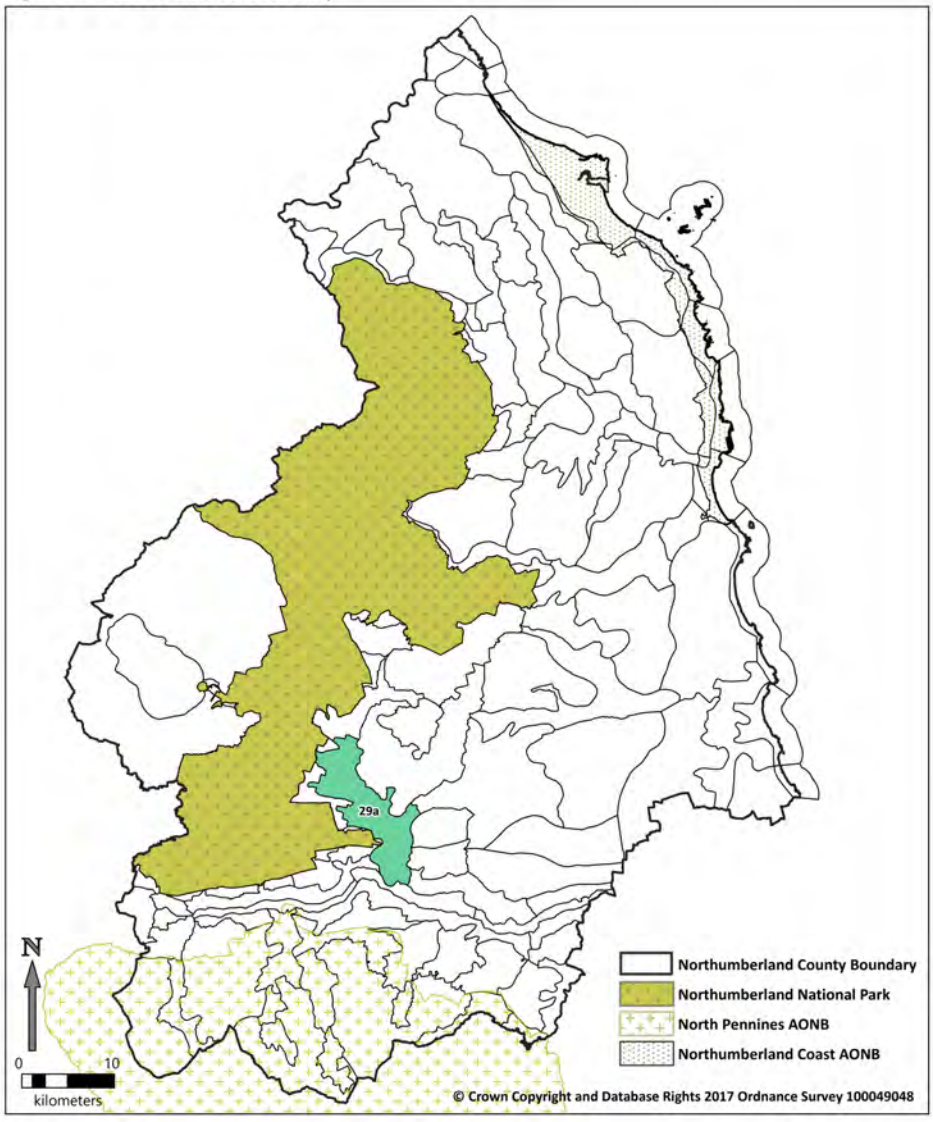
Landscape Sensitivity to Wind Energy Development
LCT 29: *Broad Wooded Valley*

This north-south elongated LCT defines the northern extremities of the Tyne Gap and comprises the broad wooded valley that contains the River North Tyne in its middle reaches and several tributary valleys. The *Tributary Valley* (LCT 33) of the Erring Burn lies immediately to the east whilst the *Sandstone Fringe Farmland* (LCT 11) also flanks the LCT to the east. The rounded upper valley slopes show a gradual transition into the *Upland Commons and Farmland* (LCT 34) to the west, bordering Northumberland National Park. LCT 29 stretches from Redesmouth in the north to the confluence with the River South Tyne east of Bridge End.

This LCT is represented by one landscape character area (LCA):

- **LCA 29a: *North Tyne Valley***

Figure 33: LCT29 - Broad Wooded Valley



Key Landscape Characteristics of LCT 29: *Broad Wooded Valley*:

- Broad valley with the River North Tyne meandering north to south through the centre of the floodplain of varying width;

- Gently sloping and undulating valley sides dissected by a repeating pattern of tributary streams meandering west to east;
- High concentration of trees – including native woodland copses, mixed and coniferous woodlands, hedgerows, avenues and parkland trees;
- Semi-natural woodland (including hazel, wych elm and ash) along river edges and in tributary valleys;
- Mixture of arable and pasture agricultural land use, and valley floor meadows;
- Outcrops of Whin Sill and limestone;
- Regular medium scale field pattern defined by hawthorn hedges, post and wire fences or stone walls;
- Small stone bridges across tributary streams and disused railway; stone walls surrounding parkland estates;
- Villages located on lower valley sides, and scattered farmsteads lending a settled character;
- Managed landscape with large country houses and associated parklands.

Landscape Sensitivity Profile of LCT 29: *Broad Wooded Valley*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Complex but relatively consistent topography is in part due to a complex geology underpinned by sandstone, siltstone, mudstones and shales and overlain by glacial drift and alluvium. Whin Sill and limestone outcrops within a band through the centre of the LCT. At the northern end of the LCT the River North Tyne drops into a deep gorge-like wooded valley. There are cut-off meanders, terraces and other features, providing evidence of the changing course of the river within the often broad, gently undulating floodplain meadows. A series of wooded tributary valleys wind their way eastwards from the upland moorland within Northumberland National Park, passing through the gently sloping or undulating valley and cutting into the main river valley sides in a regular pattern.	Moderate to Moderate-high
Land cover	A complex yet unified mix of pasture and arable farmland, enclosed by a strong field pattern of hedgerows and hedgerow trees, with post and wire fencing or stone walls in some places. Managed hay meadows on the valley floor, grazed by horses. Dense ancient and semi-natural broadleaved woodland within the tributary valleys and along the main valley sides, with mixed woodland plantations and copses. Numerous parkland and estate landscapes with mature parkland and avenue trees, and ornamental gardens.	Moderate-high to High
Landscape scale	The broad valley comprises fields of medium scale although woodland provides some enclosure, in	Moderate to Moderate-high

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	contrast to the more intimate wooded river valleys that offer a greater degree of containment. Occasional long distance views to the adjacent open moorland give the perception of a medium-large scale landscape, albeit containing small-scale land cover patterns with human-scale features.	
VISUAL:		
Skylines	Smooth flowing generally featureless, rounded moorland skylines, not prominent or particularly distinctive. Pylons are visible on the skyline cutting through the southern parts of the LCT. The skyline is not a feature from within the river valley due to dense woodland.	Moderate to Low-moderate
Views and landmarks	The landscape features in views from higher ground including Northumberland National Park. Occasional localised landform features provide landscape foci. The landscape provides an important backdrop to the setting of Hadrian's Wall and associated features, and other heritage assets. Large country houses within parkland, other buildings such as Chipchase Castle, stone bridges etc. are features in the landscape. Pronounced terraces on lower valley slopes afford views across the valley within which the main river and its floodplain and tributaries are often hidden.	Moderate to Moderate-high
Inter-visibility	River valley landform and woodland restrict inter-visibility but elsewhere there are longer distance views to neighbouring moorland slopes.	Moderate to Low-moderate
Visual receptors	A number of sensitive visual receptors would be potentially affected by a change in views and visual amenity, including residents, travellers on the network of local and 'B' roads, the A6079, walkers including those on the Pennine Way, and tourists.	Moderate to Moderate-high
PERCEPTUAL:		
Movement	Frequent movement along the network of lanes and 'B' roads, and the A6079 in the south, with enhanced activity around the main settlements and quarries. A small number of small-scale wind turbines add man-made movement into the landscape. Turbine blade movement is also evident from large wind turbines and wind farms in adjacent landscapes to the east (Green Rigg, Bavington Mount, Kirkheaton and Ray wind farms).	Moderate to Low-moderate
Built development	A well-settled landscape with small historic villages at crossing points, scattered farmsteads and cottages, and large estate houses with boundary stone walls, along a network of narrow winding lanes and 'B' roads. Bridges cross the rivers and a dismantled railway. The A6079 passes through the southern part of the LCT. Occasional masts in the landscape and quarries (active, disused	Moderate to Low-moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	and restored) telegraph poles, small wind turbines and pylons through the southern parts of the LCT are conspicuous structures. Overall, however, the valley retains a distinctly rural, natural but managed character.	
Remoteness	A generally accessible, settled landscape in which human activity limits tranquillity and sense of remoteness.	Moderate to Low-moderate
QUALITATIVE:		
Scenic quality	High scenic quality of the meandering, wooded river and tributary valleys contrasting with the gently undulating flood meadows punctuated by the numerous parkland and estate landscapes on the lower valley sides, with mature parkland and avenue trees. A well-managed landscape, in particular the Nunwick Registered Historic Park and Garden at Simonburn, and ornamental gardens at Chipchase Castle.	Moderate-high to High
Distinctiveness	The gorge-like river valley landscape in the north is distinctive with a strong sense of place, representative of Northumberland and distinctive in the County. The presence of Hadrian's Wall and associated features in the landscape enhances distinctiveness.	Moderate to Moderate-high
Rarity	A unique LCT in which distinctive broad, natural river valley features are relatively rare within the County.	Moderate-high to High
HISTORIC & CULTURAL:		
Heritage assets	Significant historic features include Hadrian's Wall and major Roman fort at Chesters, the Stanegate Roman Road, castles at Haughton and Chipchase, and other heritage assets.	Moderate to Moderate-high
Recreation	Popular tourist destinations include a major Roman fort at Chesters and ornamental gardens at Chipchase Castle. Also caravan sites and an extensive public rights of way network through the valley. The Pennine Way National Trail passes along the north-western boundary of the LCT.	Moderate-high to High
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	The consistent topographic, land cover, field and settlement patterns create a complex yet unified visual composition. Despite the relatively high density of settlement, the valley retains a rural character. Narrow, winding roads and lanes lined with hedgerows and small woodlands reinforce this natural but managed character. The broad farmed valley contrasts with the wooded river valley, in particular the deep gorge-like wooded valley at the northern end of the LCT. Scenic quality of the landscape, its distinctiveness and rarity, are further characteristics that make this LCT especially sensitive to wind energy development. Inter-visibility with neighbouring upland moorland slopes increases sensitivity of some parts of the LCT. The historic and recreational importance of the landscape, adjacent to Northumberland National Park and important to the setting and enjoyment	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	of Hadrian's Wall World Heritage Site further increase the LCTs sensitivity to wind energy development.	
Cumulative effects	There are a small number of small-scale wind turbines within the LCT, and glimpses of large turbines at Green Rigg (LCT 8) to the east from elevated locations along the edge of this LCT. Consequently cumulative effects are currently insignificant. Larger scale turbines within this landscape could create significant cumulative effects when seen in combination with or in succession (i.e. when passing through the landscape) with existing wind turbines and wind farms visible in adjacent landscapes to the east.	

LCT 29: *Broad Wooded Valley* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 29a: North Tyne Valley	M	M-H	H	H	H

Overall Landscape Sensitivity of LCT29: *Broad Wooded Valley*	In general LCT29 is suitable for single or a small group of carefully sited small scale turbines up to 25m height to blade tip. They should be closely associated with the scale and location of farm buildings and other domestic scale features in the valley landscape. In general, wind turbines above 25m height to blade tip would in principle be unsuitable within LCT29. However, small-medium scale turbines between 26m-40m height to blade tip may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. Medium scale and larger turbines within the wooded river valley of this LCT would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development, including the landscape setting and views to and from Northumberland National Park. They could also become conspicuous in views from the neighbouring *Moorland Ridges* LCT which is highly sensitive to wind energy development.

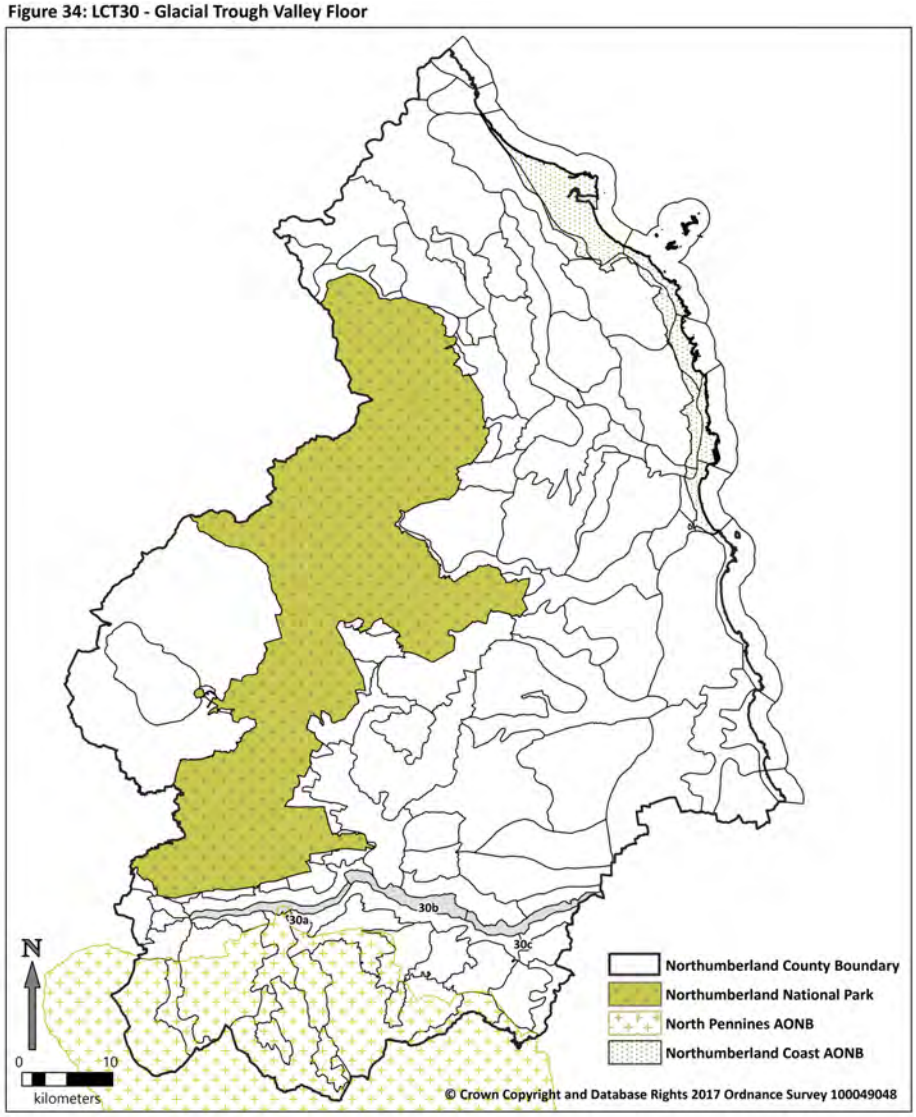
Landscape Sensitivity to Wind Energy Development
LCT 30: *Glacial Trough Valley Floor*

This LCT comprises the flat floodplain and lower valley slopes above the River Tyne. For the most part the lower valley slopes blend gently into the extensive floodplain. In places the meandering course of the river has cut into the valley sides creating steep sided bluffs and narrow gorges.

This LCT is represented by three landscape character areas (LCA):

- **LCA 30a:** ***Haltwhistle to Newbrough***
- **LCA 30b:** ***Newbrough to Corbridge***
- **LCA 30c:** ***Corbridge to Wylam***

Figure 34: LCT30 - Glacial Trough Valley Floor



Key Landscape Characteristics of LCT 30: *Glacial Trough Valley Floor*:

- Valley floor and shallow lower slopes of an east-west aligned glacial trough, lying between the North Pennines to the south and the Northumberland uplands, including the Northumberland National Park, to the north;
- The glacial ice steam carved through the underlying bedrock which consists of mudstone, sandstone and limestone, covered by meltwater deposits of sand and gravels, creating a moundy topography of kames, eskers and intervening hollows in some areas;

- Predominantly a flat, well defined and sheltered valley floor containing the meandering River South Tyne;
- Highly fertile and well drained, rich, alluvial deposits on the valley floor support a mix of arable land use, with cattle-grazed riverside pastures;
- Medium to large-scale fields with mixed farming, defined by hedgerows and post and wire fencing;
- Generally open character; tree cover is concentrated along the river or steep bluffs, or associated with estate landscapes;
- Nucleated settlements of early date on lower slopes, often bridging the river e.g. Haydon Bridge;
- Major transport communication route containing the A69, the Carlisle to Newcastle railway, as well as the river;
- Sand and gravel extraction on the valley floor in some places;
- Some areas of industry and settlement expansion.

Landscape Sensitivity Profile of LCT 30: *Glacial Trough Valley Floor*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Simple, low lying valley floor and gentle lower valley slopes, with some topographic variation where steep bluffs or gorges, kames, eskers and intervening hollows provide variety in some areas.	Low-moderate to Moderate
Land cover	Simple land cover pattern of arable land use on the fertile valley floor with cattle-grazed riverside pastures. Tree cover is not extensive; wooded estate landscapes, areas of wooded gorge and riparian woodland provide variation. Human scale features act as scale indicators within the settled valley, including well-trimmed hedgerows and occasional hedgerow trees.	Low-moderate to Moderate
Landscape scale	Medium to small scale landscape and field pattern, generally narrow, linear valley where sloping valley sides create enclosure, though broadening out within the central area of the LCT (LCA 30b). Increased woodland cover within the valley floor of LCA 30c gives a more enclosed character to the east of Corbridge.	Moderate to Moderate-high
VISUAL:		
Skylines	The gently sloping valley sides lead up to largely simple surrounding higher moorland skylines, although settlement and low farmed ridges provide some variety within LCA 30b and narrow tributary valleys in LCA 30c.	Low-moderate to Moderate
Views and landmarks	The sinuous course of the river provides locally important, glimpsed views along the valley floor, across the river to valley sides, and at junctions with tributary valleys. Landmark buildings and estates are locally significant.	Low-moderate to Moderate
Inter-visibility	A sheltered valley landscape where adjacent valley	Lower to

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	sides and higher ground are important in contributing to the overall character of the glacial trough valley floor LCT.	Low-moderate
Visual receptors	High number of residential receptors in the settled, populated valley, and views from key transport routes.	Moderate-high to High
PERCEPTUAL:		
Movement	Extensive visible man-made movement within the valley along the river and main transportation routes including the A69 and Carlisle to Newcastle railway. Factory chimney plumes are visible for considerable distances in the Hexham area of LCA 30b.	Low-moderate to Moderate
Built development	Towns and villages reflect a repetitive pattern along the communication corridor through which main roads and the Newcastle to Carlisle railway pass. Recent growth includes built development on the floodplain. LCA 30b in particular includes prominent built development and industry, and a pylon line crosses the valley east of Hexham. Landscape modification by gravel extraction in some places on the valley floor. Despite this, the valley floor retains a rural character along much of its length.	Low-moderate to Moderate
Remoteness	Activity, noise and ease of movement along the valley reduce remoteness, although some parts retain a strongly rural and unspoilt character.	Low-moderate to Moderate
QUALITATIVE:		
Scenic quality	Natural river valley features including meandering river, wooded tributary valleys and bluffs, and remnant glacial landform features provide high natural scenic quality. Parkland and gardens within designed estates are of high ornamental scenic quality. Loss of some field boundaries but generally a well-managed, visually and functionally intact landscape.	Moderate-high to High
Distinctiveness	The narrow glacial trough valley floor contains distinctive valley landscape features and a strong 'sense of place' representative of Northumberland, although not especially distinctive to the County.	Moderate to Moderate-high
Rarity	An infrequent landscape comprising the flat floodplain and lower valley slopes above the east-west aligned River Tyne corridor, at the heart of the Tyne Gap.	Moderate-high to High
HISTORIC & CULTURAL:		
Heritage assets	18th century estate landscapes are a legacy of industrial wealth in the Tyne Valley, particularly east of Hexham. Historically the lower valley slopes have been important for settlement since Roman times; some are located at important river crossing points with historic stone bridges. The railway and mining activity has had a significant influence on vernacular architecture of a number of settlements. Historic cores to some settlements.	Moderate to Moderate-high
Recreation	National Cycle Route 72 'Hadrian's Cycleway' passes	Low-moderate to

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	through part of the valley floor. Riverside walks and cycle paths, including parts of Hadrian's Wall Path National Trail. National Trust properties provide local attractions.	Moderate
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	The sheltered, extensively populated valley landscape and busy transport corridor contrasts with the wilder qualities of the adjacent valley sides and surrounding higher ground. Parkland, avenues and wooded plantations associated with estate landscapes have a strong influence on the character of some parts of the glacial trough valley where impact on setting is a major consideration. In contrasting urban fringe and prominent industrial areas, particularly within LCA 30b, built development is a key characteristic reducing sensitivity to smaller scale wind energy development. However, the linear, medium to small-scale valley landscape, areas that retain a strongly rural, unspoilt character, and high number of sensitive visual receptors increases sensitivity of this LCT to larger scale wind energy development.	
Cumulative effects	There are no wind energy developments within this LCT or visible from it lying within other LCTs. Consequently the cumulative effect of wind energy development is not currently a concern within this LCT.	

LCT 30: *Glacial Trough Valley Floor* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 30a: Haltwhistle to Newbrough	M-H	H	H	H	H
LCA 30b: Newbrough to Corbridge	M-H	M-H	H	H	H
LCA 30c: Corbridge to Wylam	M-H	H	H	H	H

Overall Landscape Sensitivity of LCT30: *Glacial Trough Valley Floor*	In general LCT 30 is unsuitable in principle for wind energy development. Single or a small group of carefully sited small scale turbines up to 25m height to blade tip may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be closely associated in location and scale to farm buildings on the lower valley sides. They should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. Small-medium scale turbines between 26m-40m height to blade tip may be suitable within LCA30b where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be closely associated with existing taller vertical structures (such as industrial chimneys). Small-medium scale turbines between 26m-40m height to blade tip within

	LCAs 30a and 30c, and larger turbines throughout the LCT, would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development. They could become conspicuous in views from the neighbouring moorland and higher ground which is sensitive to wind energy development.

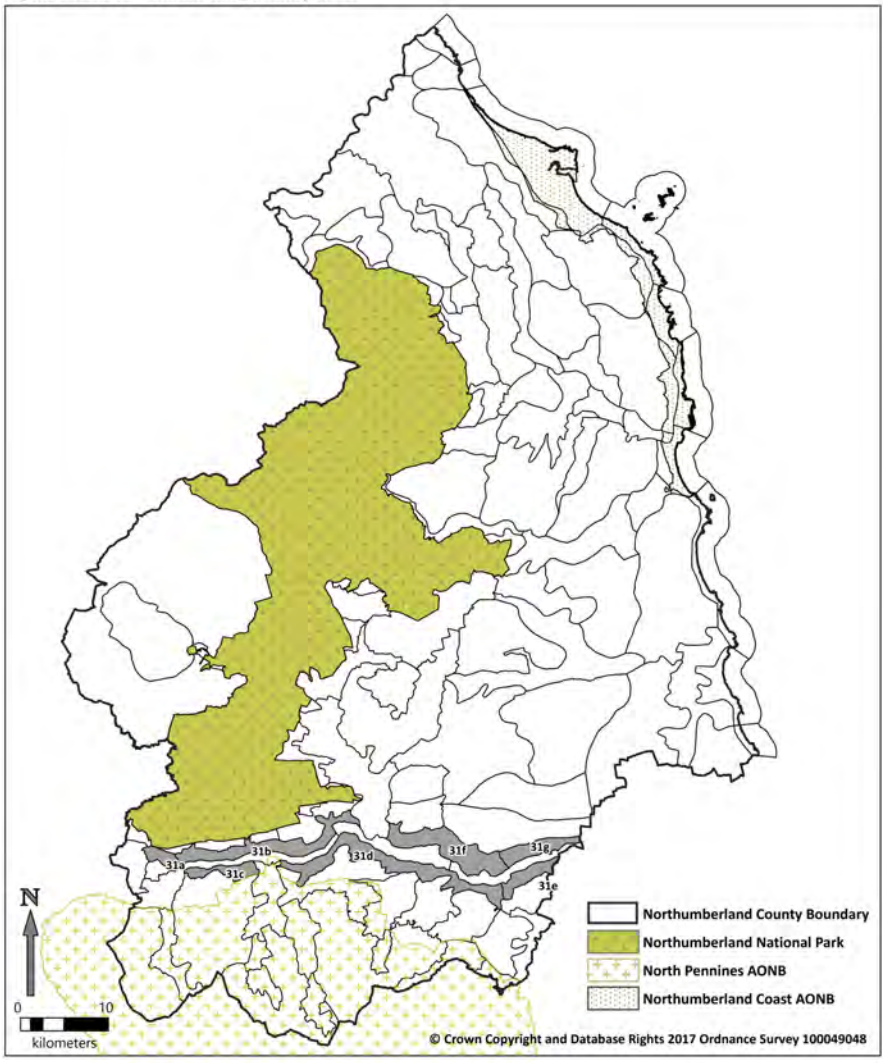
Landscape Sensitivity to Wind Energy Development
LCT 31: *Glacial Trough Valley Sides*

This LCT comprises the valley sides of the glacial trough which carries the Rivers South Tyne and Tyne. These valley sides are particularly distinct from the *Glacial Trough Valley Floor* (LCT 30) both in terms of topography and land use patterns. In places the landscape of the surrounding uplands occurs on the upper valley sides, influencing the character of the valley slopes below.

This LCT is represented by seven landscape character areas (LCA):

- **LCA 31a:** ***Tipalt Burn***
- **LCA 31b:** ***Haltwhistle to Bridge End***
- **LCA 31c:** ***North Plenmeller Common***
- **LCA 31d:** ***Langley to Stocksfield***
- **LCA 31e:** ***Stocksfield to Prudhoe***
- **LCA 31f:** ***Acomb to Ovington***
- **LCA 31g:** ***Ovington Wylam***

Figure 35: LCT31 - Glacial Trough Valley Sides



Key Landscape Characteristics of LCT 31: *Glacial Trough Valley Sides*:

- Valley sides of an east-west aligned glacial trough, lying between the North Pennines to the south and the Northumberland uplands, including Northumberland National Park, to the north;
- The glacial ice steam carved through the underlying bedrock which consists of mudstone, sandstone and limestone, covered by meltwater deposits of sand and gravels, creating erosional deepening that subsequently encouraged tributary burns to cut down and form deeply incised gullies in the valley sides;
- As a result of the geology and glacial erosion, the valleys sides are generally steep and show a strongly stepped profile in places, becoming gentler to the east. Where tributary valleys cut into bedrock on the valley sides, waterfalls are characteristic;
- Some of the tributary valleys are fed by many further smaller tributaries - locally this creates a complex topography of incised wooded valleys separated by rounded knolls of land;
- Mixed-scale field pattern defined by hedges, post and wire fencing and stone walls on upper slopes; generally medium sized field pattern, though small to medium in some places and medium to large scale where arable fields have been enlarged;
- Mainly pasture land to the west of the LCT, with increasing arable component on shallower slopes to the east;
- Ancient semi-natural woodland associated with natural springs and incised tributary valleys;
- Characteristic waterfalls along tributary burns, particularly on north-facing slopes;
- Areas of coniferous plantation and shelterbelts in places;
- Historic houses, estates and castles, and significant areas of ridge and furrow;
- Nucleated settlement and areas of urban expansion;
- Narrow lanes running up and down valley sides;
- Well-settled and sheltered enclosed landscape.

Landscape Sensitivity Profile of LCT 31: *Glacial Trough Valley Sides*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Valley sides are generally relatively steep with a strongly stepped profile in places, becoming gentler to the east. A locally complex topography of incised wooded valleys separated by knolls of land where tributary valleys and burns are fed by many smaller tributaries. As a result of geology and glacial erosion, the tributary burns have cut deeply down into the bedrock of mudstones, sandstones and limestones, forming deeply incised gullies in the valley sides. Waterfalls are distinctive landform features.	Moderate to Moderate-high
Land cover	Typically improved pasture on the upper steeper slopes with stone wall boundaries, and arable use on the shallower slopes with hawthorn hedgerow field boundaries. Deep tributary valleys are well wooded. Hill slopes are reasonably well wooded with small to	Low-moderate to Moderate and Moderate to Moderate-high

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	medium-sized broadleaf and coniferous woods. Parkland trees and shelterbelts around large houses and estates on northern slopes, with large coniferous forests more common to the south.	
Landscape scale	Generally medium sized field pattern, though small to medium in some minor tributary valleys and medium to large scale where arable fields have been enlarged. Enclosure is provided by the valley landform and wooded slopes. Broader, more open landscape where the valley slopes link physically and/or visually with adjacent moorland ridges.	Low-moderate to Moderate and Moderate to Moderate-high
VISUAL:		
Skylines	Largely simple, gently undulating low rounded moorland ridge or summits, occasionally punctuated by distinctive lines of Scots pine e.g. LCA 31d. A line of pylons is prominent on the skyline through LCAs 31a and 31b.Tributary valleys provide variety on the horizon.	Low-moderate to Moderate
Views and landmarks	Landform and woodland constrains views in some areas but views up and down and across the valley from higher more open slopes are locally important. Halls and estate woodlands, waterfalls and blocks of trees provide local landmarks or landscape foci. Landscape forms the background and setting to settlements.	Low-moderate to Moderate
Inter-visibility	From the higher open slopes there is inter-visibility with surrounding higher land, including Northumberland National Park to the north and North Pennines AONB to the south. Lower slopes and tributary landscapes are self-contained where the valley landform and woodland limit visibility.	Low-moderate to Moderate
Visual receptors	High number of visual receptors from settlements, main 'A' roads and other roads, and the railway in particular.	Moderate to Moderate-high
PERCEPTUAL:		
Movement	Roads and the railway provide frequent movement on the lower slopes and in the valley floor, with other man-made movement visible on higher slopes and in adjoining character areas. Two pairs of small-medium sized wind turbines provide movement within the LCA31b landscape.	Moderate to Moderate-high
Built development	The LCT supports considerable and prominent settlement ranging from small nucleated villages to large towns, in some places extending from the valley floor up the valley sides. Narrow rural lanes run up and down the valley sides connecting the main settlements and main transport corridor including parts of the A69, A695 and Carlisle to Newcastle railway on lower flatter ground. A line of pylons crosses the northern valley slopes through LCA 31a and 31b, and occasional masts	Low-moderate to Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	including a two pairs of small-medium sized wind turbines provide distinctive vertical features. Previous colliery settlements have expanded, whilst mining has left areas of disturbed ground. In contrast, minor tributary valleys form relatively undeveloped quiet backwaters with a strongly rural, secretive character. LCA 31e has particularly strong peri-urban influences.	
Remoteness	Activity, noise and ease of movement along the valley and up and down valley sides reduce remoteness, although some parts retain a strongly rural and unspoilt character. Peri-urban influences reduce remoteness and tranquillity in LCA 31e.	Low-moderate to Moderate
QUALITATIVE:		
Scenic quality	Designed landscapes of large estates, halls and castles on northern valley sides are of high scenic quality. Western parts of the valley are sandwiched between Northumberland National Park and North Pennines AONB with high scenic quality, less so to the east where there are more urban influences. Loss of some field boundaries and poor woodland management, but generally a well-managed, visually and functionally intact landscape.	Moderate to Moderate-high
Distinctiveness	The glacial trough valley sides contain distinctive valley landscape features and estate influences, with a strong 'sense of place' representative of Northumberland, although not especially distinctive to the County. LCA 31e is less distinctive with peri-urban influences.	Moderate to Moderate-high
Rarity	The glacial trough valley slopes extend over a considerable distance east to west, and north and south above the River Tyne corridor, through the middle of the Tyne Gap. LCA 31e is a more common landscape with strong peri-urban influences.	Low-moderate to Moderate
HISTORIC & CULTURAL:		
Heritage assets	Large estates, halls and castles provide reflections of the Border Wars and 19th century industrial wealth. Ridge and furrow is significant in some areas, e.g. LCA 31c. Historic cores to some settlements.	Moderate to Moderate-high
Recreation	National Cycle Network route 72 passes through the valley, with other local paths and cycle routes.	Low-moderate to Moderate
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	The settled landscape and transport corridor of the lower slopes contrast with the wilder qualities of the higher valley sides and surrounding moorland. Impact on views from Northumberland National Park and North Pennines AONB is a major consideration particularly in western parts of the LCT, increasing sensitivity to wind energy development. Estate landscapes have a strong influence on the character of some parts of the glacial trough valley sides where impact on setting is also a consideration. In contrasting urban fringe and prominent industrial areas built development is a key characteristic reducing sensitivity to smaller scale wind energy	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	development. However, the linear, medium to small-scale valley landscape, areas that retain a strongly rural, unspoilt character, and high number of sensitive visual receptors increases sensitivity of this LCT to larger scale wind energy development.	
Cumulative effects	There are currently two pairs of small-medium sized wind turbines associated with farmsteads on the upper slopes of LCA 31b. These do not adversely affect landscape character; cumulative effects are currently insignificant but this landscape type has a moderate-high to high sensitivity to further turbines of this size thus numbers should be limited to minimise cumulative effects. There are currently no wind turbines visible within neighbouring LCTs within the study area.	

LCT 31: *Glacial Trough Valley Sides* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 31a: Tipalt Burn	M-H	H	H	H	H
LCA 31b: Haltwhistle to Bridge End	M-H	H	H	H	H
LCA 31c: North Plenmeller Common	M-H	H	H	H	H
LCA 31d: Langley to Stocksfield	M-H	H	H	H	H
LCA 31e: Stocksfield to Prudhoe	M-H	H	H	H	H
LCA 31f: Acomb to Ovington	M-H	H	H	H	H
LCA 31g: Ovington Wylam	M-H	H	H	H	H

Overall Landscape Sensitivity of LCT31: *Glacial Trough Valley Sides*	In general LCT 31 is unsuitable in principle for wind energy development. Single or a small group of carefully sited small scale turbines up to 25m height to blade tip may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be closely associated in location and scale to farm buildings in the valley fringes or within urban fringe landscapes associated with existing built development. They should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. Small-medium and larger turbines would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development, including the setting of estate landscapes, landscape setting and views to and from Northumberland National Park and North Pennines AONB.

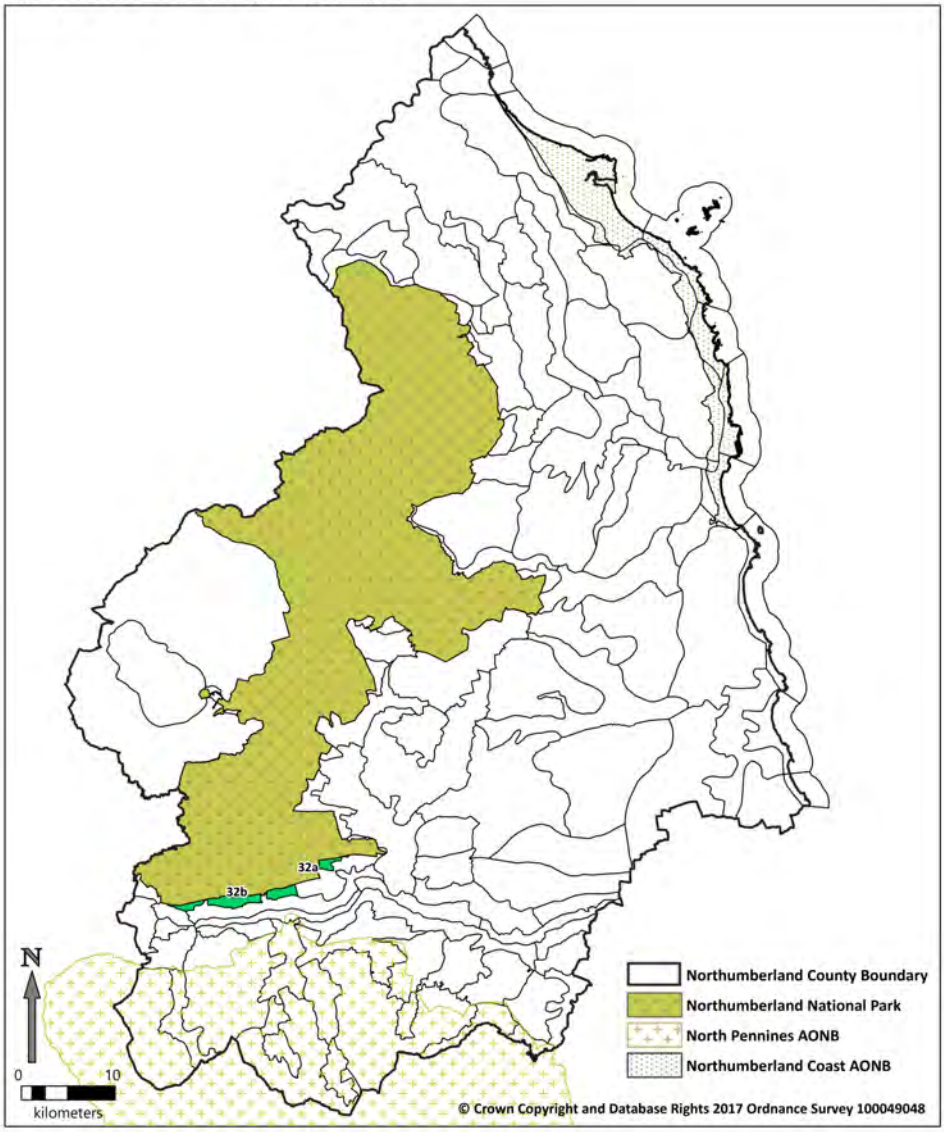
Landscape Sensitivity to Wind Energy Development
LCT 32: *Parallel Ridges and Commons*

This LCT has a marked pattern of elevated ridges and shallow troughs with a strong east-west alignment, extending north beyond the study area into Northumberland National Park which forms the northern boundary of the LCT. The gently rolling, open moorland extends from Greenhead in the west to Shield on the Wall (Brown Moor) in the east. The high ground offers views to the edge of Wark Forest in Northumberland National Park and across the Tyne Gap to the Pennines in the south.

This LCT is represented by two landscape character areas (LCA):

- **LCA 32a: *Howden Hill***
- **LCA 32b: *Haltwhistle, Melkridge and Ridley Commons***

Figure 36: LCT32 - Parallel Ridges and Commons



Key Landscape Characteristics of LCT 32: *Parallel Ridges and Commons*:

- Glacial erosion has created a repeating pattern of elevated ridges and shallow troughs with strong east-west alignment: a *cuesta* landscape (ridge formed by erosion of tilted sedimentary rock strata, where hard rocks remain as a scarp on one side, with softer rocks forming a gentle

slope on the other); in places the craggy outcrop ridge is broken by glacial meltwater channels, for example at Whinstone Ridge and Sycamore Gap;

- Visual association with the dramatic Whin Sill outcrops to the north, which are topped by Hadrian's Wall World Heritage Site, although these are outside the landscape character type;
- Open moorland with mat- grass (*Nardus stricta*) and purple moor grass, peat bog, improved pastures and commons;
- Medium to large-scale enclosure pattern defined by stone walls and post and wire fencing;
- Limited habitation of dispersed farmsteads nestling into landform and surrounded by shelter planting;
- Limited tree cover of small broadleaved copses and blocks of coniferous plantation;
- Significant area for outdoor recreation and tourism associated with Roman features including the nearby Hadrian's Wall, camps and signal stations, and important earthwork evidence of pre-Roman landscape cultivation (*cord rig*).

Landscape Sensitivity Profile of LCT 32: *Parallel Ridges and Commons*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Simple pattern of gently sloping elevated moorland ridges and shallow troughs with strong east-west alignment, incised by upland burns draining north to south. Craggy outcrops of Whin Sill provide variation and distinction in relief, especially where broken by glacial meltwater channels.	Low-moderate to Moderate
Land cover	Simple, consistent moorland plateau with little variety confined to moor grass and semi-improved grazing pasture divided by stone walls or fencing. Other occasional domestic / human scale features include patches of carr woodland, bog habitats and coniferous plantations, and isolated farmsteads.	Low-moderate to Moderate
Landscape scale	Medium to large scale open, exposed moorland plateau.	Lower to Low-moderate
VISUAL:		
Skylines	Simple, gently undulating moorland skylines are generally featureless but prominent. A line of pylons and occasional wooded plantations are distinctive and prominent on the horizon in places.	Low-moderate to Moderate
Views and landmarks	The LCT is important to the setting of Northumberland National Park and Hadrian's Wall World Heritage Site. Landform features including Whin Sill crags provide landscape foci.	Moderate to Moderate-high
Inter-visibility	Inter-visibility with Northumberland National Park and Hadrian's Wall World Heritage Site is a key issue. More extensive inter-visibility from open elevated moorland across adjacent landscapes including Northumberland National Park to the north and North Pennines AONB to the south.	Moderate to Moderate-high

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
Visual receptors	Contrast between LCA 32a where receptors are limited to a couple of adjacent minor roads, and LCA 32b where visual receptors include the B6318 Military Way Roman Road, a small number of farmsteads, tourists and recreational users of public rights of way including part of National Cycle Network route 72 'Hadrian's Cycleway'.	Moderate to Moderate-high
PERCEPTUAL:		
Movement	Movement along the B6318 Military Way, local roads and at car parks associated with recreational / tourism facilities within LCA 32b. Two pairs of small-medium sized wind turbines provide movement within the adjoining LCA 31b. In contrast LCA 32a is a relatively small area barely affected by movement.	Moderate to Moderate-high
Built development	Dispersed pattern of isolated sandstone farmsteads linked by minor lanes. The 18th century Military Road (B6318) follows the northern edge of part of LCA 32b across Haltwhistle Common. A line of pylons passes through or close to LCAs within this character type. Visitor infrastructure and signage has modified the landscape e.g. at Vindolanda Roman Fort.	Low-moderate to Moderate and Moderate-high to High
Remoteness	Overall sense of remoteness and exposure, but somewhat reduced by relative ease of access; contrast in tranquillity between LCA 32a which is quiet and tranquil with little activity, and LCA 32b which has significant recreational use reducing remoteness.	Moderate to Moderate-high and Moderate-high to High
QUALITATIVE:		
Scenic quality	Close proximity to Northumberland National Park and North Pennines AONB with high scenic quality. Moorland has limited management requirements but visually and functionally an intact landscape.	Moderate to Moderate-high
Distinctiveness	Upland moorland is typical of large parts of Northumberland. Landform features provide particular features of importance and a distinctive 'sense of place'.	Moderate to Moderate-high
Rarity	This LCT covers a relatively small part of the County and contains some rare features.	Moderate to Moderate-high
HISTORIC & CULTURAL:		
Heritage assets	Few historic features in LCA 32a but impact on the setting of Roman features associated with Hadrian's Wall is a consideration. These heritage assets from the Roman period, including important earthwork evidence of pre-Roman landscape cultivation (*cord rig*), camps and signal stations are important historic features within LCA 32b.	Low-moderate to Moderate
Recreation	The landscape is a gateway to the major tourist destination of Hadrian's Wall, a short distance to the north, and associated attractions including The Sill National Landscape Discovery Centre. There are	Moderate to Moderate-high

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	campsites, extensive access in the form of public rights of way including part of National Cycle Network route 72 'Hadrian's Cycleway', and access land.	
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	Physical landscape attributes of the open moorland indicate reduced sensitivity to wind energy development, although turbines could adversely affect natural landform features including Whin Sill crags that provide landscape foci. The landscape contains historically important earthwork evidence of pre-Roman landscape cultivation in the form of 'cord rig' near Haltwhistle and elsewhere. This landscape character type feels remote because of its narrow roads, sparse settlement, extensive agriculture management, and exposure to the elements. The landscape has a timeless quality, apparently little modified since Roman times. The complex, enduring form of the Whin Sill, set within a simple and uniform landscape of gently rolling moorland and enclosed pastures, remains its defining feature. The landscape contains historically important earthwork evidence of pre-Roman landscape cultivation in the form of 'cord rig' near Haltwhistle and elsewhere. The landscape is a gateway to the major tourist destination of Hadrian's Wall, and the associated attractions. Inter-visibility including potential impact on views and the setting of Northumberland National Park and Hadrian's Wall World Heritage Site is a significant consideration, increasing the sensitivity of this LCT.	
Cumulative effects	There are currently no wind turbines within this LCT. Two pairs of small to medium scale wind turbines are visible within the neighbouring LCA 31b but these do not adversely affect landscape character; cumulative effects are currently insignificant. Any large turbines within this landscape could create cumulative effects with existing pylons that are already prominent on the skyline in some parts of the LCT.	

LCT 32: *Parallel Ridges and Commons* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 32a: Howden Hill	H	H	H	H	H
LCA 32b: Haltwhistle, Melkridge and Ridley Commons	M-H	H	H	H	H
Overall Landscape Sensitivity of LCT32: *Parallel Ridges and Commons*	In general LCT 32 is unsuitable for wind energy development. Single or a small group of carefully sited small scale turbines up to 25m height to blade tip may be suitable within LCA 32b where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be closely associated in location and scale to farm buildings or other domestic scale features in the landscape. They should be no more than 'apparent' in the				

	landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. Small scale turbines up to 25m height to blade tip within LCA 32a and small-medium and larger turbines throughout the LCT would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development, including the landscape setting and views to and from Northumberland National Park, North Pennines AONB and Hadrian's Wall World Heritage Site.

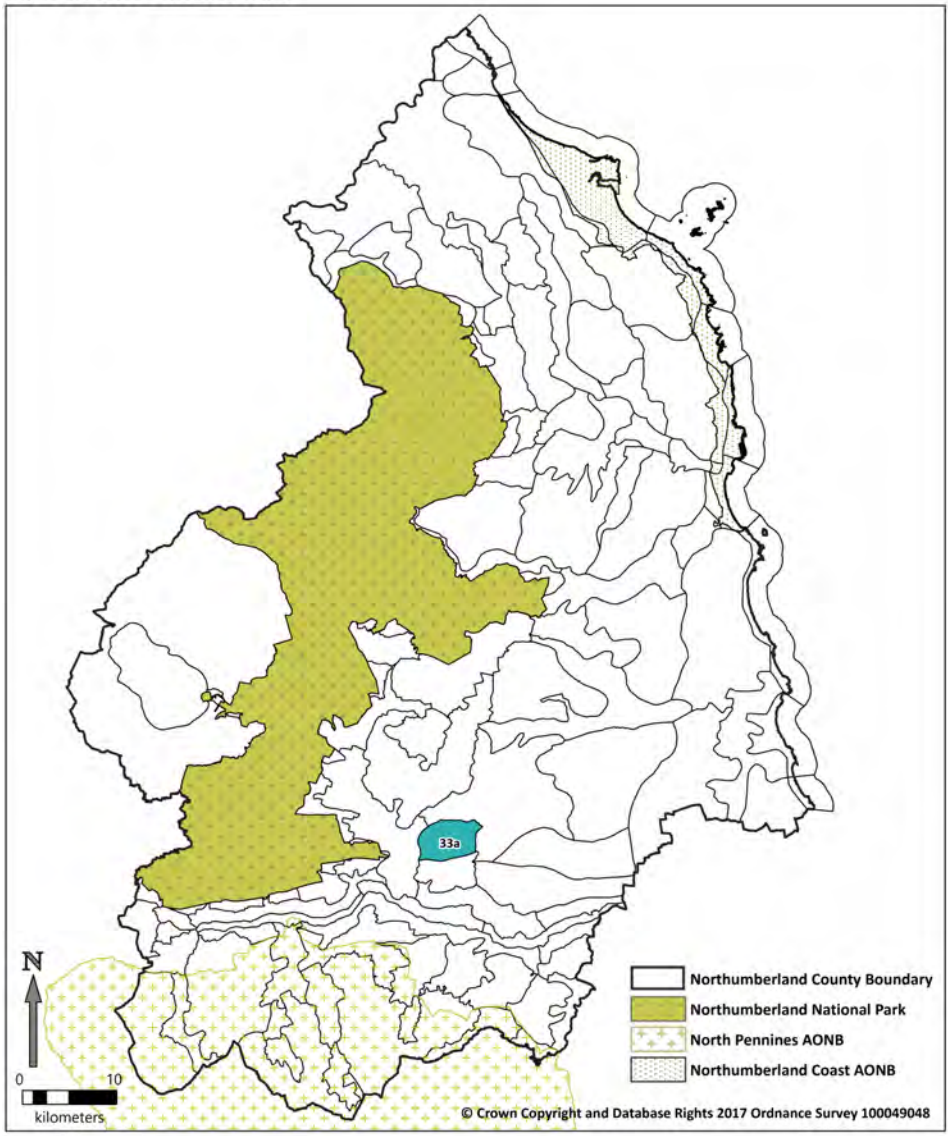
Landscape Sensitivity to Wind Energy Development
LCT 33: *Tributary Valley*

This LCT occurs along the north-eastern edge of the Tyne Gap valley and is defined by the higher land of the Northumberland sandstone hills to the north (*Sandstone Fringe Farmland* LCT 11) and the higher land of the North Tyne valley to the south (*Upland Commons and Farmland* LCT 34). To the east the landscape opens out into the lowland farmland of Mid Northumberland.

This LCT is represented by one landscape character area (LCA):

- **LCA 33a: *Erring Burn***

Figure 37: LCT33 - Tributary Valley



Key Landscape Characteristics of LCT 33: *Tributary Valley*:

- Shallow valley of the Erring Burn lying between ridges of higher land to the north and south;
- Clear drainage pattern, as the Erring Burn flows through the centre of a shallow valley westwards into the River North Tyne;

- Geometric, medium-sized field pattern defined by low hawthorn hedgerows with occasional hedgerow trees and stone walls;
- Mixture of arable land and improved pastures with wet flushes along the burn;
- Sparsely wooded except for small copses, some relatively young, and riparian trees alongside the burn;
- Sparsely populated landscape with a small number of farmsteads mostly located on the one minor road running east-west through the LCT, with few other lanes and tracks;
- The A68 runs north-west to south-east through the centre of the LCT, and the A6079 along the western boundary;
- Historic landscape with *Dere Street* Roman Road (A68), deserted medieval village at Keepwick, ridge and furrow and a number of listed buildings including Cocklaw Pele Tower.

Landscape Sensitivity Profile of LCT 33: *Tributary Valley*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	A simple, consistent, shallow bowl-shaped valley drained by the Erring Burn feeding into the River North Tyne to the west. Underlain by bands of sandstone, limestone, siltstones and mudstones but covered with a thick layer of glacial deposits which give rise to a gently undulating topography. There is a lack of any distinct landform features.	Lower
Land cover	A simple, consistent pattern of mixed agricultural use with geometric arable fields and improved pasture, divided by well-trimmed hawthorn hedgerows, hedgerow trees and occasional stone walls. Trees overlap in views suggesting a more wooded character than exists. Gorse on higher ground and wet flushes in the valley bottom provide some variety. Occasional farmsteads provide other domestic / human scale indicators in the landscape. There is a lack of any distinct landscape features.	Low-moderate
Landscape scale	Medium sized field pattern. A ridgeline of higher ground defines the broad bowl-like valley to the south and provides some enclosure, but the landscape opens out to the east particularly to the north where there are extensive views, giving the perception of a more open landscape.	Low-moderate to Moderate
VISUAL:		
Skylines	The surrounding higher farmland provides simple, open and uncluttered horizons important to the character of the bowl-like LCT. There is some visible development and movement along the B6318 (Military Way) and a tall mast on high ground to the south.	Moderate to Moderate-high
Views and landmarks	The LCT is seen in views from surrounding higher ground but important views or viewpoints are not a	Low-moderate to Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	feature of this LCT. Visibility from Northumberland National Park to the west and Hadrian's Wall to the south is an important consideration.	
Inter-visibility	Limited inter-visibility to the south due to the ridgeline of higher ground, but there are extensive views particularly northwards providing inter-visibility with neighbouring landscapes.	Low-moderate to Moderate
Visual receptors	Few residential receptors but some visibility from transport routes including the A68 through the LCT.	Low-moderate to Moderate
PERCEPTUAL:		
Movement	The A68 and minor road provide movement through the LCT, with traffic also visible on surrounding roads. Beyond these transportation corridors there is only occasional man-made movement.	Moderate to Moderate-high
Built development	Sparsely populated landscape with a small number of farmsteads mostly located on the one minor road running east-west through the LCT, with few other lanes and tracks. The straight A68 is the main landscape modification (*Dere Street* Roman Road) together with a tall telecommunication mast on high ground along the LCTs southern boundary. One medium scale wind turbine at Bavington Mount (1 x 61m) and three medium-large scale turbines at Kirkheaton (3 x 66m) approximately 6-7km to the northeast are visible from high ground.	Moderate to Moderate-high
Remoteness	The A68 and perpendicular minor road divide the LCT and provide accessibility, although beyond these routes the LCT is remote and tranquil with a strongly rural character.	Moderate to Moderate-high
QUALITATIVE:		
Scenic quality	A heavily managed agricultural landscape with some natural scenic quality, although some loss of hedgerows as evidenced by remaining lines of trees. Evidence of tree planting in field corner copses.	Low-moderate to Moderate
Distinctiveness	The shallow valley lacks distinctive characteristics and features and is not particularly representative of Northumberland, but has some 'sense of place' due to its bowl-like landform.	Low-moderate to Moderate
Rarity	The farmed valley landscape shares similar characteristics with other agricultural landscapes in the County, but it is a relatively small LCT with only one LCA and thus unique albeit with no rare landscape features or elements.	Moderate to Moderate-high
HISTORIC & CULTURAL:		
Heritage assets	Historic landscape with *Dere Street* Roman Road (A68), deserted medieval village at Keepwick, ridge and furrow and a number of listed buildings including Cocklaw Pele Tower.	Moderate to Moderate-high
Recreation	Little evidence of recreational or tourist use, limited to	Lower to Low-

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	a small part of St. Oswald's Way long distance route cutting through the north-eastern corner of the LCT.	moderate
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	Physical attributes of the open valley landscape indicate reduced sensitivity to wind energy development, although the presence of heritage assets in the landscape and adjacent LCTs increases sensitivity, especially where the setting of Hadrian's Wall World Heritage Site to the south could be affected. The valley is to a large extent defined by its smooth uncluttered ridge-like skyline generally free of development apart from a prominent tall mast on the southern boundary. Moving turbine blades on the surrounding high ground would significantly affect the strongly rural, remote and tranquil qualities of the LCT. Away from the main A68 corridor, this landscape character type feels remote because of its few narrow roads, sparse settlement, lack of overt modern human influences and the simple agricultural land use. Inter-visibility including potential impact on views and the setting of Northumberland National Park and Hadrian's Wall World Heritage Site is a significant consideration, increasing the sensitivity of this LCT.	
Cumulative effects	There are currently no wind turbines within this LCT. One medium scale wind turbine at Bavington Mount and three medium-large scale turbines at Kirkheaton are visible within the neighbouring LCA 36a approximately 6-7km to the northeast, but these do not adversely affect landscape character; cumulative effects within the LCT are currently insignificant. The wind turbines at Bavington Mount and Kirkheaton add to sequential cumulative effects along the A68 from where other wind farms are visible along the route, including Boundary Lane, Kiln Pit Hill, Green Rigg and Ray. Cumulative effects of any new wind energy development within the LCT with existing turbines in neighbouring LCTs, and significant sequential cumulative effects along the A68, should be avoided.	

LCT 33: *Tributary Valley* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 33a: Erring Burn	M-H	M-H	H	H	H

Overall Landscape Sensitivity of LCT33: *Tributary Valley*	In general LCT 33 is unsuitable in principle for wind energy development. Single or a small group of carefully sited small scale turbines up to 25m height to blade tip, and small-medium scale turbines between 26m-40m height to blade tip may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be closely associated in location and scale to farm buildings on the lower valley sides. They should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should avoid the higher ground on the edge of

	the LCT. Medium scale and larger turbines above 40m height to blade tip would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development. They could become conspicuous in views from the neighbouring higher ground and other locations sensitive to wind energy development, including the landscape setting and views to and from Northumberland National Park and Hadrian's Wall World Heritage Site.

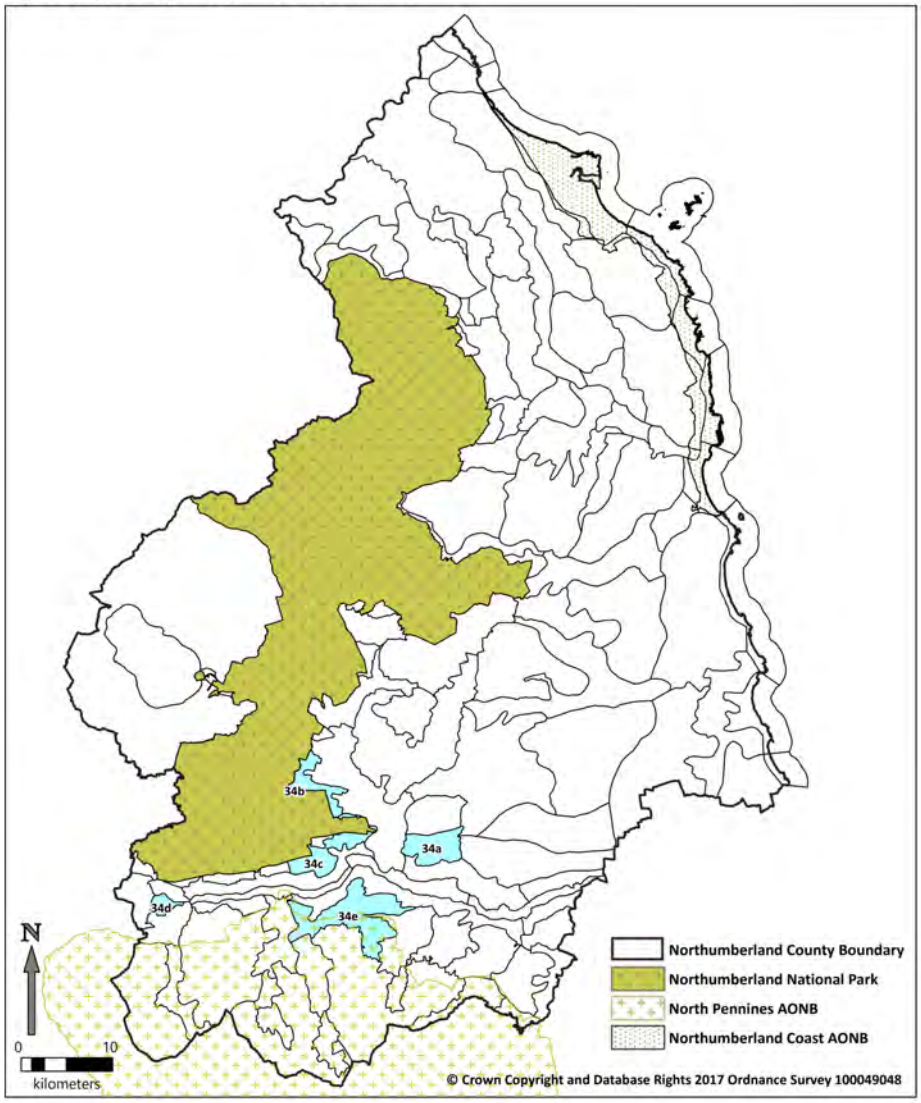
Landscape Sensitivity to Wind Energy Development
LCT 34: *Upland Commons and Farmland*

This LCT is located above the valley slopes of the Rivers South Tyne and North Tyne, forming a transitional landscape to the adjoining upland moorland and forest landscapes within Northumberland National Park, and to the North Pennines AONB into which it extends to the south. Generally it comprises open, elevated land between 200m and 250m, the elevation enabling views across the adjacent valleys and to the edge of the Kielder and Wark Forests within Northumberland National Park. This landscape therefore acts as an important visual setting to adjacent valleys.

This LCT is represented by five landscape character areas (LCA):

- **LCA 34a: *Acomb Ridge***
- **LCA 34b: *Broadpool Common***
- **LCA 34c: *Grindon Common***
- **LCA 34d: *Featherstone Common***
- **LCA 34e: *Lowes and Nubbock Fells***

Figure 38: LCT34 - Upland Commons and Farmland



Key Landscape Characteristics of LCT 34: *Upland Commons and Farmland*:

- Broad open ridges and plateau areas;
- Intermediate, transitional area between open moorland and forests and adjoining valley landscapes;
- Dissected by series of burns often flowing through incised cleughs (narrow gorge with high rocky sides);
- Strong medium to large-scale geometric pattern created by stone wall and hedgerow enclosures;
- Some improved pastures on lower slopes, giving way to unimproved rougher pastures on higher land; pastures are mainly wet and rushy;
- Broadleaved trees on lower slopes and in ravines;
- Small to medium-sized coniferous plantations creating 'blocky' character in places;
- Sparsely settled, with isolated farms marked by shelter woodland and connected by straight roads.

Landscape Sensitivity Profile of LCT 34: *Upland Commons and Farmland*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Geologically the landscape comprises thinly bedded limestones, sandstones and mudstones overlain with glacial till. Parts of the area form a relatively flat plateau, while others undulate gently as a result of drift deposits. In places the banding of the sandstone rock is evident in the undulating topography and in the drainage pattern where minor burns have cut ravines that reflect the faulting of the underlying geology. Overall a simple landform with some variety.	Low-moderate to Moderate
Land cover	Simple land cover of moorland, poorly drained rough pasture and bracken on high ground, with improved pastures on lower slopes. Patches of gorse and bracken provide evidence of banding of the sandstone and overall a textured landscape of muted colours. A variety of field boundaries include stone walls on elevated moorland, outgrown gappy hedgerows and post & wire fencing on lower ground, reflecting the landscape's transitional character. The strong geometric field pattern reflects planned 18th century enclosure of common land. The well-treed and in places well-wooded burns create a strong landscape pattern. Occasional trees on roadsides, in hedgerows and around farmsteads, with more extensive areas of geometric coniferous shelter belt plantations that create a 'blocky' character.	Low-moderate to Moderate
Landscape scale	Medium to large scale field pattern within a predominantly open landscape, although trees, woodland and blocks of coniferous plantations provide	Low-moderate to Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	a sense of enclosure in parts.	
VISUAL:		
Skylines	Generally simple, smooth, indistinctive moorland skylines, although woodland and plantations provide some complexity. A line of pylons is prominent on the skyline within or adjacent to most of the landscape areas within this LCT.	Low-moderate to Moderate
Views and landmarks	Long distance views northwards from the top of the ridge where the military road runs following the line of Hadrian's Wall; impact on the setting of the World Heritage Site is a significant feature of the LCT. Potential visual impact on views from Northumberland National Park and North Pennines AONB is a significant consideration.	Moderate to Moderate-high
Inter-visibility	High inter-visibility with the surrounding landscape from elevated ridges and across the Tyne Valley, including visibility with Northumberland National Park and North Pennines AONB.	Moderate-high to High
Visual receptors	Few residents but visibility from transport routes including the A68 and B6318.	Moderate to Moderate-high
PERCEPTUAL:		
Movement	Frequent movement on main transport routes within the LCT or beyond.	Low-moderate to Moderate
Built development	Dispersed farmsteads in shallow dips in the landform, some disused quarries, prominent line of pylons and transport routes with associated built development.	Low-moderate to Moderate
Remoteness	This LCT is not heavily populated and retains a high degree of tranquillity with few overt man-made structures. Open moorland and patches of bracken scrub reinforces a sense of wildness, but transport routes and visitor activity associated with Hadrian's Wall reduces the sense of remoteness.	Low-moderate to Moderate
QUALITATIVE:		
Scenic quality	The LCT lies within or adjacent to areas designated for their scenic beauty: the southern part of LCA 34e lies within the North Pennines AONB, whilst other LCAs border Northumberland National Park. The LCT is thus important to the setting of the North Pennines AONB and Northumberland National Park. Some upland moorland areas show a lack of management.	Moderate to Moderate-high
Distinctiveness	Extensive upland landscape is representative of the Northumberland landscape, with some distinctive features in particular the route and earthworks and other features associated with Hadrian's Wall.	Moderate to Moderate-high
Rarity	Extensive upland landscape is a more common landscape type within the County, with some unique features in particular the route and earthworks and other features associated with Hadrian's Wall.	Moderate to Moderate-high

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
HISTORIC & CULTURAL:		
Heritage assets	Remnant ridge and furrow and linear earthworks provide evidence of past human activity including arable cropping. The remains of Hadrian's Wall, comprising remnant sections of the wall and the *vallum* or ditch, runs along the top of a ridge following the military road (B6318) in LCA 34a and 34c.	Moderate to Moderate-high
Recreation	Hadrian's Wall World Heritage Site is a significant recreational and tourist attraction within LCA 34a and 34c. The Pennine Way National Trail runs along the edge of LCA 34b. National Cycle Network route 72 'Hadrian's Cycleway' runs through LCA 34c.	Moderate to Moderate-high
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	The physical characteristics of the landscape i.e. the predominantly medium to large scale, open, simple and consistent landform and land cover, would suggest that the *Upland Commons and Farmland* LCT is not particularly sensitive to wind energy development. However, this is an intermediate transitional landscape between open moorland and forests and adjoining valley landscapes, making the LCT especially sensitive in these terms. Furthermore, some parts are relatively tranquil and retain a sense of wildness that could be affected by wind energy development. The LCT forms an important visual backdrop to the Tyne Valley where the moorland ridges are an important characteristic; inter-visibility with the Tyne Valley, Northumberland National Park and the North Pennines AONB is a key consideration. Hadrian's Wall is a significant recreational and tourist attraction within and adjacent to the LCT where wind energy development could adversely affect views and the setting of the World Heritage Site.	
Cumulative effects	A single small scale wind turbine has been consented within LCA 34e. There are views of a small number of small to medium scale turbines in adjoining LCTs, however these do not adversely affect the character of the *Upland Commons and Farmland* LCT; cumulative effects are currently insignificant. Due to the importance of the landscape in views from surrounding LCTs, and in particular from the Tyne Valley, Northumberland National Park and the North Pennines AONB, it is important that additional development within or beyond the LCT does not result in cumulative effects adversely affecting the landscape character of the Tyne Valley, Northumberland National Park and the North Pennines AONB, or views to and the setting of Hadrian's Wall World Heritage Site.	

LCT 34: *Upland Commons and Farmland* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 34a: *Acomb Ridge*	H	H	H	H	H
LCA 34b: *Broadpool Common*	M-H	H	H	H	H
LCA 34c: *Grindon Common*	H	H	H	H	H
LCA 34d: *Featherstone Common*	H	H	H	H	H
LCA 34e: *Lowes and Nubbock Fells*	M-H	H	H	H	H

Overall Landscape Sensitivity of LCT34: *Upland Commons and Farmland*	In general LCT 34 is unsuitable for wind energy development. Single or a small group of carefully sited small scale turbines up to 25m height to blade tip may be suitable within LCAs 34b and 34e where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be closely associated in location and scale to farm buildings or other domestic scale features in the landscape. They should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. Small scale turbines up to 25m height to blade tip within LCAs 34a, 34c and 34d, and small-medium and larger turbines throughout the LCT would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development, including the landscape setting and views to and from Northumberland National Park, North Pennines AONB and Hadrian's Wall World Heritage Site. These considerations together with inter-visibility across the Tyne Valley make the elevated ridges of the LCT particularly sensitive to all scales of wind energy development.

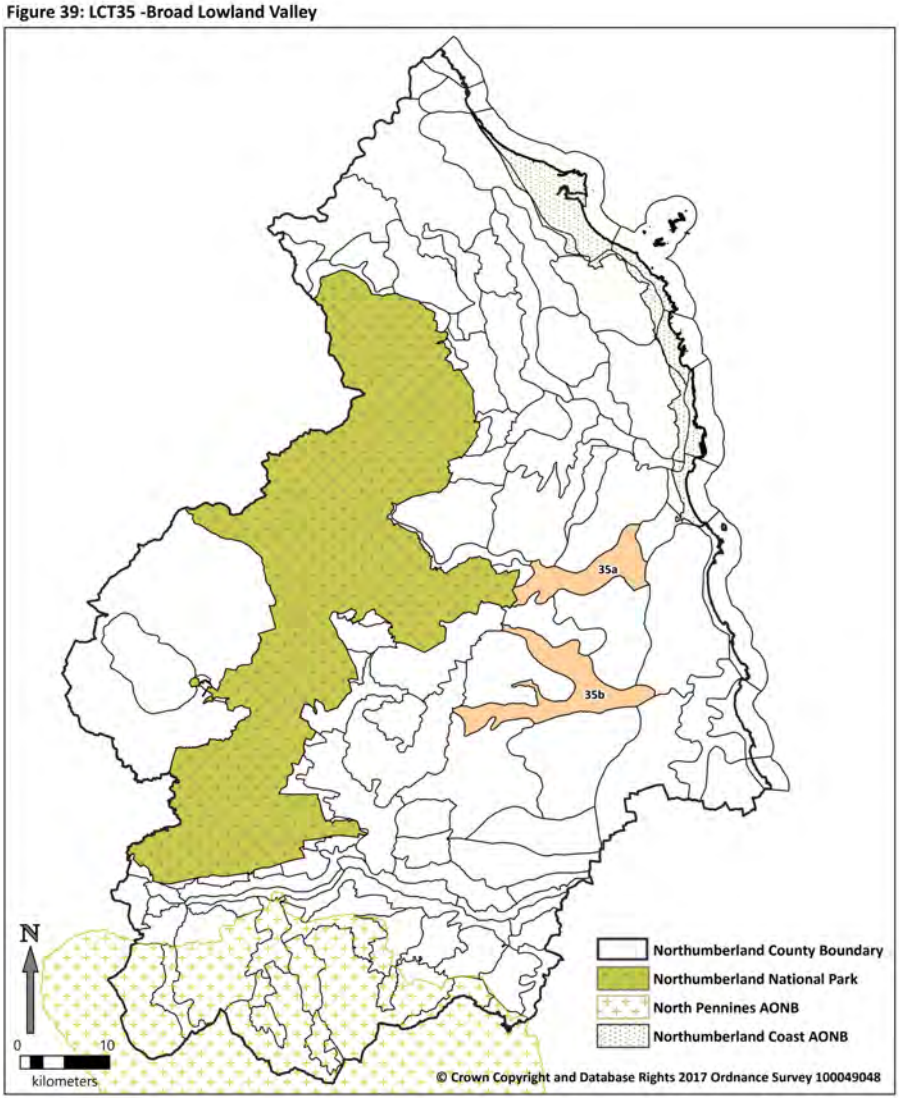
Landscape Sensitivity to Wind Energy Development
LCT 35: *Broad Lowland Valleys*

This LCT lies within the transitional landscapes of mid-Northumberland. It comprises the broad, gently V-shaped valleys of the Coquet, Font and Wansbeck rivers, between the sandstone hills to the west and the coastal plain to the east. Northumberland National Park lies a short distance to the west, abutting LCA 35a.

This LCT is represented by two landscape character areas (LCA):

- **LCA 35a: *Coquet Valley***
- **LCA 35b: *Font and Wansbeck Valleys***

Figure 39: LCT35 -Broad Lowland Valley



Key Landscape Characteristics of LCT 35: *Broad Lowland Valleys*:

- Broad, gently v-shaped valleys set into rolling farmland;
- In places the deeply incised, steep-sided valley landscape is in sharp contrast to the surrounding farmland;
- Medium to small-scale mixed farming landscape with enclosure provided principally by hedgerows;

- Riparian woodlands are frequent alongside meandering river channels, contributing significantly to enclosure;
- Significant local estate influences including large country houses set in designed parkland.

Landscape Sensitivity Profile of LCT 35: *Broad Lowland Valleys*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Broad, gently V-shaped, low-lying valleys meander through the landscape, cutting shallow courses through drift deposits. Topographical variety where the valleys are more sharply incised as they flow out of the *Northumberland Sandstone Hills* to the west, cutting through the underlying millstone grit and forming steep valley sides, with wooded ravines and boulders along the river bed. The River Font emerges from the Fontburn Reservoir under the steep slopes of the Wingates ridge.	Moderate to Moderate-high
Land cover	Agricultural land use comprises a simple mix of arable crops and pasture fields, generally bounded by hedgerows with some stone walls. Improved pasture gives way to larger arable fields on the gentler slopes. Meandering river sides are well wooded with riparian vegetation. There is ancient woodland at various riparian locations including Mitford, Hartburn, and Nunnykirk. Mature parkland associated with Registered Parks and Gardens and other ornamental grounds.	Moderate to Moderate-high
Landscape scale	Generally open, medium to small scale farmland with medieval field patterns in some places, but more intimate along incised valleys particularly in the west. Woodland and gently undulating landform has an enclosing effect on views.	Moderate to Moderate-high
VISUAL:		
Skylines	Largely simple, undeveloped skylines formed by surrounding farmland, but woodlands provide some variety on the horizon. A line of prominent pylons crosses both valleys in several places.	Lower to Low-moderate
Views and landmarks	The landscape is visible from limited parts of the sandstone hills and elevated parts of Northumberland National Park to the west, including Simonside Hills. Locally, woodland and gently undulating landform foreshortens views although road overbridges provide mid-distance views along the valleys. Occasional landmarks include country houses.	Low-moderate to Moderate
Inter-visibility	Valley landform, woodland and gently undulating farmland limits outward views but inter-visibility with surrounding higher ground to the west, including Simonside Hills in Northumberland National Park, is	Moderate to Moderate-high

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	important.	
Visual receptors	Visibility from dispersed settlements, cottages and farmsteads, main 'A' roads, local road network including a number of 'B' roads, from the urban edge of Morpeth and the footpath network including St. Oswald's Way long distance footpath.	Moderate to Moderate-high
PERCEPTUAL:		
Movement	Frequent movement on the A1, A696 and A697, and from the urban edge of Morpeth, less so on the local road network including a number of 'B' roads. Other areas are more remote and tranquil with limited movement.	Low-moderate to Moderate and Moderate to Moderate-high
Built development	Occasional small villages lie along the rivers, located at crossing points or on the slopes above the water. The town of Morpeth lies at the eastern end of LCA 35b but does not exert a strong influence on the Wansbeck valley, east of Mitford, since built development within the town is not especially prominent. The A1 crosses both valleys, in some areas on substantial bridges, and other main roads also pass through. A line of pylons crosses both valleys in several places. A number of large country estates exert a significant designed and managed influence on landscape character through their use of specific and consistent traditional materials such as stone and styles of construction.	Moderate to Moderate-high
Remoteness	The more intimate scale landscapes, where the valleys are incised and there is woodland enclosure, are relatively remote and tranquil. Elsewhere ease of access and human activity reduces remoteness.	Moderate to Moderate-high
QUALITATIVE:		
Scenic quality	Relatively high scenic quality within the meandering, well-wooded river valleys with good management, especially within country house and estate parklands, and close to Northumberland National Park. Hedgerow deterioration is evident in some areas, notably where arable crops are grown and the need for functional boundaries is diminished.	Moderate to Moderate-high
Distinctiveness	Distinctive lowland wooded river valley landscape, with some distinctive topographical and historic features.	Moderate to Moderate-high
Rarity	Broad lowland valley landscape is relatively common within Northumberland – although there are only two LCAs they cover a relatively large area. Some features are quite rare in the county e.g. lowland incised wooded ravines.	Low-moderate to Moderate
HISTORIC & CULTURAL:		
Heritage assets	The landscape shows much evidence of earlier settlement: field patterns are of medieval origin in places, with evidence of ridge and furrow cultivation; a number of large country estates exert a significant	Moderate to Moderate-high

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	influence on landscape character, including Registered Parks and Gardens at Kirkharle (home of Lancelot 'Capability' Brown) and the Wallington estate (Wallington Hall Grade I Listed); Conservation Areas at Felton, Kirkwhelpington, Middleton, Morpeth and Netherwitton; deserted medieval village of South Middleton; Mitford Castle; cairns; Roman camps and The Devil's Causeway Roman Road.	
Recreation	St. Oswald's Way long distance footpath follows the River Coquet corridor; elsewhere the local footpath network is intermittent. The River Coquet is nationally important for game fishing (salmon and sea trout). Brinkburn Priory is an English Heritage property. Wallington Hall, gardens and estate are National Trust-owned with public access, as there is also to the estate at Kirkharle.	Low-moderate to Moderate
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	Broad, gently V-shaped lowland, meandering river valleys, lying between the sandstone hills to the west and the flat coastal plain to the east. Inter-visibility with Northumberland National Park and adjacent sandstone hills: Northumberland National Park lies adjacent to LCA 35a and is important in contributing to overall landscape character and scenic quality of the LCT, and vice versa. Overall the landscape has a traditionally managed character, with country houses and estate parkland contributing significantly to this. Steep valley sides with wooded ravines provide natural variety and tranquillity, in contrast to busy transportation corridors.	
Cumulative effects	There are no wind turbines within this LCT. There are views of a small number of small to medium scale turbines in adjoining LCTs, and glimpses through vegetation to Wingates windfarm located in-between LCA 35a and 35b. Views from within Northumberland National Park (for example from the Simonside Hills) across the LCT are characterised by middle and longer distance wind turbines. These do not adversely affect the character of the *Broad Lowland Valleys* LCT; cumulative effects are currently insignificant, although additional turbine groups in vistas to the coast and to the south may result in cumulative effects harmful to the setting of Northumberland National Park in the western parts of the LCT. Existing pylons provide man-made intrusions into the valley landscape but do not necessarily reduce sensitivity to wind energy development. In a sensitive landscape the addition of turbines may create unacceptable cumulative effects with existing vertical features such as pylons. Cumulative effects of any new wind energy development within the LCT with existing turbines that are visible in neighbouring LCTs, for example Wingates Windfarm in LCA 37a, should be avoided.	

LCT 35: *Broad Lowland Valleys* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 35a: Coquet Valley	M-H	H	H	H	H
LCA 35b: Font and Wansbeck Valley	M	M-H	H	H	H

Overall Landscape Sensitivity of LCT35: *Broad Lowland Valleys*	In general LCT 35 is unsuitable in principle for wind energy development, although single or a small group of carefully sited small scale turbines up to 25m height to blade tip would be suitable in principle within LCA35b. They should be closely associated with the scale and location of farm buildings and other man-made built development or domestic scale features in the valley landscape. Small-scale turbines up to 25m height to blade tip within LCA35a and small-medium scale turbines between 26m-40m height to blade tip within LCA35b may be suitable in some locations, for example within the A1 corridor, where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should be associated with existing built development so as to reduce their prominence/dominance, and they should not out-compete important foci in the landscape. Small-medium scale turbines between 26m-40m height to blade tip within LCA35a and larger turbines throughout the LCT would significantly affect key characteristics and qualities of the lowland valley landscape that are highly sensitive to this type and scale of development, including the landscape setting and views to and from Northumberland National Park (including the distinctive skyline of the Simonside Hills). Larger turbines are generally unsuitable within a lowland valley landscape where there is a strong sense of naturalness.

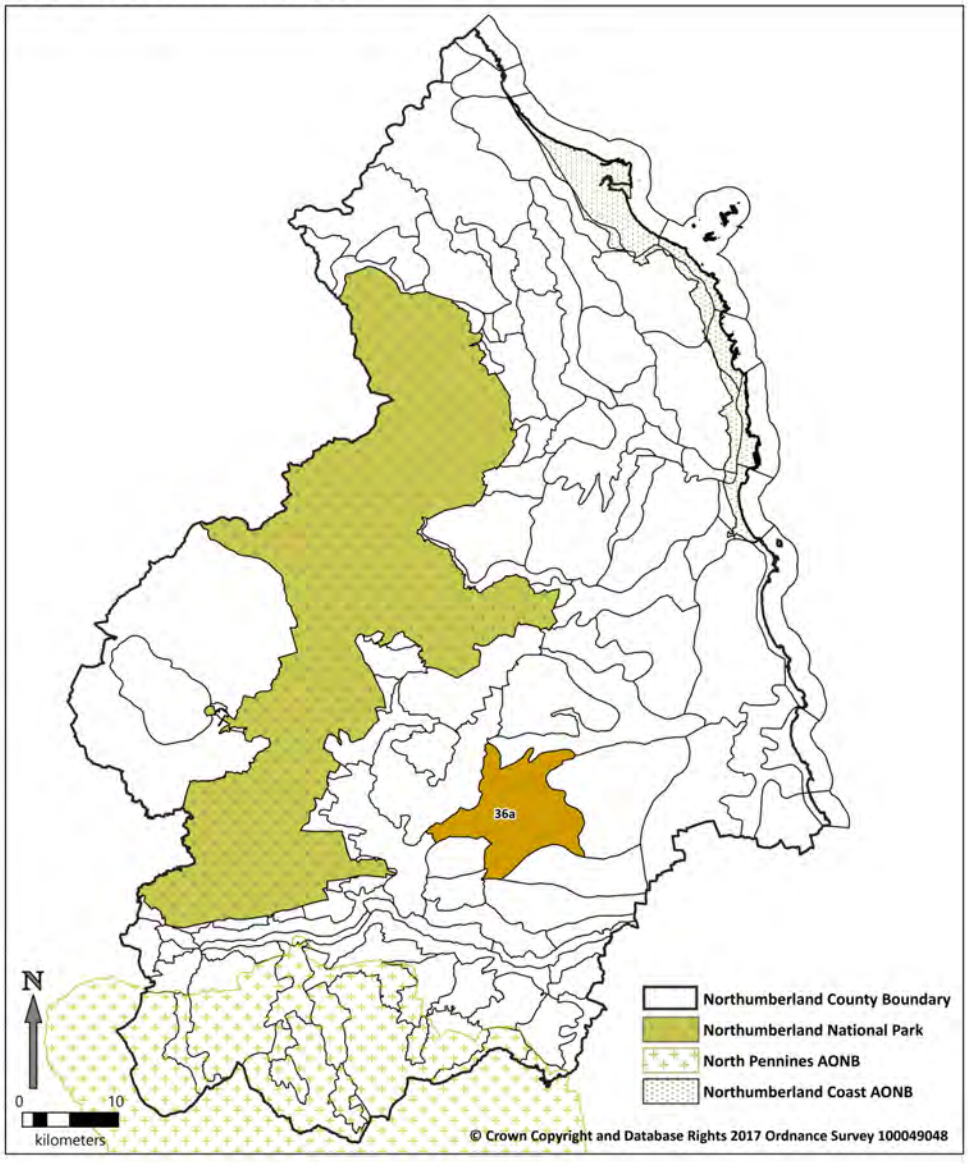
Landscape Sensitivity to Wind Energy Development
LCT 36: *Lowland Farmed Moor*

This LCT is located within mid-Northumberland, a transitional landscape between the hills and upland fringe to the west, and the farmland and coastal plain to the east. It lies between the valleys of the River Wansbeck to the north, the River Pont to the south, and the tributaries of the River North Tyne to the west.

This LCT is represented by one landscape character area (LCA):

- **LCA 36a: *Ingoe Moor***

Figure 40: LCT36 - Lowland Farmed Moor



Key Landscape Characteristics of LCT 36: *Lowland Farmed Moor*:

- Elevated, exposed, plateau-like ridge;
- Open rolling farmland;
- Regular enclosure pattern;

- Remnants of moorland, exposed crags and quarries;
- Occasional small woodlands and shelterbelts.

Landscape Sensitivity Profile of LCT 36: *Lowland Farmed Moor*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	A simple elevated, relatively open and exposed, rolling, plateau-like ridge lying between river valleys, sloping generally from north-west to south-east. Bands of sandstones and limestones underlie the area, providing some variety in landform by way of occasional craggy outcrops, with deep drift deposits forming the rolling topography.	Low-moderate to Moderate
Land cover	Rectilinear fields of mixed pasture and arable farmland, bounded by stone walls, gappy hedges and wire fences, with remnant moorland and few trees. Small field copses and medium scale plantations add variety in land cover through central and lower lying eastern parts. Remnants of rough grazing on exposed sites.	Low-moderate to Moderate
Landscape scale	Generally large fields, limited enclosure and the broad open landform give the perception of a medium to large scale transitional upland fringe landscape. This contrasts with adjoining sheltered valley landscapes.	Lower to Low-moderate
VISUAL:		
Skylines	Simple skyline formed by gently rolling moorland, occasionally interrupted by plantation woodland and large scale wind turbines.	Lower to Low-moderate
Views and landmarks	The landscape is not prominent and does not contain any important viewpoints or views to or from important landmark features. Variations in landform such as crags and other rocky outcrops e.g. at Shaftoe Crags provide natural landscape foci.	Lower to Low-moderate
Inter-visibility	Limited inter-visibility despite the open exposed nature of the landscape, with some inter-visibility with the sandstone hills to the west.	Low-moderate to Moderate
Visual receptors	Sensitive visual receptors are limited to residents of farmsteads and in dispersed villages and hamlets, users of St. Oswald's Way long distance route and National Cycle Network route 10 that pass a short way through the LCT, small sections of the A68 and A696 and the local road and public rights of way network.	Low-moderate to Moderate
PERCEPTUAL:		
Movement	Generally a relatively still, quiet landscape with man-made movement limited to farming activity and occasional vehicle traffic. However, moving blades on medium and medium-large scale wind turbines are prominent features in the landscape.	Moderate to Moderate-high
Built development	Limited industrial influence, although past and on-going	Moderate to

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	mineral quarrying is evident. Existing wind farms at Kirkheaton and Bavington Mount, and other turbines and masts, and main 'A' roads that cross the north-eastern and south-western corners of the LCT are the main form of landscape modification. A sparsely settled landscape with scattered stone farmsteads often with large modern barns, small villages and hamlets.	Moderate-high
Remoteness	An accessible landscape largely man-modified, ordered and intensively farmed, with limited tranquillity and remoteness.	Low-moderate to Moderate
QUALITATIVE:		
Scenic quality	Not a landscape of high scenic quality, with little structure and gappy field boundaries.	Low-moderate to Moderate
Distinctiveness	The landscape does not contain any particularly distinctive features or elements; a transitional upland fringe / lowland farmed open moor not particularly representative of Northumberland, although with some sense of place.	Low-moderate to Moderate
Rarity	The landscape does not contain any particularly rare elements or features, but this LCT is a less frequent landscape, with only one LCA, within the County.	Low-moderate to Moderate
HISTORIC & CULTURAL:		
Heritage assets	Some significant historic features, including Capheaton Hall, estate and Registered Park and Garden, Conservation Area at Great Whittington, historic hamlets e.g. Ingoe. Heritage assets include standing stones and a number of burial mounds / barrow / *Tumulas*. *Dere Street* Roman Road crosses the area in the west, and the course of the Devil's Causeway Roman Road crosses diagonally from Great Whittington to Bolam.	Moderate to Moderate-high
Recreation	Little used for recreation; St. Oswald's Way long distance route and National Cycle Network route 10 pass through the area. Hallington Reservoir provides private angling.	Low-moderate to Moderate
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	Despite being generally open and exposed, this lowland farmed moorland is relatively well contained by the rolling topography which limits inter-visibility with adjoining landscapes. Adjacent character types do not contribute to the character of this LCT. Generally the landscape and visual attributes indicate reduced sensitivity to wind energy development. This LCT already includes medium and medium-large scale wind turbines which contribute significantly to the character of the area around Kirkheaton and Hallington. Key considerations are potential impact of further development on the setting of heritage assets, including the Capheaton estate, and the setting and views from natural features such as craggy outcrops which act as landscape foci.	
Cumulative effects	There is an existing wind farm in the LCT, at Kirkheaton (3No. x 66m to	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	blade tip) and a single turbine at Bavington Mount (1No. x 61m to blade tip), and a small number of single small and small-medium sized wind turbines. Views also north-westwards to Green Rigg Windfarm (18No. x 120m) and Ray Windfarm (16No. x 125m). Consequently this is a landscape influenced by wind energy installations where further wind energy development could create a wind farm landscape where turbines become dominant characteristics, and add to sequential cumulative effects when travelling along the A68 and A696.	

LCT 36: *Lowland Farmed Moor* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 36a: Ingoe Moor	L	L-M	L-M	M	M

Overall Landscape Sensitivity of LCT36: *Lowland Farmed Moor*	In general wind energy development of any scale would be suitable in principle within LCT36. Development proposals for all size of wind turbine within the LCT should demonstrate that any significant landscape and visual effects, including cumulative effects, will not result in unacceptably harmful landscape change or visual intrusion. However, additional wind energy development within the LCT may be preferable to allowing wind energy development in more sensitive landscapes.

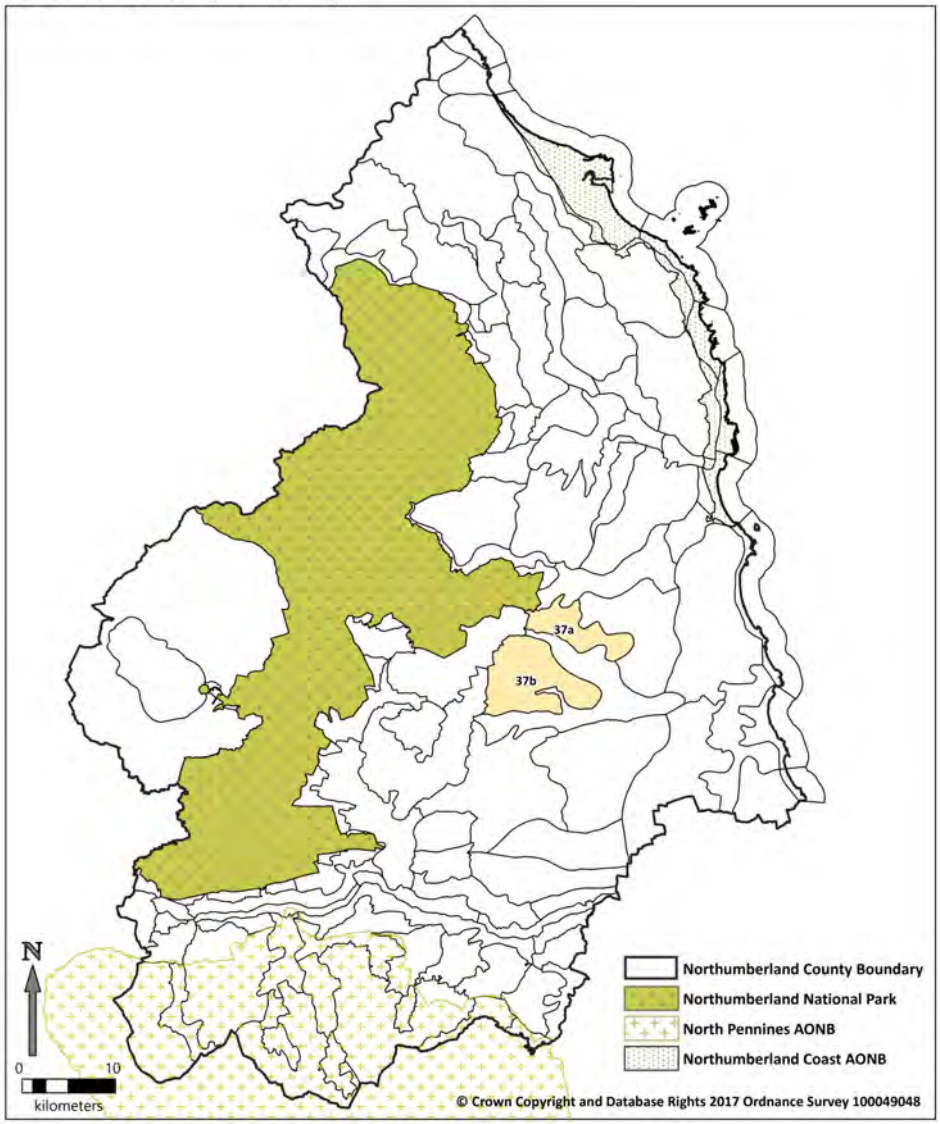
Landscape Sensitivity to Wind Energy Development
LCT 37: *Lowland Farmed Ridges*

This LCT comprises two broad, relatively low ridges located on the higher ground between the broad lowland river valleys of the *Coquet Valley* (LCA 35a) and the *Font and Wansbeck Valley* (LCA 35b). The *Lowland Farmed Ridges* LCT has an upland fringe character and is physically and visually linked to the sandstone hills and the nearby Northumberland National Park to the west.

This LCT is represented by two landscape character areas (LCA):

- **LCA 37a: *Wingates Ridge***
- **LCA 37b: *Longwitton Ridge***

Figure 41: LCT37 - Lowland Farmed Ridges



Key Landscape Characteristics of LCT 37: *Lowland Farmed Ridge*:

- Elevated, rolling upland fringe farmland;
- Relatively open, medium to large scale;
- Coniferous shelterbelts and plantations;

- Areas of moorland rough grazing, particularly to the west, amongst mixed farmland with pasture fields predominant.

Landscape Sensitivity Profile of LCT 37: *Lowland Farmed Ridge*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Landform is varied but without strong complexity. Broad, elevated, west-east aligned central ridge drained by minor burns falling northwards and southwards into the more steeply sided river valleys, within an undulating upland fringe landscape sloping generally eastwards. Topographical variation is least towards the east but more varied to the west where there are exposed rocky outcrops and crags.	Moderate to Moderate-high
Land cover	Some variety in land cover, where pasture fields predominate grazed by sheep, cattle and horses, bounded by wire fences and dry stone walls, with arable land towards the east. Gappy hedgerows show evidence of exposure to the wind, becoming more frequent to the east with hedgerow trees along roadsides. Coniferous plantations and small shelterbelts are common, with notable areas of ancient woodland, frequent scrub and patches of bracken encroachment on open treeless pastureland. Mature estate parkland and associated with large houses and halls. Dry heathland at Longhorsley Moor. Scattered hamlets and farmsteads linked by local rural roads are generally traditional in character.	Low-moderate to Moderate
Landscape scale	Medium to large scale field pattern. Topographical undulations provide variety in scale, with higher open exposed ridges and smaller scale enclosed and sheltered areas.	Low-moderate to Moderate
VISUAL:		
Skylines	Skylines are largely simple, formed by gently undulating farmland and adjoining hills. Development includes conspicuous pylons on high ground and tall wind turbines which provide complexity of visual horizons.	Low-moderate to Moderate
Views and landmarks	The broad exposed ridges offer good vantage points with views out to surrounding landscapes. The LCT forms part of the setting of Northumberland National Park, with important views to and from the Simonside Hills. Views extend eastwards to the coast and across the valleys to the north and south. Historic buildings are prominent landmarks.	Moderate to Moderate-high
Inter-visibility	Extensive inter-visibility from higher exposed areas with strong links to adjacent landscapes including Northumberland National Park to the west, across the coastal plain to the coast to the east, and across the river valleys to the north and south.	Moderate to Moderate-high

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
Visual receptors	The LCT is a settled landscape but with relatively few numbers of visual receptors, and views from transport corridors limited to the minor local road network. Also from local public rights of way.	Low-moderate to Moderate
PERCEPTUAL:		
Movement	A relatively quiet upland fringe landscape where man-made movement is limited, for example local traffic on rural roads. Movement of large turbine blades at Wingates Windfarm is a significant issue within LCA 37a, and to a lesser extent at Ray Windfarm which is seen from LCA 37b and which also affect adjoining landscapes.	Moderate to Moderate-high
Built development	Built development is limited to: evidence of past quarry and mineral extraction in the west; a conspicuous line of pylons crossing both ridges in eastern parts of the LCT; Wingates Windfarm (6No. x 110m) is a prominent man-made modification in the landscape, with views to Ray Windfarm, a small number of masts and other small turbines. There are no main roads or railways, or large settlements within the LCT.	Moderate to Moderate-high
Remoteness	An accessible landscape but only by minor roads, with a remote quality in exposed areas and in pockets of smaller-scale sheltered land, albeit human-influenced.	Moderate to Moderate-high
QUALITATIVE:		
Scenic quality	An intact landscape with signs of positive management. Within the setting of Northumberland National Park recognised for its high scenic quality.	Moderate to Moderate-high
Distinctiveness	A distinctive upland fringe landscape with close association with Northumberland National Park, and a distinctive sense of place.	Moderate to Moderate-high
Rarity	Areas of dry heathland are protected as SSSIs as a diminishing habitat once widespread in Northumberland but significantly reduced by agricultural improvement. Otherwise the rolling upland farmed ridges are relatively common within Northumberland.	Low-moderate to Moderate
HISTORIC & CULTURAL:		
Heritage assets	A relatively historic landscape, with ancient settlements and enclosures, *bastle* house (16th century defensive farmhouse), several halls set within parkland and designed gardens e.g. Rothley Hall, Longwitton Hall, Needless Hall and Hartington Hall, and prominent folly buildings at Codger Fort and Rothley Castle. The course of the Devil's Causeway Roman Road passes across the eastern end of the LCT. Rothley Lakes is a Lancelot 'Capability' Brown designed landscape within the extensive Wallington estate.	Moderate to Moderate-high
Recreation	Local rights of way network across the LCT, including a footpath along a disused railway line. Caravan park at	Low-moderate to Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	Todburn Moor.	
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	Physical attributes of land cover and landscape scale suggest reduced sensitivity to medium-large and larger scale wind energy development. However, the LCT exhibits a strong traditional, rural character, with small hamlets and estate villages, and scattered farmsteads linked by a network of local minor roads. The perception is of a relatively quiet, remote upland fringe landscape with limited built development (although electricity pylons and Wingates Windfarm are very conspicuous and prominent) with some sensitive historic assets. One of the key considerations, however, is the role the landscape plays in the setting of Northumberland National Park, with impact on key views, including from the Simonside Hills, a major issue. The high degree of inter-visibility with adjacent and more distant landscapes increases sensitivity to further large scale wind energy development, especially within LCA 37b which is currently free of large wind turbines.	
Cumulative effects	Wingates Windfarm (6No.turbines x 110m to blade tip) is prominent in the landscape. There is also a small number of small-medium scale wind turbines within the LCT. A major issue is the potential cumulative effect of further wind turbines in views from Northumberland National Park, with impact on key views including from the Simonside Hills a significant consideration.	

LCT 37: *Lowland Farmed Ridge* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 37a: Wingates Ridge	L-M	M	M	M-H	M-H
LCA 37b: Longwitton Ridge	L-M	M	M	M-H	M-H

Overall Landscape Sensitivity of LCT37: *Lowland Farmed Ridge*	In general LCT37 is suitable in principle for carefully sited small scale, small-medium scale and medium scale wind turbines up to 65m height to blade tip. Small scale and small-medium scale turbines up to 40m height to blade tip should be closely associated with the scale and location of farm buildings and other domestic-scale features in the landscape. In general, medium-large scale and larger scale wind turbines would be unsuitable in principle unless it can be shown that effects on the most sensitive characteristics, such as prominent historic buildings and country estates, and cumulative effects would not be significant. For example, a minor extension to Wingates Windfarm or an additional windfarm of similar scale and location within LCA 37a may not increase cumulative effects significantly (subject to detailed assessment). A large scale windfarm may be suitable within LCA 37b by way of maintaining an appropriate separation distance with Wingates and other windfarms in adjacent LCTs (namely Ray and Green Rigg in the sandstone hills to the southwest, and Bavington Mount and Kirkheaton on the lowland farmed

	moor within Mid-Northumberland to the south) depending upon impacts on key characteristics such as sensitive views and the setting of heritage assets. This may be preferable to allowing wind energy development in more sensitive landscapes (subject to detailed assessment).

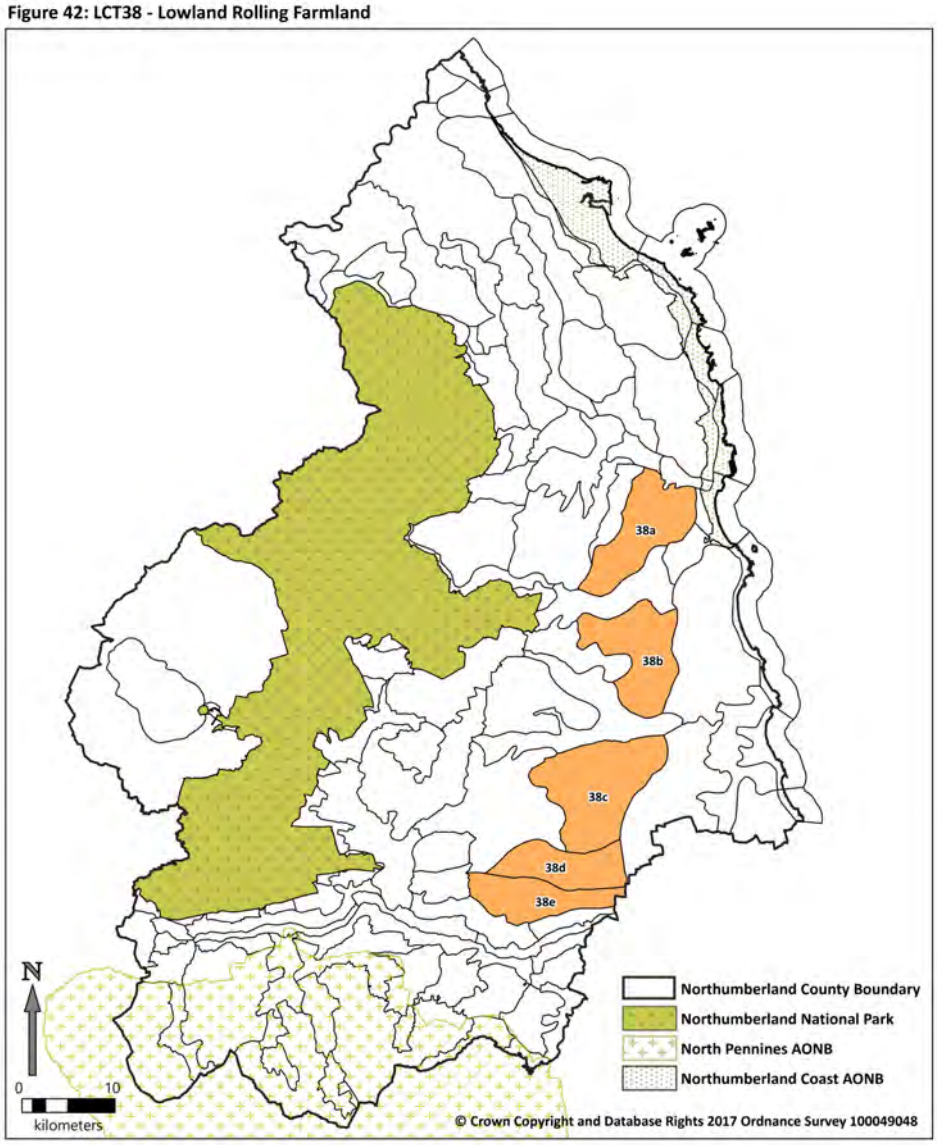
Landscape Sensitivity to Wind Energy Development
LCT 38: *Lowland Rolling Farmland*

This LCT covers a large area of rolling or undulating farmland, stretching from the Tyne Gap in the south to Alnwick in the north. The broad lowland river valleys of the *Coquet Valley* (LCA 35a) and the *Font and Wansbeck Valley* (LCA 35b) cut through the *Lowland Rolling Farmland* from the sandstone hills in the west to the coastal plain in the east. Although there are variations in enclosure, patterns, and tree cover in this landscape, the overall form is relatively continuous.

This LCT is represented by five landscape character areas (LCA):

- **LCA 38a: *Longframlington***
- **LCA 38b: *Longhorsley***
- **LCA 38c: *Whalton and Belsay***
- **LCA 38d: *Pont Valley***
- **LCA 38e: *North Tyne Ridge***

Figure 42: LCT38 - Lowland Rolling Farmland



Key Landscape Characteristics of LCT 38: *Lowland Rolling Farmland*:

- Undulating agricultural landscape with rich soils under predominantly arable cultivation;

- Generally little tree cover other than hedgerow trees, with occasional small-scale copses, woodlands and occasional large coniferous plantations;
- Medium-scale parliamentary enclosure landscape;
- Field enclosure by hedgerows, with frequent hedgerow trees, has become fragmented in many places;
- Trunk roads and prominent road alignments exert a strong influence;
- Locally important estate influences, with woodland, and estate villages.

Landscape Sensitivity Profile of LCT 38: *Lowland Rolling Farmland*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Generally a simple, smoothly undulating or in parts rolling landform as a result of thick drift deposits overlying Millstone Grit and limestones. Relatively elevated at between 100m – 150m AOD (though almost 200m in some places) and gradually sloping from west to east, drained by a series of burns and small rivers. Some variation in landform but lacking complexity, e.g. LCA 38d is the shallow *Pont Valley*; LCA 38e is an open ridge that falls steadily southwards to the Tyne Valley.	Moderate to Moderate-high
Land cover	Generally a simple pattern of land cover, with predominantly intensive arable land use and pasture on higher ground to the west. Generally little tree cover although variety is provided by way of hedgerow trees, small-scale woodlands, and occasional large plantations and native riparian burn-side woodland. Mature parkland and designed gardens associated with large estates and halls provide further variety. There are many human / domestic scale indicators in the landscape.	Moderate to Moderate-high
Landscape scale	Generally medium to large scale, open and exposed landscape, although small to medium scale and more sheltered e.g. in parts of the *Pont Valley* (LCA 38d). Strong enclosure pattern of regular fields with hedgerow boundaries giving way to post and wire and stone walls on higher ground and around estates. The rolling topography provides contrasts in scale. Extensive coniferous plantations provide enclosure and screening in some locations.	Low-moderate to Moderate and Moderate to Moderate-high
VISUAL:		
Skylines	Largely simple skylines formed by undulating or rolling farmland, but with complexity in parts where views open out beyond the LCT or due to the presence of features on the horizon including woodland, transportation corridors or conspicuous built development including pylons.	Low-moderate to Moderate
Views and	Mostly locally significant views with few landmarks,	Low-moderate to

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
landmarks	limited to occasional views westwards to Northumberland National Park and eastwards to the coast. Historic halls and vertical structures including masts and water towers are landmark features. Views from major transport routes that cut through the LCT including the A1, A697, A696 and the A69.	Moderate
Inter-visibility	The rolling topography provides contrast in views, with expansive inter-visibility from more elevated locations, in particular inter-visibility between LCA 38a and the Northumberland Coast AONB to the east, between LCA 38b and the Coquet Valley (LCA35a) to the north and Northumberland National Park to the west, and between LCA 38e and the Tyne Valley to the south.	Moderate to Moderate-high
Visual receptors	A settled landscape with overall large numbers of residential receptors. Alnwick, Morpeth and Ponteland are main settlements bordering the LCT although views are limited. Views from several major 'A' roads and the local road network through the LCT. Hadrian's Wall World Heritage Site in LCA 38e attracts large numbers of visitors.	Moderate to Moderate-high
PERCEPTUAL:		
Movement	A well settled landscape where several major 'A' roads provide frequent movement through large parts of the LCT.	Low-moderate to Moderate
Built development	Large parts of the LCT retain a strong rural character, albeit intensively managed farmland, with a regular scattered settlement pattern of villages, hamlets and farmsteads linked by minor local roads, although some include modern housing extensions. Prominent linear transport routes provide conspicuous man-made modification. Several masts, water towers, and small scale wind turbines are conspicuous vertical features, and there are views to large scale wind farms in several locations beyond the LCT to the west and east. Several lines of pylons pass through southern LCAs westwards from Newcastle upon Tyne, one line continuing northwards through or close to the LCT. Evidence of mining and industrial activity in the north, and concentrations of buildings e.g. at airfields (former military and operational).	Low-moderate to Moderate
Remoteness	Generally an accessible landscape, heavily influenced by man, although some areas are relatively remote and tranquil away from the main transport corridors.	Low-moderate to Moderate
QUALITATIVE:		
Scenic quality	A reasonably intact agricultural landscape, although field hedgerows have become fragmented in places. Historic estate influences and association with nearby landscapes of high scenic quality within Northumberland National Park and Northumberland	Moderate to Moderate-high

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	Coast AONB.	
Distinctiveness	*Lowland Rolling Farmland* is a relatively common landscape type within mid-Northumberland, with few distinctive characteristics, features or elements but with some sense of place. LCA 38e North Tyne Ridge is a distinctive south-facing ridge.	Low-moderate to Moderate
Rarity	*Lowland Rolling Farmland* covers an extensive area of mid-Northumberland and is a typical landscape within the County. LCA 38e North Tyne Ridge and its association with the Tyne Valley makes it a more unusual landscape than other rolling farmland areas.	Lower to Low-moderate
HISTORIC & CULTURAL:		
Heritage assets	Historic features include halls and estate influences, such as Belsay and Bolam, historic settlements some of which are Conservation Areas, Registered Parks and Gardens at Belsay and North Saltwick, historic towers, Scheduled Monuments e.g. East Matfen and Ogle (earthworks and castle), deserted and shrunken medieval villages. Increased Roman influence to the south includes Hadrian's Wall World Heritage Site and associated features within LCA 38e.	Moderate to Moderate-high
Recreation	Limited recreational use within the LCT. Linden Hall (LCA 38a) is now a hotel and golf club, with other golf courses in the landscape and a Country Park at Bolam Lake. Belsay Hall is a key attraction. Hadrian's Wall World Heritage Site and National Trail are major tourist and recreational attractions within LCA 38e.	Low-moderate to Moderate
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	A large area of rolling or undulating farmland between the sandstone hills in the west and the coastal plain in the east, divided by broad lowland river valleys, with the Tyne Valley also influencing the character of the LCT to the south. Inter-visibility with these neighbouring landscapes increases sensitivity to wind energy development despite landscape scale generally suggesting reduced sensitivity to medium and larger scale wind farms. There are some urban fringe influences on the landscape but in general it retains a strong rural character, albeit intensively managed arable farmland, with a regular scattered settlement pattern of villages, hamlets and farmsteads linked by minor local roads. Frequent movement along major road corridors through the landscape, and other built development including prominent vertical structures (such as communication masts and water towers) also suggests reduced sensitivity, but away from these elements the landscape is relatively remote and tranquil where larger scale wind energy development is likely to significantly affect landscape character. A high number of sensitive visual receptors are likely to experience a significant change in views and visual amenity as a result of the introduction of medium to large scale wind energy development into this LCT where currently there are none. Impacts on the setting of heritage assets and the popular tourist attraction of Hadrian's Wall World Heritage Site are a key consideration.	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	The many human / domestic scale indicators in the landscape, such as field boundary hedgerows, trees and walls, small woodland copses and domestic buildings increases the capacity of the landscape to accommodate this scale of wind energy development.	
Cumulative effects	This LCT is currently free of wind energy development other than a small number of small and small-medium scale single wind turbines. There are views to large wind farms within neighbouring LCTs from more open elevated parts of the LCT, on higher ground to the west (Wingates, Ray, Green Rigg, Bavington Mount and Kirkheaton wind farms) and on the coastal plain to the east (North Steads, Sisters and Lynemouth wind farms). Large scale wind energy development within this LCT is likely to fall within zones of visibility of operational wind farms that could create cumulative effects in sensitive views to/from the sandstone hills and Northumberland National Park in the west and to/from the coastal plain including the Northumberland Coast AONB in the east.	

LCT 38: *Lowland Rolling Farmland* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 38a: Longframlington	M	M-H	H	H	H
LCA 38b: Longhorsley	M	M-H	H	H	H
LCA 38c: Whalton and Belsay	M	M-H	H	H	H
LCA 38d: Pont Valley	M-H	H	H	H	H
LCA 38e: North Tyne Ridge	M-H	H	H	H	H

Overall Landscape Sensitivity of LCT38: *Lowland Rolling Farmland*	In general LCT38 is suitable in principle for single or small groups of carefully sited small scale turbines up to 25m height to blade tip. They should be closely associated with the scale and location of farm buildings and other domestic scale features in the landscape. LCAs 38d and 38e are more sensitive to this scale of wind turbine that would be unsuitable in principle unless it can be shown that effects on the most sensitive key characteristics and cumulative effects within these LCAs would not be significant. In general wind turbines above 25m height to blade tip would be unsuitable in principle within LCT38, although small-medium scale turbines 26m-40m height to blade tip may be suitable within LCAs 38a, 38b and 38c where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. Busy road corridors and other locations with built development including prominent vertical structures are less sensitive to small and small-medium scale wind energy development. Medium scale and larger turbines within the LCT would significantly affect

	key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development, largely as a result of the inter-visibility with neighbouring landscapes within the Tyne Valley, Northumberland National Park and the Northumberland Coast AONB, and heritage / recreational assets including Hadrian's Wall World Heritage Site.

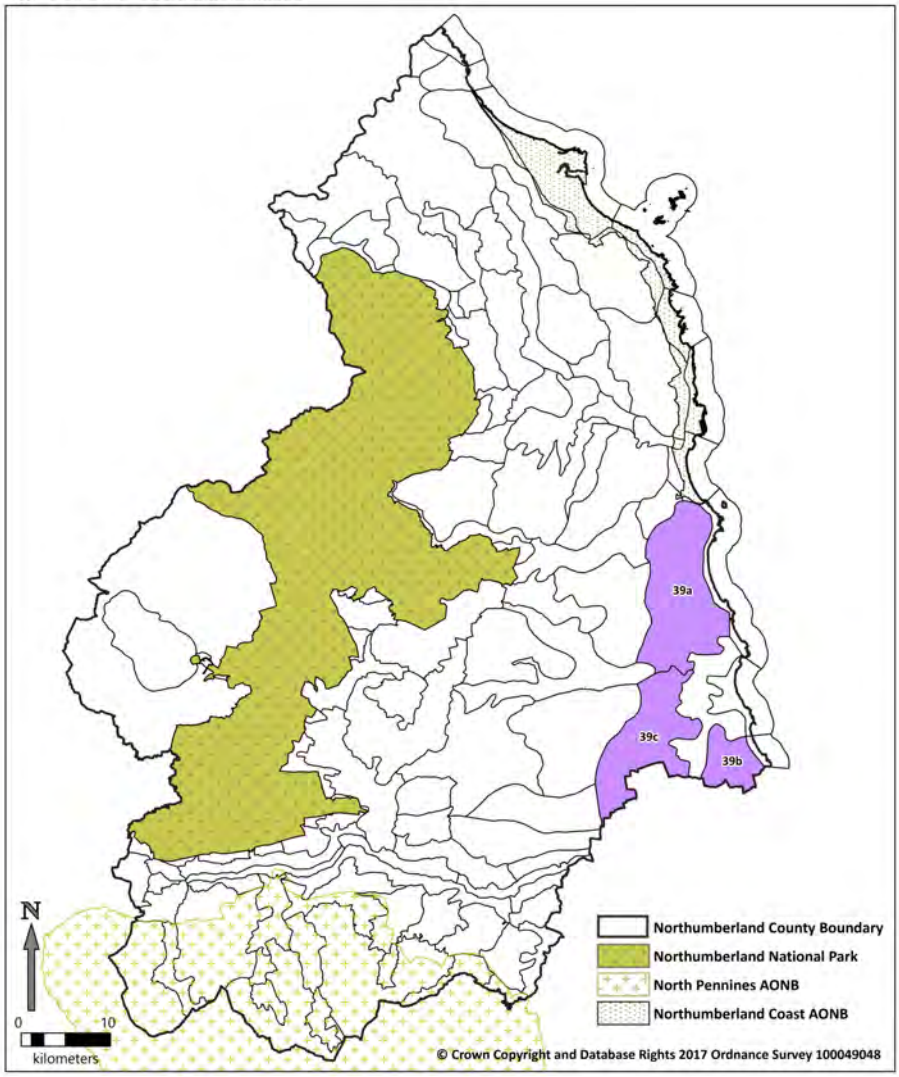
Landscape Sensitivity to Wind Energy Development
LCT 39: Coalfield Farmland

This extensive LCT comprises large parts of the more rural areas of the coastal plain, and includes well-settled farmland, with extensive industrial land uses. Historic and on-going mineral extraction has altered large parts of the landscape, while urban fringe is also a key influence. This is a heavily modified landscape which has lost much of its natural landscape structure and which is dominated by man-made elements.

The LCT is represented by three character areas (LCA):

- **LCA 39a: *Coastal Coalfields***
- **LCA 39b: *Seaton Delaval***
- **LCA 39c: *Stannington***

Figure 43: LCT39 - Coalfield Farmland



Key Landscape Characteristics of LCT 39: *Coalfield Farmland*:

- Low-lying coastal farmland, medium to large in scale, and generally open and expansive.
- Heavily modified rural area, with extensive industrial and urban fringe influences.

- Well settled, with mining towns and villages.
- Large-scale surface coal mine sites.
- Distinctive, simple landscapes on restored former surface coal mine sites.
- Pylons, chimneys, and transport and industrial infrastructure are prominent.
- Occasional wooded estate landscapes.

Landscape Sensitivity Profile of LCT 39: *Coalfield Farmland*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Underlain by the lower and middle coal measures, including layers of sandstone, mudstone, and coal. The exploitation of coal has had a major impact on the development of this landscape. The surface landscape is generally flat, with gently rolling areas, and rises no higher than 89m at Berwick Hill, near Ponteland. The only substantial rivers are the Blyth, which flows through the incised Stannington Vale, and the Wansbeck, flowing in an incised valley from Morpeth. The smaller River Lyne and Seaton Burn are less significant landscape features.	Low to Low-Moderate
Land cover	Land use is generally mixed farmland, comprising large or very large fields with weak boundaries. Hedgerows are often gappy and hedgerow trees are limited. Woodland cover in general is infrequent and consists principally of coniferous plantations. Deciduous tree cover is restricted to occasional mature hedgerow trees and small copses. Exceptions are the wooded valleys of the Blyth and Wansbeck rivers, and the wooded Blagdon estate. Elsewhere only scattered fragments of ancient woodland remain. There are several areas of reclaimed land, representing former mineral workings. Restoration has generally resulted in oversimplified geometric landscapes of pasture and conifer blocks, which lack distinctive features. Wetlands and pools, the result of subsidence or restoration, are relatively frequent and in places have developed into valuable habitat. Although mineral extraction has affected large parts of this area, there are also pockets of rural character which have been relatively unaffected.	Low to Low-Moderate
Landscape scale	Medium to large landscape, influenced by limited topographic relief and many areas of restored landscape with large geometric fields with weak boundaries. Past minerals workings areas have few mature trees in the landscape contributing to openness and large scale.	Low-Moderate to Moderate
VISUAL:		
Skylines	Beyond settlements skylines often simple but built	Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	environments and pylon infrastructure also adds complexity in many areas.	
Views and landmarks	Few significant view corridors but views to the coast and to high ground of Simonside and Cheviot Hills are possible from certain areas. Locally views to landmarks such as Seaton Delaval Hall are important.	Moderate
Inter-visibility	Generally limited intervisibility, partly as a consequence of limited change in relief but also as a function of the scale of this LCT.	
Visual receptors	A heavily settled landscape with major transport routes present frequent sensitive receptors.	Moderate-High
PERCEPTUAL:		
Movement	Frequent movement along major transport corridors and settlement focused activity. Movement from wind energy installations is now significant in LCA39a, particularly as a result of the Lynemouth, North Steads and Sisters wind farms.	Low
Built development	Frequent settlement and other built development particularly across LCA 39b and 39c including vertically prominent chimneys, pylons and wind energy installations at Lynemouth, North Steads and Sisters wind farms.	Low
Remoteness	No tranquillity is encountered across the LCT as a consequence of settlement and transport infrastructure density.	Low
QUALITATIVE:		
Scenic quality	Limited scenic value as a consequence of settlement, existing minerals operations, low changes in relief and extensive over-simple landscape remodelling following surface coal working. Pockets of rural character and broadleaved woodland particularly around country houses and the incised valleys of the Wansbeck and Blyth present localised scenic value.	Low-moderate
Distinctiveness	Not a distinctive landscape, many commonplace elements although remodelled minerals workings present some limited sense of place, although not attractively. Country houses and parklands afford local interest, as do wooded river valleys.	Low-Moderate to Moderate
Rarity	The rolling farmland and settlement is a commonplace and extensive landscape type in mid Northumberland.	Low-Moderate
HISTORIC & CULTURAL:		
Heritage assets	Some significant heritage assets, particularly the country houses and parklands of Blagdon, Seaton Delaval Hall and Longhirst. Industrial heritage is important across the LCT, particularly at Woodhorn Colliery. Conservation Areas in Amble, Longhirst, Ponteland and Seaton Delaval/Seaton Sluice. Registered historic Park and Gardens at Blagdon and	Moderate to Moderate-High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	Seaton Delaval.	
Recreation	Important recreation opportunities at the historic houses heritage sites and Country Parks at Woodhorn (QEII) and Druridge Bay, the Public Right of Way network including river valley footpaths and holiday home park at Amble.	Moderate to Moderate-High
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	A broad range of factors suggest that the landscape character of LCT39 presents comparatively low degree of sensitivity to wind energy development. Topography is relatively unremarkable and current and past minerals workings have altered the landscape and ordinarily lessened inherent landscape interest whilst increasing its perceived scale. The landscape has been much altered and is characterised by a significant degree of built development and incongruous elements, including frequent movement from transport and wind energy infrastructure. Higher numbers of sensitive receptors are however likely to affect sensitivity across large swathes of the LCT. These include settlement but also heritage sites, particularly several historic country houses and their settings.	
Cumulative effects	The LCT is significantly impacted upon by existing wind energy development, both within it and in adjacent landscapes. LCA39a *Coastal Coalfields* includes three large scale wind farms:- Sisters, North Steads and Lynemouth. Within LCA39 Low Horton Farm turbine (87m) is prominent in open field location, whist one of the Cramlington MSG turbines (124m) falls just within LCA39c. On-shore wind turbines at Bomarsund, Bewick Drift, Blyth Harbour and Earth Balance are widely visible from parts of the LCT, as are the increasing array of off-shore turbines at Blyth. LCA39a in particular can now be considered to be a landscape characterised by wind energy installations, whilst LCA39c is significantly affected by their visual prominence in adjacent areas. LCA39b is less affected by wind energy to its south-western areas. Development of further large-scale turbines within LCA39a would be likely to have a consolidating and concentrating effect of wind energy prominence, and development across LCA39b likely to extend the visual prominence of this area along the coast to the south and potentially impact upon designated assets at Seaton Delaval. However this would be in the context of the off-shore installations at Blyth which, when viewed from lower ground to the west, can sometimes appear not to be off-shore, and read as a further element of the sweep of wind farms of central coastal plain Northumberland. Large-scale wind energy development to LCA39c would introduce new features within the rolling arable landscape, but dependent upon specific location could serve to extend the sweep of coastal plain wind farms inland across the northern fringe of the Tyne and Wear conurbation. Sensitivity of much of this landscape however remains relatively low.	

LCT 39: *Coalfield Farmland* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 39a: Coastal Coalfields	L	L-M	M	M	M
LCA 39b: Seaton Delaval	L	L-M	M	M-H	M-H
LCA 39c: Stannington	L	L-M	M	M	M

Overall Landscape Sensitivity of LCT39: *Coalfield Farmland*	In general LCT39 is suitable in principle for all scales of wind turbines. Busy road corridors, power infrastructure and other locations with built development including prominent vertical and industrial structures are less sensitive to wind energy development. Consideration of effects on sensitive residential receptors and cumulative impacts with existing installations will however be significant. Limited exception to this general suitability relates to LCA39b where development of wind turbines above 66m to blade tip height would ordinarily be likely to trigger unacceptable landscape effects in relation to important heritage and recreational assets. However development of turbines above 66m to blade tip height may be suitable within LCA39b where it can be shown that effects on these more sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape.

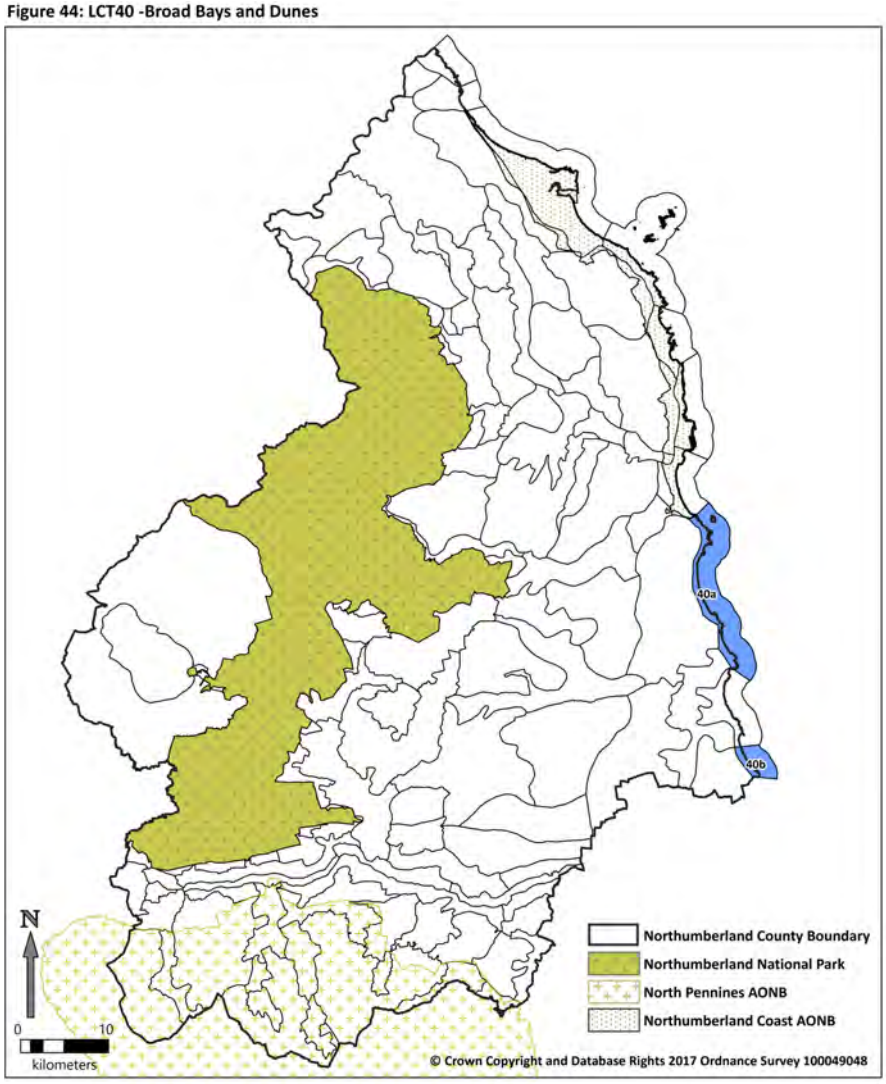
Landscape Sensitivity to Wind Energy Development
LCT 40: Broad Bays and Dunes

This LCT comprises the coastal strip of the less intensively developed part of the *South East Northumberland Coastal Plain*. Although largely undeveloped, and with significant nature conservation interest, the coastline has been extensively man-modified by past mineral extraction. Druridge Bay is within the Northumberland Heritage Coast.

The LCT is represented by two character areas (LCA):

- **LCA 40a: *Druridge Bay***
- **LCA 40b: *Seaton Dunes***

Figure 44: LCT40 -Broad Bays and Dunes



Key Landscape Characteristics of LCT 40: *Broad Bays and Dunes*:

- Wide sweeping sandy bays backed by dunes.
- Sharp transition with heavily modified coastal plain.
- Emerging leisure land uses.
- Former industrial and remnant mining infrastructure.
- Ecologically rich, despite, and in some cases because of, industrial activity.

Landscape Sensitivity Profile of LCT 40: *Broad Bays and Dunes*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	A narrow, low-lying coastal strip comprising a series of broad sandy bays separated by rocky headlands reflecting the alternation of harder and softer rocks within the underlying geology. Flat wave-cut platforms and offshore rocky islets are characteristic: Coquet Island is the only substantial island. The bays have broad, sweeping sand beaches backed by extensive dune systems. Surface water ponds and ditches in places, reflecting mining subsidence.	Low-Moderate to Moderate
Land cover	Mixed farmland, primarily large arable fields and pasture. Lengths of coast are backed by extensive dune systems, which are largely intact. There are very few trees in this exposed landscape, exceptions being the mixed plantations around Ladyburn Lake at Druridge Bay Country Park, and coniferous shelterbelts to the north.	Low-Moderate to Moderate
Landscape scale	A medium-to-large scale landscape with more contained areas within the dune systems.	Low-Moderate
VISUAL:		
Skylines	Simple open skylines with expansive sea views and dune tops offering some predictable variety.	Low-Moderate
Views and landmarks	Coastal strip, beach and headland views are important and often expansive. Views inland from dune tops but highly limited from on the beaches. Views to industrial sites around Blyth and prominent.	Moderate to Moderate-High
Inter-visibility	Strong degree of intervisibility, particularly from dune tops and into neighbouring coastal landscapes such as LCT 41 *Developed Coast* and inland to LCT 39 *Coalfield Farmland.*	Moderate to Moderate-High
Visual receptors	Low numbers of residents and local transport network but high recreational usage, particularly to shoreline.	Moderate
PERCEPTUAL:		
Movement	Limited human activity within the LCT but strong natural movement in the landscape from seascape and huge skies. Large Bewick Drift wind turbine stands on boundary of the LCA 40b and LCA 39a	Moderate
Built development	Generally a low extent of man made structures and buildings, a narrow semi-natural landscape in the main. Some local power lines, WWII 'pill boxes'. The Southern edge of Amble encroaches the north of the LCT and historic parts of the small hamlets of Cresswell and Hauxley present some stone built cottages by the dunes. The Southern elements of LCA40a include industrial environs of Lynemouth power station site under re-development to use biomass as its primary fuel and other prominent industrial structures, parts of	Moderate to Moderate-High

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	Newbiggin by the Sea town and mobile home parks. LCA40b includes significant parts of the large village of Seaton Sluice.	
Remoteness	Local road networks, industry, settlement and farmsteads in the LCT and those visible in neighbouring LCAs limit remoteness, although some isolation from human activity is possible from the shore, although industrial structures of Blyth environs possible even here. Wind energy development visible from dunes and some beach areas.	Moderate
QUALITATIVE:		
Scenic quality	Dune and sweeping sandy beaches, huge skies and changing seascapes offer some scenic value. Industrial influence in and outwith the LCA detracts from some vistas and scenic value.	Moderate to Moderate-High
Distinctiveness	Strongly distinctive to Northumberland, with sweeping, long sandy beaches and dunes with rocky '*carr*' headlands characterising popular perceptions of the county by many visitors.	High
Rarity	Limited in extent although expansive in the local context, a relatively rare landscape type.	Moderate-High
HISTORIC & CULTURAL:		
Heritage assets	Part of Northumberland Heritage Coast. Some remnant industrial heritage sites, but rarely visually prominent, occasional WWII pill boxes. Headland chapels and churches at Seaton Sluice and Newbiggin by the Sea. Extensive Conservation Area at Seaton Sluice anchorage and coastal defences, and part of Seaton Delaval Hall designed landscape.	Moderate to Moderate-High
Recreation	High recreation value for informal enjoyment along accessible sandy bays, some sailing and fishing activity. Druridge Bay Country Park has matured from former surface coal mining works to important open spaces and habitats centred on Ladyburn Lake. Golf course at Newbiggin by the Sea.	Moderate-High
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	LCT40 presents linear coastal landscape strips with very limited 'inland' extent, with clear focus on extensive dunes and sweeping sandy bays. There is a strong horizontal emphasis to the landscape with wide-open character and huge skies. Land use inland from the dunes is primarily agricultural across wide flat topography but in places settlement and some significant industrial infrastructure dominates. The landscape's scale, relative simplicity and occasional prominent industry and infrastructure would suggest lower sensitivity to wind energy development. However scenic and significant recreational value, along with sensitive dune systems suggest that landscape scale, simplicity and form should not outweigh the high recreational and natural and historic heritage value of the LCA in relation to sensitivity to wind energy. There are however significant contrasts in sensitivity within the LCT, particularly in areas where existing or	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	past industry or infrastructure remains visually prominent. Some capacity for small scale wind energy, possibly serving coastal communities or farmsteads, such as Cresswell and Newbiggin by the Sea may exist without compromising landscape character. On the larger urban fringes, such as Lynemouth, existing infrastructure alters the balance of features in the landscape in comparison to the wider LCT, and here capacity for larger wind energy infrastructure may be found.	
Cumulative effects	Bewick Drift wind turbine (126m) at Lynemouth is a significant landscape feature and lies exactly upon the boundary of LCTs 40 and 39. There are no significant wind energy installations elsewhere in the LCT but wind energy often predominates in adjacent LCTs. On-shore installations are particularly prominent at Lynemouth Wind Farm (13 turbines at 121m height), Sisters and North Steads Wind Farms at Widdrington (a combined 13 turbines at 126m height), Blyth Harbour (130m) and Low Horton Farm (87m). Significant to the consideration of cumulative impacts of wind energy, off-shore turbines are located east of Blyth. Two turbines stand only 800m off shore at a height of approximately 93m to tip, early demonstrator projects for the technology. More significantly is the current installation of 5x 191m turbines located approximately 6km from the coastline, but as part of a consent for up to 15 turbines in total, extending in three groups up to 14km off sore. The consequence of this predominance of visually prominent turbines, including those off-shore, is that the wider landscape context to the LCT is often of a 'wind turbine landscape'. Further development of wind energy infrastructure within LCT40 would therefore be unlikely to make significant changes to the visual presence of turbines in the wider landscape context. However wind energy development to the north of the LCTs and to the south in LCA40b, may serve to extend the concentration of wind energy development along the south and mid-Northumberland coastal strip, whilst development of further turbines south of Widdrington would inevitably serve to concentrate and consolidate the wind farm landscape.	

LCT 40: *Broad Bays and Dunes* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 40a: Druridge Bay	M	M-H	H	H	H
LCA 40b: Seaton Dunes	M	M-H	M-H	H	H

Overall Landscape Sensitivity of LCT40: *Broad Bays and Dunes*	In general LCT40 is a landscape unsuitable in principle for wind turbines above 25m to blade tip height. However, turbines up to 40m blade tip height in LCA40a, and up to 65m blade tip height in LCA40b may be suitable where it can be shown that effects on these more sensitive characteristics and cumulative effects would not be significant. In LCA40b turbines should be more closely related to industrial influences within or adjacent to the LCT. Otherwise turbines

	should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. In LCA 40a turbines above 40m to blade tip height, and above 65m in LCA40b, will be unsuitable as they would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development. This would largely be as a result of the effects upon important scenic and recreational value of the beaches and dunes, and longer visual effects upon Northumberland Coast AONB.

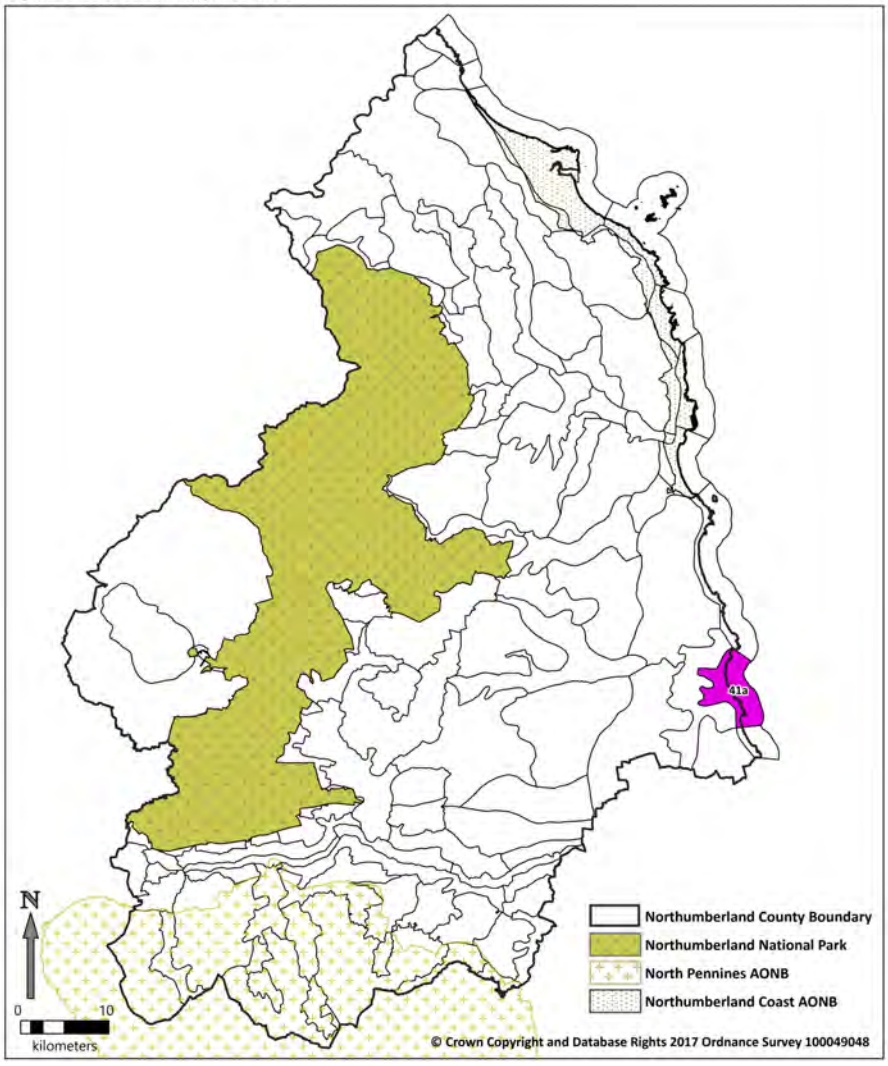
Landscape Sensitivity to Wind Energy Development
LCT 41: Developed Coast

This LCT comprises the coastal edge of Blyth and adjacent settlements, and is closely related to *Urban and Urban Fringe* (LCT 42). Its coastal character is linked to the *Broad Bays and Dunes* (LCT 40) to north and south.

The LCT is represented by one character area (LCA):

- **LCA 41a: *Blyth and Wansbeck Estuaries***

Figure 45: LCT41 - Developed Coast



Key Landscape Characteristics of LCT 41: *Developed Coast*:

- Intensively developed landscape, comprising a coastal urban edge.
- River mouths with mudflats or modified to form harbours.
- Large-scale industrial structures and former industrial sites.
- Fragmented farmland amongst urban development.

Landscape Sensitivity Profile of LCT 41: *Developed Coast*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Simple, low-lying coastal strip centred on broad bay, into which the Rivers Blyth and Wansbeck flow. The bay is framed by rocky promontories, with wave-cut platforms extending into the sea at Newbiggin Point, Spital Carrs, and Crab Law, and rocky offshore islets. The Wansbeck estuary is relatively narrow and sandy. That of the Blyth, and the tributary Sleek Burn, is much wider with extensive mudflats. However, its natural features have been extensively modified for use as a major port. The topography of this area does not rise above 10m.	Low-Moderate to moderate
Land cover	A complex mix of predominantly urban, industrial and post-industrial land uses, infrastructure and transport routes, including the major port of Blyth. Arable farming, with remnant hedgerows, persists in fragmented areas around the mouth of the Wansbeck. The banks of the Wansbeck are fringed with deciduous scrub woodland, with more scrubby woodland along the Sleek Burn and River Blyth.	Low
Landscape scale	A medium-large landscape with pockets of enclosure within river valleys and woodland, but more usually open and exposed.	Low-Moderate to Moderate
VISUAL:		
Skylines	Some complexity caused by extensive port and industrial infrastructure and wirescapes.	Moderate
Views and landmarks	Locally important views along the central sandy coastline, with prominent views to infrastructure and industrial heritage sites and more recent wind turbines, on and off-shore.	Moderate
Inter-visibility	Low relief change reduces intervisibility generally but prominent infrastructure is visible as well as longer views along the coast from transport routes and the coastal strip.	Low-Moderate to Moderate
Visual receptors	High numbers of residential and transport-route receptors.	High
PERCEPTUAL:		
Movement	Frequent movement from transport infrastructure and wind energy infrastructure. Settlement and industry predominates.	Low
Built development	Highly developed urban and urban-fringe landscapes with significant built structures throughout.	Low
Remoteness	No sense of remoteness. Some relative calm along shoreline is possible.	Low
QUALITATIVE:		
Scenic quality	Low scenic quality as a consequence of industrial character.	Low

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
Distinctiveness	Some distinctiveness presented by the river valleys and estuaries as well as the sandy bay, but elsewhere ubiquitous utilitarian infrastructure predominates.	Low-Moderate
Rarity	The extent and degree of urbanisation sets the landscape as being of infrequent character within Northumberland.	Moderate-High
HISTORIC & CULTURAL:		
Heritage assets	Within urban contexts some heritage assets found but rarely important in the landscape. Listed historic port at North Blyth and Conservation Area across much of Newbiggin by the Sea sea front.	Moderate
Recreation	Locally important recreation value of the coast, with Newbiggin by the Sea a popular site for holiday chalets/ mobile homes.	Moderate
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	The most industrialised and developed coastal landscape of Northumberland. Unremarkable topography, prominent and dominating infrastructure and industrial sites, as well as the major port of Blyth together suggest a generally low sensitivity to the future impact of wind energy development. Counter to this low landscape character sensitivity is the urban function of the LCA with many residents and frequent transport receptors. Recreational use is important long the coast, but even here industrial character predominates.	
Cumulative effects	Similar to the circumstances of LCT40 *Broad Bays and Dunes,* there are relatively few wind energy installations within the LCT, but significant wind energy infrastructure within inter-visible areas. Blyth Harbour wind farm comprises a prominent 130m turbine located on the outer harbour wall. Elsewhere a 67m single turbine has been consented at Furnace Road, west of the A189 spine road. However, wind energy often predominates in adjacent LCTs. On-shore installations are particularly prominent at Lynemouth Wind Farm (a combined 13 turbines at 121m height), further north at Sisters and North Steads Wind Farms at Widdrington (13 turbines at 126m height), Cramlington MSD (2x 124m) and Low Horton Farm (1x 87m). Significant to the consideration of cumulative impacts of wind energy, off-shore turbines are located east of Blyth. Two turbines stand only 800m off shore at a height of approximately 93m to tip, early demonstrator projects for the technology. More significantly is the current installation of 5x 191m turbines located approximately 6km from the coastline, but as part of a consent for up to 15 turbines in total, extending in three groups up to 14km off sore. In many views from lower ground these off shore turbines, as with Blyth Harbour read visually as being on-shore and serve to present an eastern framework of major turbine infrastructure. The consequence of this predominance of visually prominent turbines, including those off-shore, is that the wider landscape context to the LCT is often of a 'wind turbine landscape'. Further development of wind energy infrastructure within LCT41 would therefore be unlikely to make significant changes to the visual presence of turbines in the wider landscape context. However wind energy development to the north and south in LCA41 may	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	serve to concentrate and consolidate the wind farm landscape across this part of the south Northumberland coastal strip.	

LCT 41: *Developed Coast* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 41a: Blyth and Wansbeck Estuaries	L	L-M	L-M	M	M

Overall Landscape Sensitivity of LCT41: *Developed Coast*	In general LCT41 is a landscape suitable in principle for wind turbines of all scales, subject to local considerations of sensitive residential receptors. Significant existing scale and extent of vertical and industrial infrastructure have served to reduce landscape sensitivity such that further wind energy installation would be unlikely to present negative landscape change.

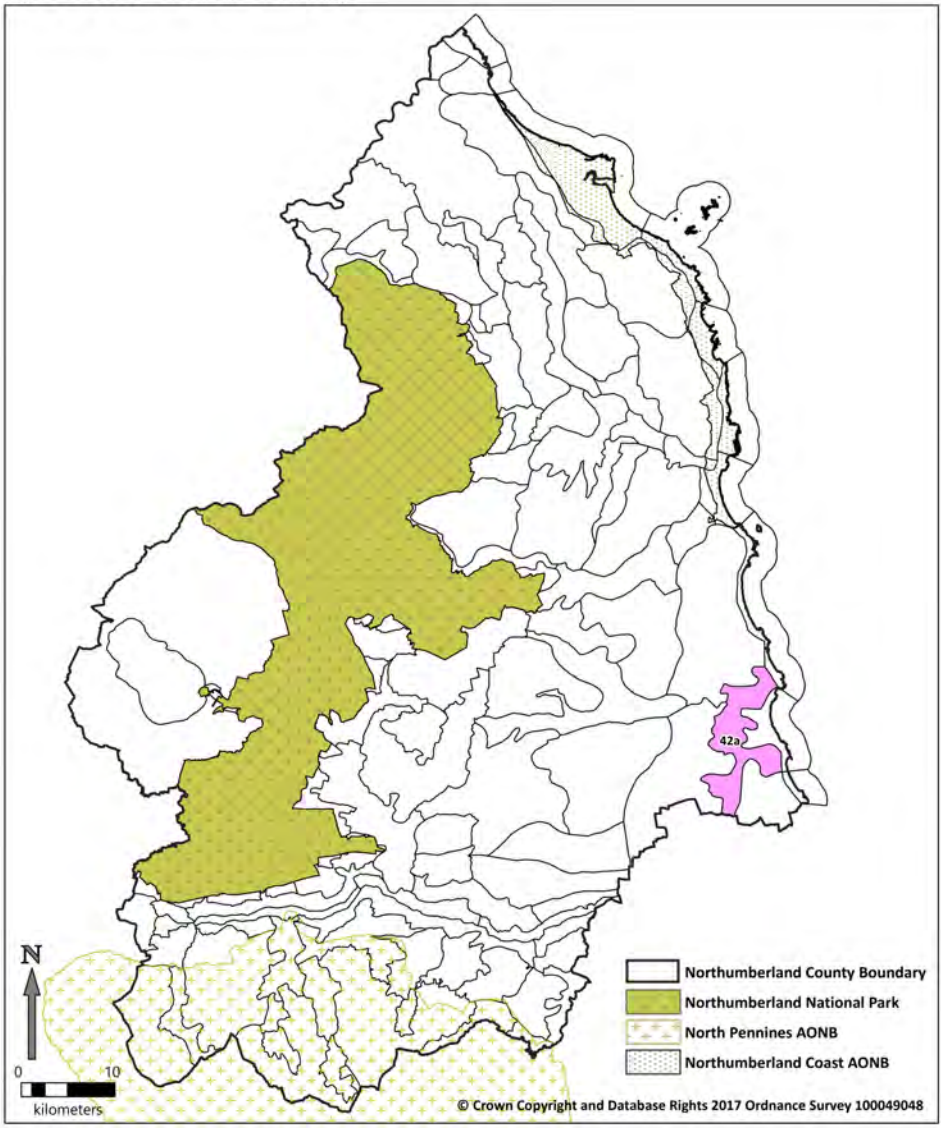
Landscape Sensitivity to Wind Energy Development
LCT 42: Urban & Urban Fringe

This LCT comprises the large settlements of the south-east of Northumberland, together with the heavily urban-influenced areas of fragmented farmland and industry which separate them.

The LCT is represented by one character area (LCA):

- **LCA 42a:** ***Ashington, Blyth and Cramlington***

Figure 46: LCT42 - Urban and Urban Fringe



Key Landscape Characteristics of LCT 40: *Broad Bays and Dunes*:

- Large built-up areas including former mining towns.
- Large-scale industrial and commercial land uses.
- Significant human features, including dual carriageways, railways, pylons, and chimneys.
- Residential areas of a range of ages.

Landscape Sensitivity Profile of LCT 42: *Urban & Urban Fringe*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Similar to the *Coalfield Farmland* (LCT 39). A generally flat topography, with some gentle summits, slopes eastwards to the coast, underlain by the coal measures. The geology was formerly worked for coal, via deep and surface mines. The landscape is cut through by the valleys of the Rivers Wansbeck and Blyth, as well as several smaller burns. In places, the natural landform has been modified, and is often obscured by development.	Low-Moderate to Moderate
Land cover	Much variety in urban development, infrastructure and fragmented agricultural fringes. Fields are a range of shapes and sizes, having been modified by surrounding land uses, but are generally large and rectilinear. Field boundaries often comprise gappy or outgrown hedges, with post and wire fences replacing hedges entirely in places. Tree cover includes coniferous plantations and deciduous woodlands, both often sited on reclaimed or restored land.	Moderate-High to High
Landscape scale	A medium landscape scale but characterised by extensive areas of urban cover.	Moderate
VISUAL:		
Skylines	Complexity in skylines arises through the varied built structures of the LCT, including residential, industrial commercial buildings, power infrastructure and the undulating topography- especially the river valley at Bedlington and reclaimed former surface coal mine workings.	Moderate-High
Views and landmarks	Views generally constrained by urban context. However, some significant views across main settlements including from higher ground at Nelson Village, Cramlington. Occasionally, longer views to the upland west are possible, with the distinctive profile of the Simonside Hills and Cheviot Hills beyond.	Moderate
Inter-visibility	Relative absence of elevation and urban context limits intervisibility, although occasional vistas open out.	Low-Moderate
Visual receptors	Urban area presents extensive and high density of sensitive receptors.	High
PERCEPTUAL:		
Movement	Much movement across the urban areas and connecting transport corridors.	Low
Built development	Essentially an urban landscape with open agricultural land atypical. Frequent, extensive areas of post 1900 residential estates and newer industrial development sits within context of past mining infrastructure and 19th century settlements. Chimneys, masts and pylons punctuate the skyline.	Low

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
Remoteness	No sense of remoteness possible in urban landscape.	Low
QUALITATIVE:		
Scenic quality	Very limited scenic quality although river valleys, particularly where more incised, present areas of local value, as do coniferous plantations in wider urban context.	Low-Moderate
Distinctiveness	Some sense of place emanates from form mining community settlements, such as the terraces of Ashington, but otherwise indistinctive with many utilitarian urban contexts.	Low-Moderate
Rarity	A unique landscape in Northumberland but of limited value.	Moderate-High
HISTORIC & CULTURAL:		
Heritage assets	Historic remnants of medieval villages, such as the 11th-century church in Woodhorn. More recent historic buildings are located within the cores of the main settlements. Industrial heritage is also a key aspect of this landscape. Conservation Areas within Blyth, Bedlington and Cramlington.	Low-Moderate
Recreation	Urban parks, river valleys and Country Park at Bedlington offer locally important recreation opportunities. Golf course at New Delaval.	Moderate
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	This is a highly urbanised landscape tract reflecting the area's historic importance as a former coal mining and industrial heartland. Consequently the area is characterised by a complex mix of urban uses, structures and transport infrastructure, where some areas exhibit urban decay but also rengeneration. Valued landscape or townscape assets are generally limited. Sensitivity to wind energy development is therefore low in relation to physical landscape and townscape characteristics. However extensive distribution of sensitive receptors are likely to increase such sensitivities to medium and larger wind energy typologies.	
Cumulative effects	Part of the Cramlington MSD Wind Farm (1x 125m) falls within the LCT as does the medium scale single turbine (43.5m) at Earth Balance, Bomarsund, Bedlington. As with LCT40 *Broad Bays and Dunes* and LCT41 *Developed Coast* surrounding LCTs present a significant concentration of wind energy development which has a visual influence within LCT42. On-shore installations are particularly prominent at Lynemouth Wind Farm (13 turbines at 121m height), further north at Sisters and North Steads Wind Farms at Widdrington (a combined 13 turbines at 126m height), the second Cramlington MSD turbine (124m) and Low Horton Farm (87m). Blyth Harbour Wind Farm comprises a prominent 130m turbine located on the outer harbour all. Elsewhere a 67m single turbine has been consented at Furnace Road, west of the A189 Spine Road. Significant to the consideration of cumulative impacts of wind energy, off-shore turbines are located east of Blyth. Two turbines stand only 800m off shore at a height of approximately 93m to tip, early demonstrator projects for the technology. More significantly is the current installation of 5x 191m turbines located approximately 6km from the coastline, but as part of a consent for up to 15	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	turbines in total, extending in three groups up to 14km off shore. In many views from lower ground these off-shore turbines, as with Blyth Harbour, read visually as being on-shore and serve to present an eastern framework of major turbine infrastructure. The consequence of this predominance of visually prominent turbines, including those off-shore, is that the wider landscape context to the LCT is often of a 'wind turbine landscape'. Further development of wind energy infrastructure within LCT42 would therefore be unlikely to make significant changes to the visual presence of turbines in the wider landscape context. However wind energy development to the north and south in LCA41 may serve to concentrate and consolidate the wind farm landscape across this part of the south Northumberland coastal strip. Longer views towards the LCT are possible from higher land within Northumberland National Park such as at Simonside, and in certain vistas the LCT and its surrounding wind energy landscapes can be seen with Wingates wind farm (6x 110m) in the near distance. Whilst the gap between these groups of installations may be significant, further development of medium to large turbines east of Wingates could beginning to extend the perception of a wind farm landscape across this area of central-south Northumberland.	

LCT 42: *Urban & Urban Fringe* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 42a: Ashington, Blyth & Cramlington	L	L-M	L-M	M	M-H

Overall Landscape Sensitivity of LCT42: *Urban and Urban Fringe*	In general LCT42 is a landscape suitable in principle for wind turbines of scales up to medium-large – below 100m to blade tip height, subject to considerations of sensitive residential receptors. Development of larger scales of wind turbine above 100m height to blade tip would otherwise be likely to have harmful landscape effects, unless it can be shown that effects on these more sensitive characteristics and cumulative effects would not be significant. Such considerations are likely to focus upon sensitivity and extent of residential receptors.

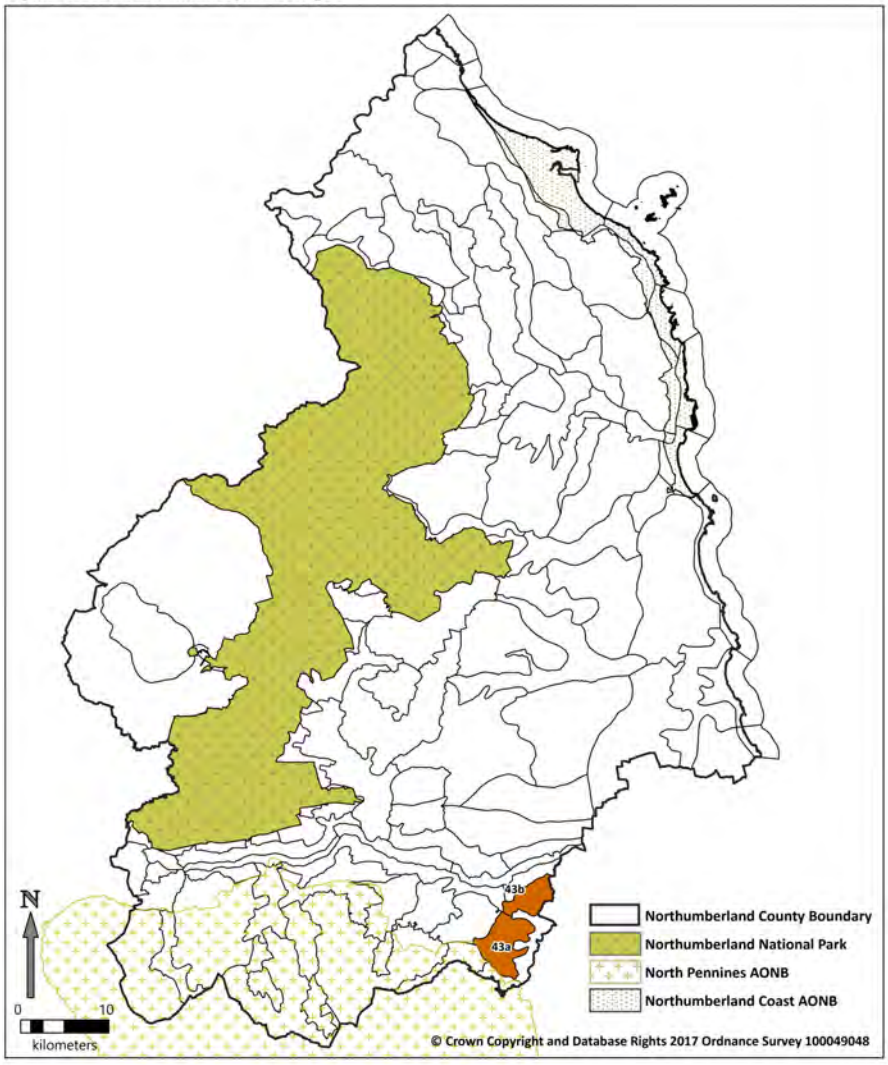
Landscape Sensitivity to Wind Energy Development
LCT 43: *Coalfield Upland Fringe*

This LCT (together with LCT 44) occupies the north-western side of the Durham Coalfield Pennine Fringe, a mainly rural landscape that dips gently towards the heavily settled lowlands of the Tyne and Wear valleys, characterised by industrial influences and mineral workings in places. LCT 43 is a transitional upland fringe landscape made up of broad ridges and shallow tributary valleys, lying above the Tyne valley to the north and the Derwent valley to the south and east.

This LCT is represented by two landscape character areas (LCA):

- **LCA 43a: *Kiln Pit Hill Hinterland***
- **LCA 43b: *Prudhoe Hinterland***

Figure 47: LCT43 - Coalfield Upland Fringe



Key Landscape Characteristics of LCT 43: *Coalfield Upland Fringe*:

- Broad, elevated open ridges above the Tyne valley to the north and the Derwent valley to the south and east, with shallow valley heads;
- Gently rounded topography of drift free, thinly bedded sandstones, mudstones, shales and coals;
- Occasional steep bluffs and incised denes;

- Heavy, seasonally waterlogged clay soils with pockets of peaty soils supporting heath vegetation;
- Predominantly improved or semi-improved pastoral land use with some arable cropping on drier ridges;
- Regular grids of parliamentary enclosures bounded by dry stone walls or overgrown hawthorn hedges, with occasional older field systems;
- Sparsely treed or wooded, with scattered conifer plantations, shelterbelts, hedgerows with occasional hedgerow trees;
- Isolated farms connected by straight enclosure roads, with occasional old 'green' villages of local stone on ridge top sites;
- Occasional relicts of the mining industry including small spoil heaps, coke ovens, waggonways, and restored surface coal mining land;
- Telecommunications masts, pylons and wind turbines prominent on some ridges;
- A visually open landscape with commanding views across adjacent valleys to distant ridges.

Landscape Sensitivity Profile of LCT 43: *Coalfield Upland Fringe*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Simple, broad, gently rounded upland landscape where soft and thinly bedded sandstones, shales and coals of the coal measures are generally free of drift or masked by boulder clays. Occasional thicker sandstone beds are marked by steeper bluffs. Small becks and burns with shallow valley heads drain the upper valleys, sometimes incised in narrow denes.	Low-moderate to Moderate
Land cover	Predominantly improved and semi-improved pastures with occasional rougher grazing and wet rushy pasture on heavy and seasonally waterlogged soils. Limited arable cropping on drier ridge tops. A relatively open landscape of characteristic regular, uniform field patterns with boundary hedgerows (or wire fencing where hedges are gappy), and stone walls, with domestic buildings adding to the locally small scale landscape features. Infrequent tree cover, with small to medium scale plantation woodlands and shelterbelts (giving a 'blocky' character in places), narrow tree-lined roads and watercourses. Bracken and patches of gorse reflect the acidic soils.	Low-moderate to Moderate
Landscape scale	A broad, medium to large scale, generally open landscape with expansive views from elevated parts. Regular pattern of field enclosures is more medium scale than large scale. Lower ground and occasional plantations provide some enclosure.	Low-moderate to Moderate
VISUAL:		
Skylines	The broadly undulating ridges provide largely simple skylines, with some variety by way of woodland	Moderate to Moderate-high

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	plantations. The higher ground forms the skylines in views from neighbouring LCTs. Development including pylons and wind farms are prominent on the skyline, being dominant in some parts of the LCT.	
Views and landmarks	Expansive views to and from elevated ridges within and beyond the LCT, including northwards across the Tyne Gap and southwards across Derwentdale to the moorlands of the North Pennines AONB. The LCT forms part of the backdrop to views of and from settlements, being important to their setting.	Moderate to Moderate-high
Inter-visibility	Extensive inter-visibility to and from elevated land within and beyond the LCT, including northwards across the Tyne Gap, southwards into Derwentdale and the North Pennines AONB, and occasionally eastwards to the coast.	Moderate to Moderate-high
Visual receptors	Within the LCT there is some visibility from small settlements, scattered farmsteads and public rights of way, and from predominantly minor roads and a limited section of the busy A68. However there is a large number of potential visual receptors within adjacent landscapes with views into the LCT.	Moderate to Moderate-high
PERCEPTUAL:		
Movement	Occasional to frequent visible man-made movement from roads within the LCT and in adjacent areas. Movement of turbine blades from Boundary Lane and Kiln Pit Hill windfarms are visible from within the LCT and beyond. Some locations are quieter with limited movement.	Low-moderate to Moderate
Built development	A sparsely settled landscape that retains a strong rural character in places, with scattered hamlets and farmsteads linked by straight, regular, local enclosure roads. However, the southern edge of Prudhoe extends into LCA 43b, and nearby Stocksfield and Consett are urbanising influences. Also, the busy A68 passes through the western edge of LCA 43a and there are some relicts of past mining activity. Telecommunications masts and wind farms at Boundary Lane (3 x 110m to blade tip) and Kilt Pit Hill (6 x 100m) are prominent vertical features. A small number of single small to medium scale turbines are also present in the landscape. A line of pylons passes through southern parts of LCA 43b.	Low-moderate to Moderate
Remoteness	The LCT is relatively accessible and the influence of nearby mining towns, busy roads (either within the LCA or adjacent), communications masts and wind farms give some parts a semi-rural or urban fringe character. Away from man-made influences the landscape is relatively tranquil.	Low-moderate to Moderate and Moderate to Moderate-high
QUALITATIVE:		

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
Scenic quality	The landscape shows some signs of positive agricultural management and is visually and functionally intact. Scenic quality in terms of natural beauty is not high and there are no designed ornamental landscapes of note. There are significant detractors in the landscape, most notably wind turbines and pylons, although there are scenic views across the moorlands to the east and south.	Low-moderate to Moderate and Moderate to Moderate-high
Distinctiveness	The upland fringe landscape is fairly distinctive with some sense of place, but not especially representative of the Northumberland landscape, being a small part of the much wider Durham Coalfield Pennine Fringe that extends eastwards and southwards beyond the county.	Low-moderate to Moderate
Rarity	The upland fringe landscape is relatively common within Northumberland although the LCT occupies only a small part of the much wider Durham Coalfield Pennine Fringe. The LCT lacks any rare elements or features in the landscape.	Low-moderate to Moderate
HISTORIC & CULTURAL:		
Heritage assets	Few heritage assets include historic village sites, manorial earthworks at Whittonstall and a listed Mausoleum on Greymare Hill. The course of *Dere Street* Roman Road passes through the northern edge of LCA 43a. These are not especially prominent or significant but do bare some relationship with the landscape.	Low-moderate to Moderate
Recreation	There is little tourist or recreation infrastructure, other than a scattering of rights of way with a particular concentration south of Prudhoe. The Highland Cattle Centre is a tourist attraction to the south of Stocksfield. A golf course also lies to the south of Stocksfield and a gliding club within LCA 43b.	Low-moderate to Moderate
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	Physical attributes of landform, land cover and landscape scale suggest reduced sensitivity to medium and larger scale wind energy development. In parts the LCT exhibits a traditional, rural character, with small hamlets and scattered farmsteads linked by a network of local minor roads. This gives the perception of a relatively quiet, remote upland fringe landscape with limited built development in parts, although electricity pylons and windfarms are very conspicuous and prominent. The key landscape consideration is the role the landscape plays as a backdrop to views from a relatively extensive area and as a setting to surrounding settlement. The high degree of inter-visibility with adjacent and more distant landscapes increases sensitivity to further large scale wind energy development, within both LCA 43a (see consideration of cumulative effects below) and LCA 43b which is currently free of medium and larger scale wind turbines.	
Cumulative effects	Wind farms at Boundary Lane (3 x 110m to blade tip) and Kilt Pit Hill (6 x 100m) are prominent features, providing notable tracts of 'wind farm landscape' within LCA 43a. A small number of single small to medium scale turbines are also present in the landscape but these do not currently have	

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	significant cumulative effects. Telecommunications masts and a line of pylons passing through southern parts of LCA 43b provide further prominent vertical features. Further coalescence of large scale turbines within LCA 43a is likely to result in wind turbines becoming a defining characteristic of that landscape. This would include large extensions to, or re-powering of, existing wind farms which is likely to result in further cumulative effects. The development of additional turbines in this area should otherwise be limited to minor extensions where new turbines match existing turbines in scale and character. LCA43b is currently free of medium and larger scale turbines. New wind energy development of this scale within LCA43b would maintain a strategic gap between existing installations at Boundary Lane and Kiln Pit Hill but is likely to create a straggling pattern along the elevated ridges and such cumulative effect should be avoided. Restricting wind energy development in remaining parts of this LCT to smaller turbines would avoid significant cumulative effects of larger scale turbines.	

LCT 43: *Coalfield Upland Fringe* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 43a: Kiln Pit Hill Hinterland	L	L-M	M	M	M-H
LCA 43b: Prudhoe Hinterland	L	L-M	M	M-H	M-H

Overall Landscape Sensitivity of LCT43: *Coalfield Upland Fringe*	In general LCT43 is suitable for small scale, small-medium scale and medium scale turbines up to 65m height to blade tip. Carefully sited medium-large scale turbines between 66m-100m to blade tip would be generally suitable within LCA43a. Medium-large scale wind turbines between 66m-100m height to blade tip within LCA43b and larger scale turbines above 100m height to blade tip throughout the LCT would be unsuitable in principle. These scales of wind energy development may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects, largely due to the high degree of inter-visibility with adjacent and more distant landscapes, would not be significant.

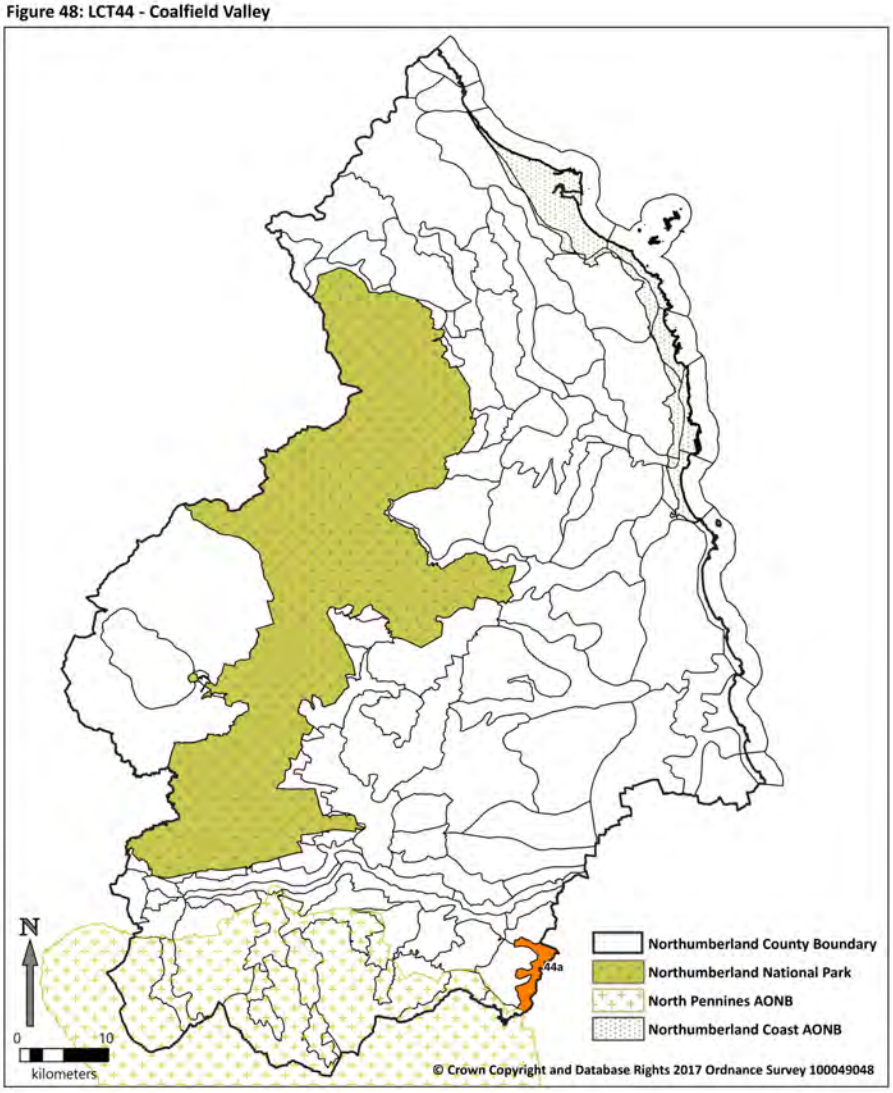
Landscape Sensitivity to Wind Energy Development
LCT 44: *Coalfield Valley*

This LCT (together with LCT 43) occupies the north-western side of the Durham Coalfield Pennine Fringe, a mainly rural landscape with industrial influences and past and present mineral workings in places. LCT 44 is the Derwent valley, through which the River Derwent and its tributaries flow. This landscape straddles the south-eastern boundary of Northumberland, separating the Northumberland *Coalfield Upland Fringe* (LCT 43) from the coalfield fringe east of the river and extending into County Durham.

This LCT is represented by one landscape character area (LCA):

- **LCA 44a: *Derwent Valley***

Figure 48: LCT44 - Coalfield Valley



Key Landscape Characteristics of LCT 44: *Coalfield Valley*:

- Broad, well defined valleys cutting through and enclosed by rounded ridgelines, with occasional narrow floodplains and incised denes;
- Thinly bedded sandstones, mudstones, shales and coals overlain by glacial boulder clays;

- A gradual west-east grain to the landscape, drained by tributary streams and burns falling from the upland fringe into the River Derwent;
- Heavy, seasonally waterlogged, clay soils;
- Mixed farmland of improved pasture and arable cropping;
- Sub-regular field patterns of old enclosures bounded by thorn hedges and stone walls. Occasional regular parliamentary enclosures;
- Scattered hedgerow oak, ash, sycamore and beech trees;
- Well wooded with ancient oak-birch woods in narrow denes and along watercourses, 'blocky' broadleaved, coniferous or mixed plantations on valley sides, and within parkland associated with Shotley Hall;
- Settlement limited to a small number of isolated farmsteads linked by minor local roads;
- A strongly rural landscape in places but with a 'semi-rural' quality along its eastern more settled urban fringe with Consett and Ebchester;
- A sand and gravel quarry west of Ebchester is open and relatively featureless;
- Away from the woodlands the landscape is relatively open with commanding views eastwards across the valley to distant ridges on the *coalfield upland fringe* within County Durham.

Landscape Sensitivity Profile of LCT 44: *Coalfield Valley*

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
PHYSICAL:		
Landform	Relatively simple, broad, well-defined valley of the River Derwent, with tributary stream and burns cutting west-east through thinly bedded sandstones, mudstones, shales and coals overlain by glacial boulder clays, and enclosed by rounded ridgelines. Some topographical variety by way of occasional narrow floodplains and incised denes, but lacking landmark landform features.	Low-moderate to Moderate
Land cover	Relatively simple mixed farmland mosaic of improved pasture and arable cropping, with extensive woodland blocks. Isolated domestic buildings, road and field-side hedges and trees, and boundary stone walls provide human-scale features in the landscape.	Moderate to Moderate-high
Landscape scale	Generally an open but medium scale valley landscape (rather than larger scale) where extensive woodland and tree-lined valleys create enclosure and a locally intimate character in places.	Moderate to Moderate-high
VISUAL:		
Skylines	Generally simple skyline of rounded valley sides but where woodland in particular provides local variation. Skylines in the neighbouring *coalfield upland fringe* are more prominent and complicated especially to the east where development within the urban fringe rises on the adjacent ridgeline.	Moderate to Moderate-high

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
Views and landmarks	Views are typically defined by enclosing ridgelines, with locally significant views along the valley. Commanding longer distance views across the valley to distant ridges on the *coalfield upland fringe* within County Durham and vice versa. Views from the south from the North Pennines AONB are important and sensitive where the Derwent valley in this LCT is seen to cut through the *coalfield upland fringe* landscape.	Moderate to Moderate-high
Inter-visibility	Inter-visibility and strong links with the adjacent *coalfield upland fringe* ridges.	Moderate to Moderate-high
Visual receptors	Limited sensitive visual receptors within the LCT although the valley is widely visible from the settled edge around Consett and Ebchester to the east.	Moderate to Moderate-high
PERCEPTUAL:		
Movement	Limited movement within the LCT from local roads and farm vehicles, but frequent movement on busy main roads including the A68 and A694, and other through routes etc. within the adjacent settled urban fringe around Consett to the east.	Low-moderate to Moderate
Built development	Influences of the former coal mining industry and a sand and gravel quarry west of Ebchester are the main man-made modifications to the landscape. A line of pylons passes through the northern end of the LCT but is not prominent. Tall masts on adjacent high ground are more conspicuous. A short stretch of the A68 passes along the southern boundary whilst other built development within the adjacent settled urban fringe around Consett to the east provides an urbanising influence.	Low-moderate to Moderate
Remoteness	Most of the LCT retains a strongly rural, relatively remote and tranquil character, accessed only by winding local roads. Views of the heavily settled and developed upland fringe landscape above Consett reduce the perception of remoteness.	Moderate
QUALITATIVE:		
Scenic quality	The strongly rural, relatively remote and tranquil, intact and well managed agricultural and valley landscape is of moderate to high scenic quality, with emphasis on the Shotley Hall estate. Ebchester sand and gravel quarry and the strong urban fringe influences to the east reduce the perception of scenic quality.	Low-moderate to Moderate
Distinctiveness	This part of the River Derwent valley has some distinctive features and 'sense of place', but is not particularly representative of the Northumberland landscape.	Low-moderate to Moderate
Rarity	River valley landscapes are relatively common throughout Northumberland, although this particular character type covers a relatively small area of the County and comprises only one landscape character	Low-moderate to Moderate

Sensitivity attributes	Landscape characteristics influencing sensitivity to wind energy development	Sensitivity assessment
	area.	
HISTORIC & CULTURAL:		
Heritage assets	Limited historic importance with a small number of historic buildings and features within the LCT. Shotley Hall at Shotley Bridge is Grade II listed, at the centre of a linear Conservation Area alongside the River Derwent. Good links to Ebchester Roman Fort (*Vindomora*) across the river in County Durham.	Low-moderate to Moderate
Recreation	Limited recreational use within the LCT. Good public access along Derwent valley to the west of Ebchester, linking to walks along the disused railway now part of Derwent Walk Country Park, Ebchester Wood (owned and managed by the National Trust) and Ebchester Roman Fort (*Vindomora*) across the river in County Durham.	Low-moderate to Moderate
CONTEXTUAL CONSIDERATIONS:		
Landscape character context	The predominantly undeveloped, strongly rural, relatively remote and tranquil character of this medium scale valley landscape indicates generally higher sensitivity to medium-large and large scale wind turbines. This would be the case for both single turbines and turbine groups. Due to the close juxtaposition, inter-visibility and contrast with the *coalfield upland fringe* this landscape plays an important role in contributing to the character of the adjacent landscape, and vice versa, increasing sensitivity to wind energy development. Built development within the adjacent settled urban fringe around Consett and Ebchester on rising ground to the east provides an urbanising influence. Views from the south from the North Pennines AONB are important and sensitive where the Derwent Valley in this LCT is seen to cut through the *coalfield upland fringe* landscape. The domestic scale of existing features in the landscape, including farmsteads, trees and hedges, suggests that turbines of comparable scale are likely to be more appropriate, especially where screened by woodland. Single turbines would be more appropriate, with higher sensitivity to turbine groups.	
Cumulative effects	There are currently no wind turbines within this landscape. There are views of large turbines in adjacent character areas (Boundary Lane and Kiln Pit Hill windfarms on the *coalfield upland fringe* to the west). The Derwent Valley is seen in the middle distance in views from the *coalfield upland fringe* to the east where Boundary Lane and Kiln Pit Hill windfarms are seen in the distance as prominent developments on the skyline. Despite this, cumulative effects are not considered significant. However, any medium and larger scale wind energy development within the Derwent Valley LCA could create a confusing image and significant combined and sequential cumulative effects. The effect of small or small-medium scale single wind turbines within the valley should be limited if sensitively located where they would be of comparable scale with existing vertical elements such as farmsteads and trees, and where woodland provides screening. Turbine groups should be avoided, especially around historic features and within sensitive views.	

LCT 44: *Coalfield Valley* - Landscape Character Area (LCA) Sensitivity to Different Scales of Wind Energy Development

Landscape Character Area (LCA)	Turbine height to blade tip				
	<25m	**26m-40m**	**41m-65m**	**66m-100m**	**101m-135m**
LCA 44a: Derwent Valley	M	M-H	M-H	H	H

Overall Landscape Sensitivity of LCT44: *Coalfield Valley*	In general LCT44 is suitable for carefully sited single small scale turbines up to 25m height to blade tip. They should be closely associated with the scale and location of farm buildings, other domestic scale features and woodland within the landscape. In general, wind turbines above 25m height to blade tip would in principle be unsuitable within LCT44. However, small-medium scale turbines between 26m-40m height to blade tip and medium scale turbines between 41m-65m height to blade tip may be suitable where it can be shown that effects on the most sensitive characteristics and cumulative effects would not be significant. In these circumstances turbines should be no more than 'apparent' in the landscape – they should not be prominent or dominant and should not out-compete important foci in the landscape. Medium-large scale and larger turbines would significantly affect key characteristics and qualities of the landscape that are highly sensitive to this type and scale of development. This is particularly due to the high inter-visibility and strong links with the adjacent *coalfield upland fringe* ridges and visibility with the adjacent settled urban fringe.

4. SUMMARY FINDINGS: SENSITIVITY TO WIND ENERGY DEVELOPMENT IN NORTHUMBERLAND

Sensitivity to Wind Energy Development in Principle

4.1 **Table 11** sets out the full findings of this study across all landscape areas for all wind turbine typologies.

Table 11: Summary of overall sensitivity of landscape character areas to wind energy development (see Appendix A for full list of LCA names).

Landscape Character Area	Turbine height to blade tip				
	Small <25m	Small-Medium 26m-40m	Medium 41m-65m	Medium-Large 66m-100m	Larger 101m-135m
LCA 1a	M	M-H	H	H	H
LCA 2a	M	M-H	H	H	H
LCA 2b	M	M-H	H	H	H
LCA 3a	M-H	M-H	H	H	H
LCA 3b	M-H	M-H	H	H	H
LCA 3c	M-H	M-H	H	H	H
LCA 4a	M	M-H	M-H	H	H
LCA 4b	M-H	H	H	H	H
LCA 4c	M-H	H	H	H	H
LCA 5a	M-H	H	H	H	H
LCA 5b	M-H	H	H	H	H
LCA 5c	M-H	H	H	H	H
LCA 6a	L-M	M	M	M-H	M-H
LCA 7a	M-H	H	H	H	H
LCA 8a	M	M-H	H	H	H
LCA 8b	L-M	M-H	H	H	H
LCA 8c	L	L-M	M	M-H	M-H
LCA 8d	M	M-H	H	H	H
LCA 8e	M	M	M-H	H	H
LCA 8f	L-M	M	M-H	H	H
LCA 8g	L-M	M	M	M-H	M-H
LCA 9a	M-H	H	H	H	H
LCA 10a	L-M	M	M	M-H	M-H

Landscape Character Area	Turbine height to blade tip				
	Small <25m	Small-Medium 26m-40m	Medium 41m-65m	Medium-Large 66m-100m	Larger 101m-135m
LCA 10b	M	M-H	M-H	H	H
LCA 11a	L-M	M	M-H	H	H
LCA 11b	L-M	M	M	M-H	H
LCA 11c	L-M	M	M	M-H	H
LCA 12a	M	M	M-H	H	H
LCA 13a	M	M-H	H	H	H
LCA 14a	M	M-H	H	H	H
LCA 14b	M	M-H	H	H	H
LCA 14c	M-H	M-H	H	H	H
LCA 15a	M	M-H	H	H	H
LCA 15b	M	M-H	H	H	H
LCA 16a	M-H	H	H	H	H
LCA 16b	M	M-H	M-H	H	H
LCA 16c	M	M-H	M-H	H	H
LCA 17a	L-M	M	M-H	H	H
LCA 18a	M	M-H	H	H	H
LCA 18b	L-M	M	M-H	H	H
LCA 18c	M	M-H	H	H	H
LCA 18d	M	M-H	H	H	H
LCA 19a	L-M	M	M-H	M-H	H
LCA 19b	M	M-H	H	H	H
LCA 20a	L-M	M	M-H	H	H
LCA 20b	L-M	M	M-H	H	H
LCA 20c	L-M	M	M-H	H	H
LCA 21a	M	M-H	H	H	H
LCA 21b	M	M-H	M-H	H	H
LCA 21c	M	M-H	M-H	H	H
LCA 22a	M	M-H	H	H	H
LCA 22b	M	M-H	M-H	H	H
LCA 23a	M	M-H	H	H	H
LCA 23b	M	M-H	H	H	H

Landscape Character Area	Turbine height to blade tip				
	Small <25m	Small-Medium 26m-40m	Medium 41m-65m	Medium-Large 66m-100m	Larger 101m-135m
LCA 23c	M	M-H	H	H	H
LCA 24a	M	M-H	H	H	H
LCA 24b	M	M-H	H	H	H
LCA 24c	M	M-H	H	H	H
LCA 24d	M	M-H	H	H	H
LCA 24e	M	M-H	H	H	H
LCA 25a	H	H	H	H	H
LCA 25b	H	H	H	H	H
LCA 25c	H	H	H	H	H
LCA 25d	H	H	H	H	H
LCA 25e	H	H	H	H	H
LCA 26a	M	M-H	H	H	H
LCA 27a	M	M-H	H	H	H
LCA 27b	M	M-H	H	H	H
LCA 28a	M-H	H	H	H	H
LCA 29a	M	M-H	H	H	H
LCA 30a	M-H	H	H	H	H
LCA 30b	M-H	M-H	H	H	H
LCA 30c	M-H	H	H	H	H
LCA 31a	M-H	H	H	H	H
LCA 31b	M-H	H	H	H	H
LCA 31c	M-H	H	H	H	H
LCA 31d	M-H	H	H	H	H
LCA 31e	M-H	H	H	H	H
LCA 31f	M-H	H	H	H	H
LCA 31g	M-H	H	H	H	H
LCA 32a	H	H	H	H	H
LCA 32b	M-H	H	H	H	H
LCA 33a	M-H	M-H	H	H	H
LCA 34a	H	H	H	H	H
LCA 34b	M-H	H	H	H	H
LCA 34c	H	H	H	H	H
LCA 34d	H	H	H	H	H

Landscape Character Area	Turbine height to blade tip				
	Small <25m	Small-Medium 26m-40m	Medium 41m-65m	Medium-Large 66m-100m	Larger 101m-135m
LCA 34e	M-H	H	H	H	H
LCA 35a	M-H	H	H	H	H
LCA 35b	M	M-H	H	H	H
LCA 36a	L	L-M	L-M	M	M
LCA 37a	L-M	M	M	M-H	M-H
LCA 37b	L-M	M	M	M-H	M-H
LCA 38a	M	M-H	H	H	H
LCA 38b	M	M-H	H	H	H
LCA 38c	M	M-H	H	H	H
LCA 38d	M-H	H	H	H	H
LCA 38e	M-H	H	H	H	H
LCA 39a	L	L-M	M	M	M
LCA 39b	L	L-M	M	M-H	M-H
LCA 39c	L	L-M	M	M	M
LCA 40a	M	M-H	H	H	H
LCA 40b	M	M-H	M-H	H	H
LCA 41a	L	L-M	L-M	M	M
LCA 42a	L	L-M	L-M	M	M-H
LCA 43a	L	L-M	M	M	M-H
LCA 43b	L	L-M	M	M-H	M-H
LCA 44a	M	M-H	M-H	H	H

4.2 The assessment has identified some Northumberland landscapes as being of the highest sensitivity, i.e. *Moderate to High* or *High* sensitivity, *to all sizes* of wind turbine considered in this study. These are:

- Most of the *Rocky Coastline* LCT and all of the *Sandy Coast* LCT, which for the most part lie within the Northumberland Coast AONB;
- *LCA 7a: Hulne Park*, within the *Estate Valley* LCT;
- *LCA 9a: Coquetdale*, within the *Sandstone Upland Valley* LCT;
- *LCA 14c: Old Fawdon*, within the *Igneous Foothills* LCT;
- *LCA 16a: Halidon*, within the *Open Rolling Farmland* LCT;

- The *Moorland Ridges* LCT, which for the most part lie within the North Pennines AONB;
- Almost the entire landscapes within the *Tyne Gap*, comprising 7 LCTs;
- *LCA 35a: Coquet Valley*, within the *Broad Lowland Valleys* LCT;
- *LCA 38d: Pont Valley* and *LCA 38e: North Tyne Ridge*, both within the *Lowland Rolling Farmland* LCT.

4.3 In accordance with the definitions of sensitivity in Table 9, key characteristics within landscapes of *Higher* sensitivity (H) are highly likely to be significantly affected, and key characteristics within landscapes of *Moderate - High* sensitivity (M-H) are likely to be significantly affected by wind energy development. Consequently this study considers that wind energy development would be unsuitable in landscapes of *Higher* sensitivity (H). Wind energy development in landscapes of *Moderate - High* sensitivity (M-H) would be unsuitable in principle unless it can be shown that effects on the most sensitive key characteristics within an LCA would not be significant. This recognises the complex interplay of the different criteria that influence landscape character and which affect landscape sensitivity to wind energy development to a greater or lesser extent (see paragraph 2.24).

4.4 The assessment has also identified a number of other landscapes of *Moderate* or lower sensitivity where some of the key characteristics are sensitive to the categories of wind turbine considered in this study. Landscape character, views and/or visual amenity are unlikely to be significantly affected (see Table 9). Consequently this study considers that wind energy development would be suitable in principle in landscapes of *Moderate* sensitivity (M), *Low – Moderate* sensitivity (L-M) and *Lower* sensitivity (L). However, applications for development of any size of wind turbine in these locations will need to demonstrate that any significant landscape and visual effects, including cumulative effects, will not result in unacceptably harmful landscape change or visual intrusion (see *Wider Considerations* below).

Sensitivity to Small, Small-Medium and Medium Turbines up to 65m Height to Blade Tip

4.5 **Figures 49 to 51** show the spatial distribution of landscape sensitivities to the three lower and medium scales of wind turbine addressed by this study.

4.6 Landscapes that are the most sensitive to small and small-medium turbines up to 40m tip are the *Coastal Plain*, parts of the *Cheviot Fringe*, the *Rolling Uplands*, *North Pennines*, *Tyne Gap*, the *Rolling Lowland Farmland*, *Broad Bays and Dunes* and the *Derwent Valley*. Where the assessment has identified sensitivity as *Moderate to High* or *High* sensitivity, turbines of this size would not normally be expected be appropriate elements in the landscape without harmful character or visual change. Turbines of this size may be acceptable in landscapes assessed as *Moderate* sensitivity where effects on key characteristics would not be expected to be as significant. Turbines of this size are also likely to be acceptable in landscapes assessed as *Moderate-Low* or *Low* sensitivity where normally key characteristics are unlikely to be significantly affected, or where it is demonstrated that any local significant landscape and visual effects, including cumulative effects, will be otherwise acceptable through mitigation.

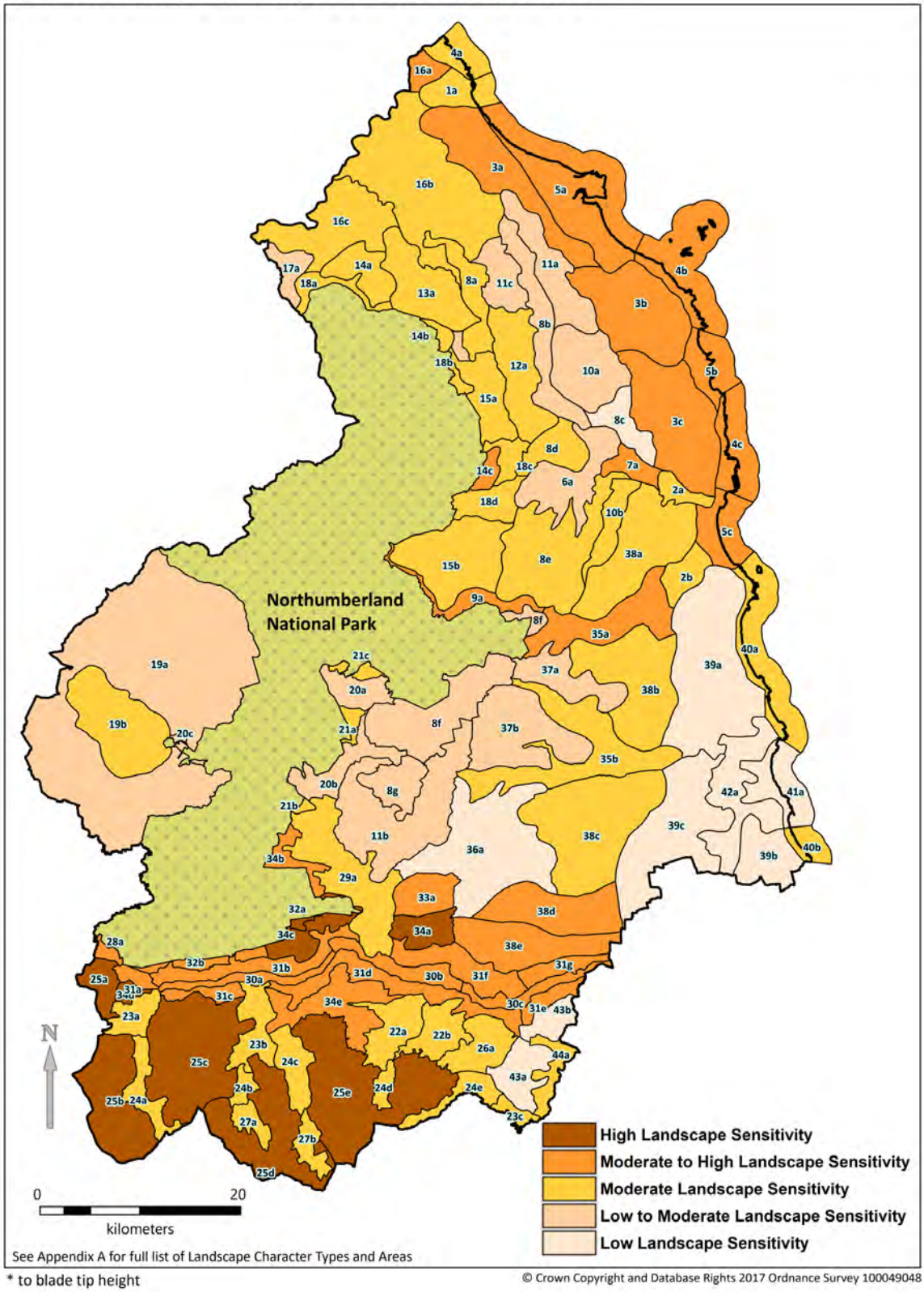
4.7 There is most potential in the county for single small turbines (up to 25m height to blade tip) or turbines at the lower end of the small-medium height category, and for small groups of two or possibly three turbines within this height range within more restricted parts of the county (rather than more widely distributed because of the potential for cumulative effects). Turbines of this height are more likely to be in scale with landscape patterns and human-scale features in the landscape such as buildings, church spires and mature trees. However, there is still the potential for turbines of this size to cause significant adverse effects to key landscape characteristics within a LCA or a wider area where visual sensitivity extends beyond the LCA.

4.8 Most landscapes throughout the county indicate *Moderate to High* or *High* sensitivity to small-medium and medium turbines between 25m-65m height to blade tip. Medium turbines between 40m-65m height to blade tip are unlikely to be suitable in landscapes of *Moderate to High* or *High* sensitivity, but may be acceptable in landscapes assessed as Moderate sensitivity where effects on key characteristics would not be significant, which may include parts of the *Sandstone Hills*, *Lowland Farmed Ridges*, *Coastal Farmland* and the *Coalfield Upland Fringe*.

4.9 Landscapes assessed as being less sensitive to medium and smaller turbines below 65m height to blade tip are the *Lowland Farmed Moor*, *Developed Coast* and the *Urban/Urban Fringe* LCTs.

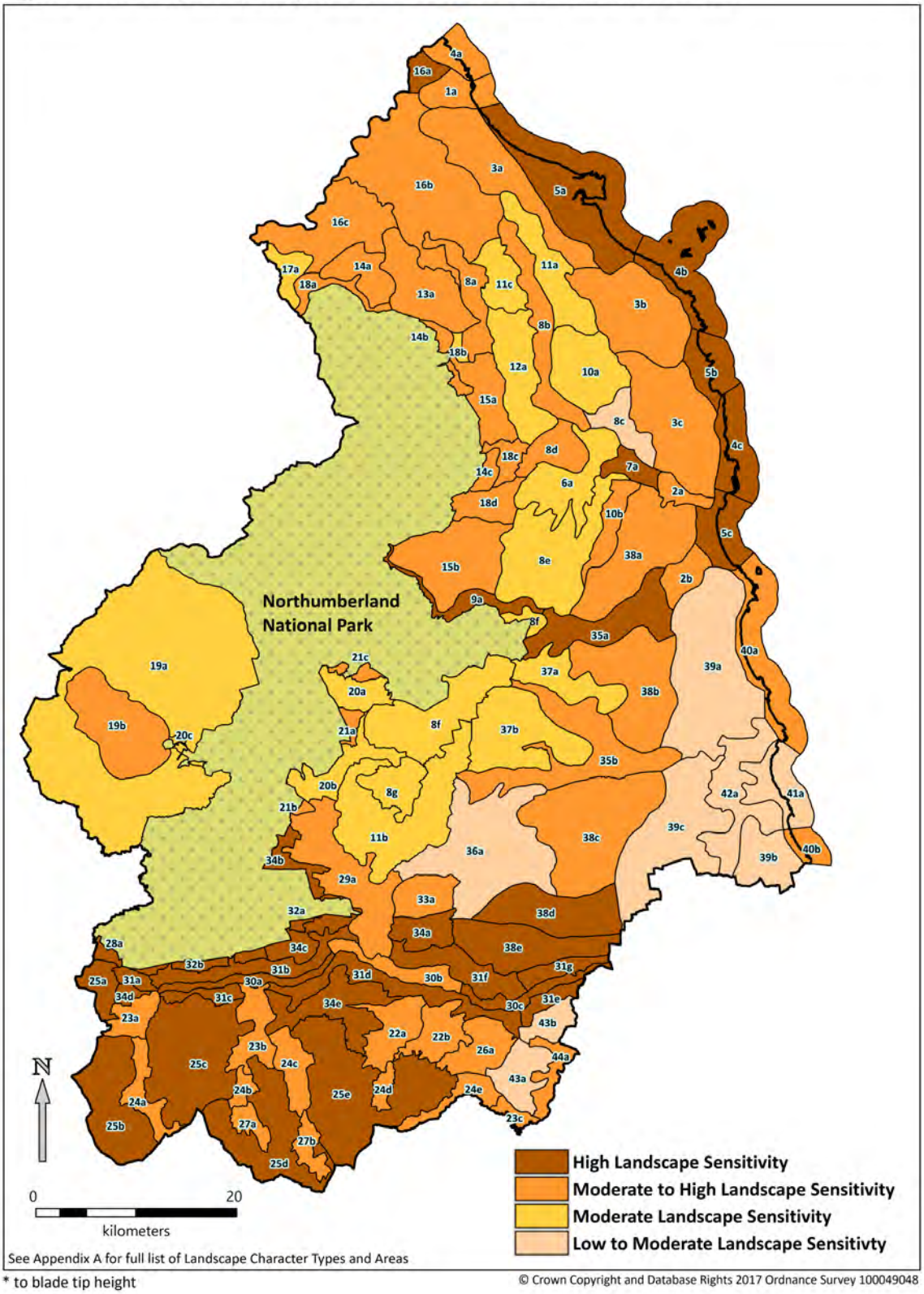
4.10 There are limited areas in the county assessed as *Low* sensitivity where key landscape characteristics are likely to be sufficiently robust and are not particularly sensitive to this size of wind turbine. However, these tend to be landscapes with more extensive operational or consented turbines where further development could lead to cumulative effects, or are landscapes subject to remodelling and enhancement, such as across former or current surface coal mining areas.

Figure 49: Landscape Sensitivity to Small Wind Turbines <25m*



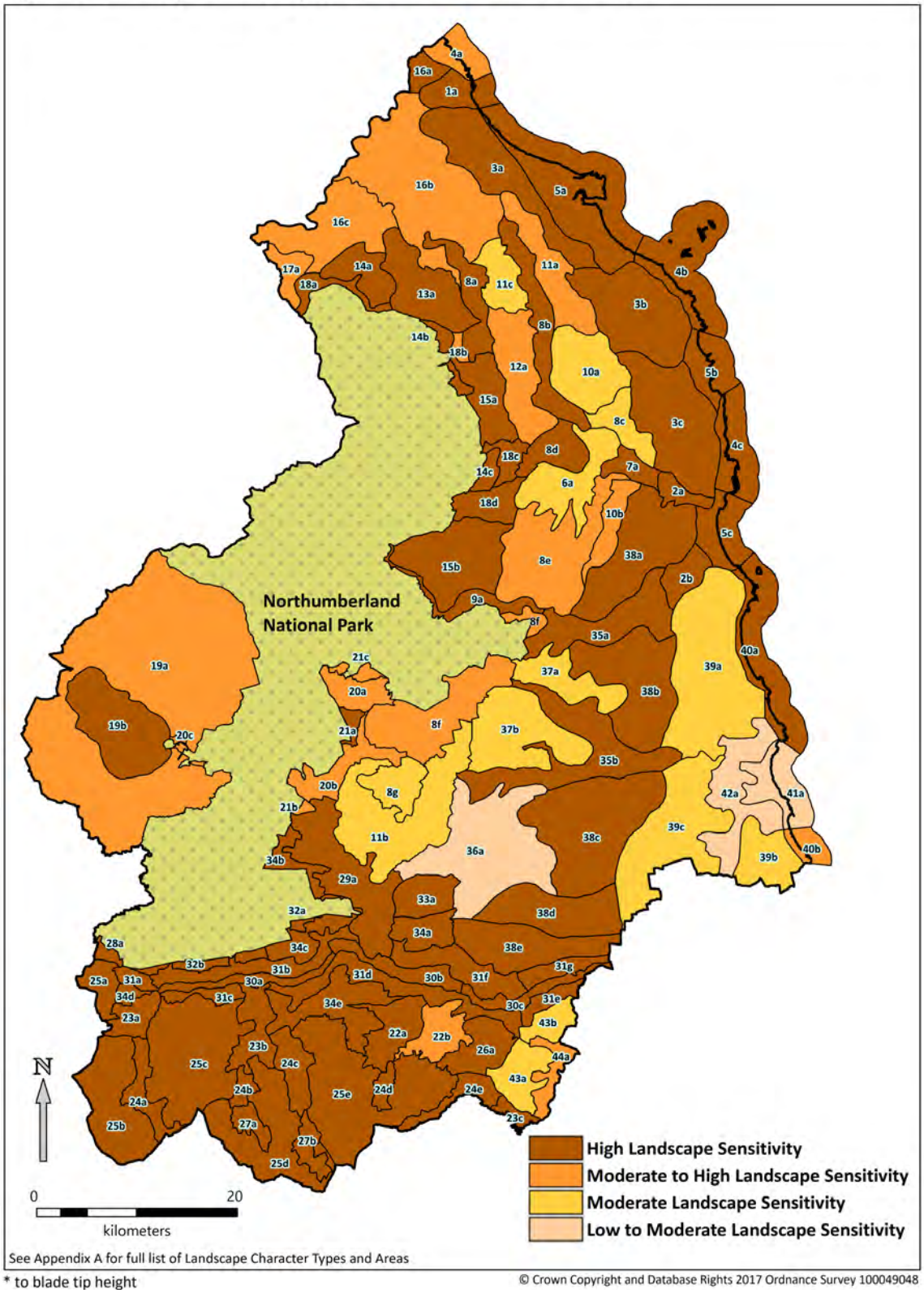
* to blade tip height

Figure 50: Landscape Sensitivity to Small to Medium Wind Turbines 26m-40m *



* to blade tip height

Figure 51: Landscape Sensitivity to Medium Wind Turbines 41m-65m *



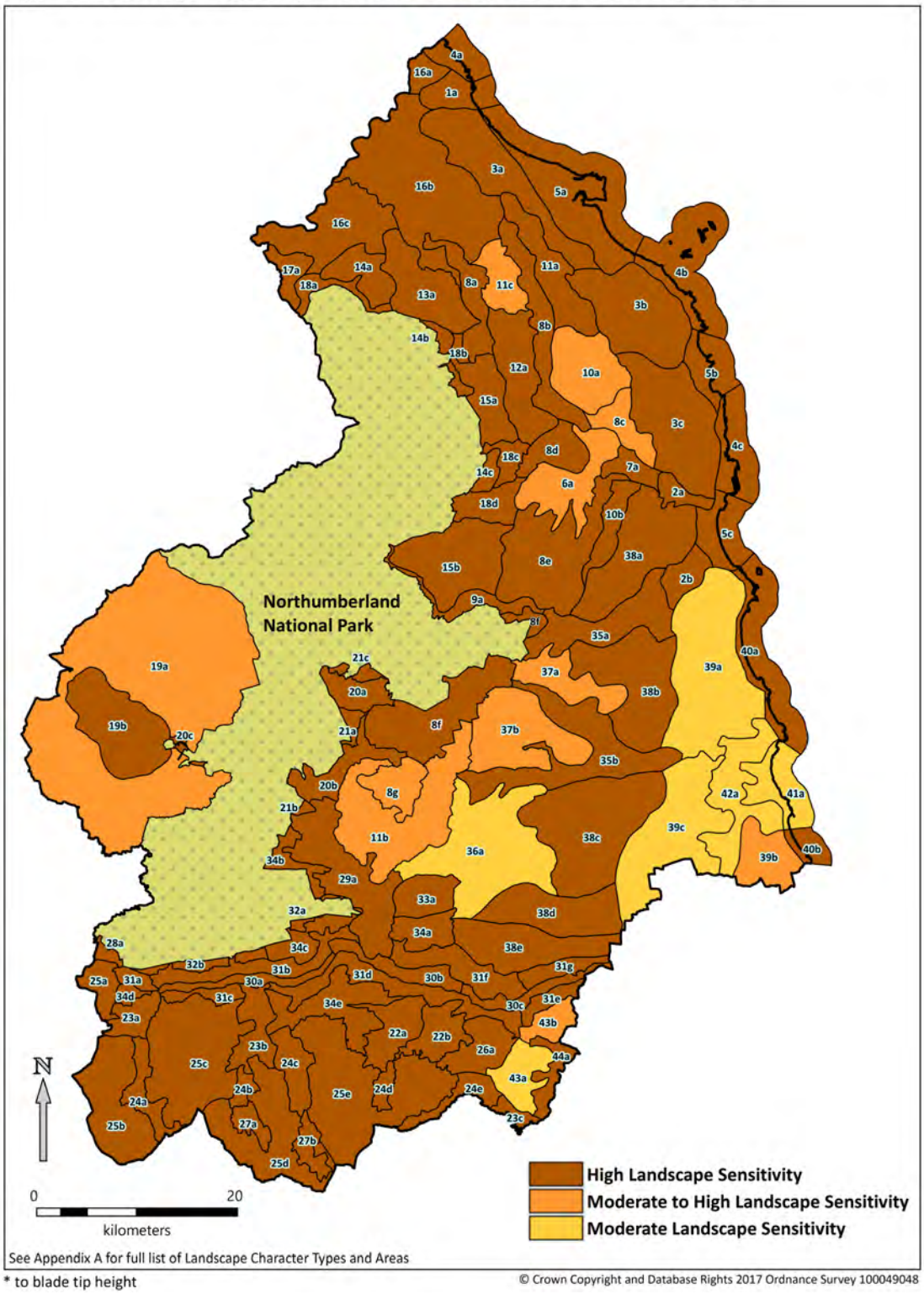
See Appendix A for full list of Landscape Character Types and Areas

* to blade tip height

Sensitivity to Medium-Large and Larger Turbines above 65m Height to Blade Tip

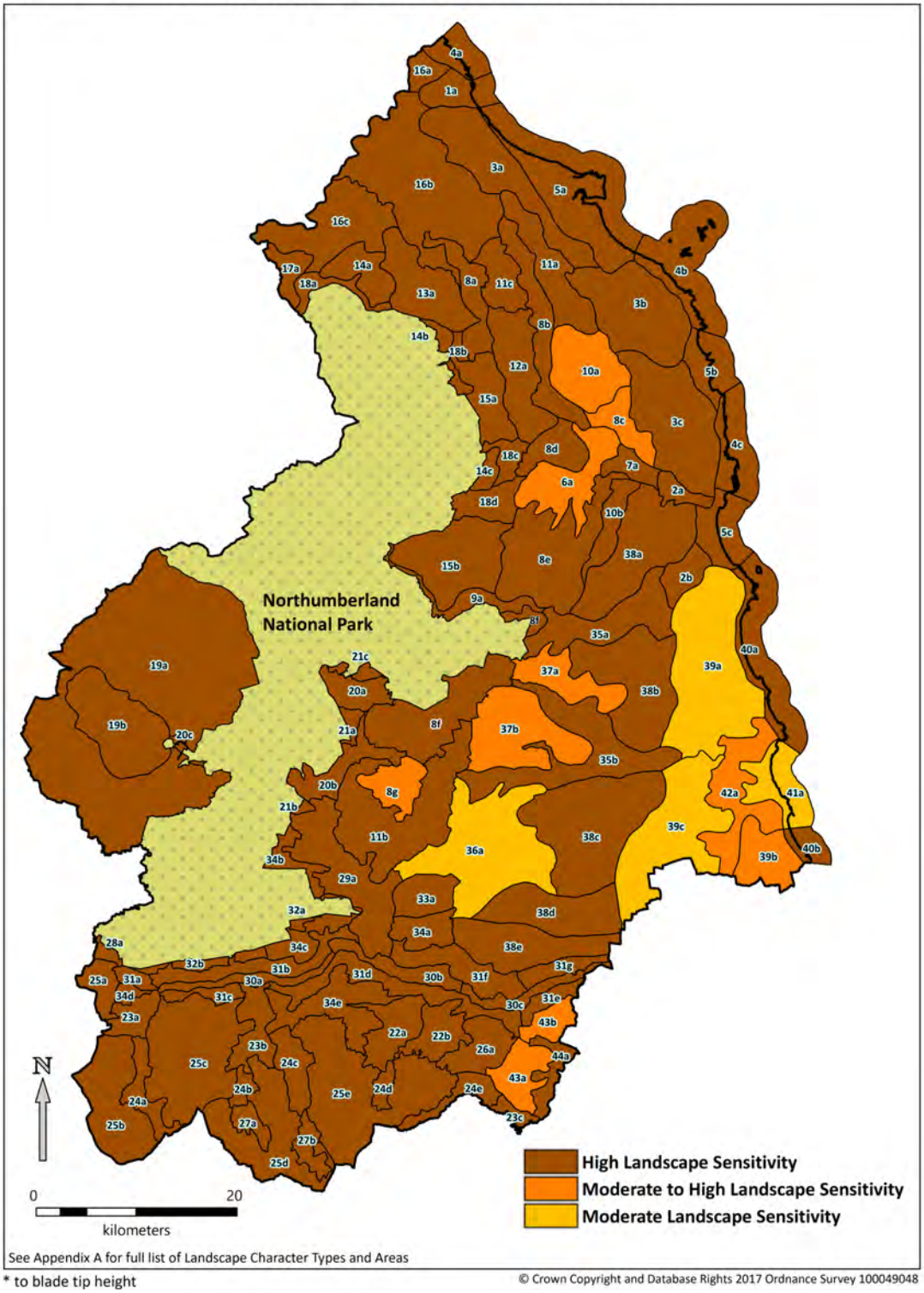
4.11 The assessment has shown that most landscapes throughout the county are not suitable for medium-large and larger turbines due to the *Moderate to High* or *High* sensitivity to turbines above 65m height to blade tip. See **Figures 52 and 53**:

Figure 52: Landscape Sensitivity to Medium to Large Wind Turbines 66m-100m *



* to blade tip height

Figure 53: Landscape Sensitivity to Large Wind Turbines 101m-135m *



* to blade tip height

4.12 Landscapes of Moderate sensitivity to this size of turbine, i.e. the least sensitive locations in comparison with other Northumberland landscapes, are:

- *LCA 36a: Ingoe Moor*, where turbines at Kirkheaton and Hallington contribute to reducing landscape sensitivity of the *Lowland Farmed Moor* LCT;

- *LCA 39a: Coastal Coalfields*, where turbines at Lynemouth, North Steads and Sisters contribute to reducing landscape sensitivity of the northern part of the *Coastal Farmland* LCT;
- *LCA 39c: Stannington*, where past and current opencast mining, significant transport infrastructure and a large scale landscape with limited intervisibility reduces overall sensitivity although locally sensitivity may be higher;
- *LCA 41a: Blyth and Wansbeck Estuaries*, where onshore and offshore turbines at Blyth contribute to reducing landscape sensitivity of that part of the *Developed Coast* LCT;
- *LCA 42a: Ashington, Blyth and Cramlington,* where turbines at Cramlington contribute to reducing landscape sensitivity of the *Urban and Urban Fringe* LCT;
- *LCA 43a: Kiln Pit Hill Hinterland,* where turbines at Kiln Pit Hill and Boundary Lane contribute to reducing landscape sensitivity of the *Coalfield Upland Fringe* LCT.

4.13 Although the assessment has identified these landscapes as being the least sensitive to medium-large and larger turbines, some of the key landscape characteristics are sensitive to this size of turbine. Applications for development of turbines above 65m height to blade tip in these locations will need to demonstrate that any significant landscape and visual effects, including cumulative effects, will be acceptable (see *Wider Considerations* below).

4.14 Where there may be some potential for medium-large and larger turbines, the pattern of development is likely to be one of extension(s) to operational wind farms or a new grouping of turbines within a particular part of the county where turbines of this size are already established. There is very little potential for single turbines or groups of turbines above 65m height to blade tip that would not be expected to be out of scale and over-dominant within the Northumberland landscape.

4.15 Where re-powering proposals arise, development which seeks to maintain the scale of the existing turbine or array is likely to be appropriate. However, where landscape and visual effects of operational medium, medium-large or large turbines in particular are considered to be significant, or where re-powering with larger turbines could result in significant landscape or visual effects, re-powering may be inappropriate.

Wider Considerations

4.16 Applications for development of any size of wind turbine will need to demonstrate that any significant landscape and visual effects, including indirect and cumulative effects, will be acceptable. In particular this must address in more detail than in a county-wide sensitivity study of this kind, the relative value attached to a particular landscape or its component elements, including landscape designations (such as National Park and AONB), and undesignated landscapes that may be valued at the community or local level. Impact on the setting of a valued landscape will also need to be considered, for example where an area affected by a proposal is visually associated with LCAs adjacent to or occasionally beyond contiguous landscapes to a designated area (such as where such areas may be particularly limited in scale, for example the southern fringe of Northumberland National Park).

4.17 Similarly, applications for development of any size of wind turbine will need to include an assessment of visual effects. This should establish the visual baseline by identifying the extent of possible visibility of a proposal (Zone of Theoretical Visibility / ZTV), the groups of people who may be affected (visual receptors), and key views and viewpoints. The value attached to views is an important consideration within Northumberland, for example in relation to iconic heritage assets such as the castles and priories along the coastline.

4.18 Assessment of cumulative effects is a requirement of the Environmental Impact Assessment (EIA) Regulations. Cumulative effects of wind energy developments is a particular consideration due to the potentially high level of visibility of these tall structures, which means that cumulative visual effects in particular (along with cumulative landscape effects) are more likely where a development is proposed in conjunction with other operational or consented wind energy developments. This study takes into consideration operational and consented wind energy developments within Northumberland and adjacent authorities, and advises on potential cumulative effects, but it is not a substitute for detailed assessment of the cumulative effects of a wind development proposal. The scope of a cumulative assessment should be agreed with the Council and is likely to include definition of an appropriate study area and the use of ZTV mapping of the proposed development with operational and consented schemes, together with schemes that are subject to a valid planning application that has not yet been determined.

4.19 The landscape (and visual) sensitivity to wind energy development assessed in this study will help the Council understand whether suitable areas for wind turbine development can be identified within the emerging Northumberland Local Plan. The study considers those factors that affect landscape character; other considerations will be taken into account by the Council in determining overall suitability, such as consideration of wider environmental value including international and national designations (e.g. SPA, SSSI, Scheduled Monument and Listed Building) and environmental assets valued at the community or local level (e.g. local wildlife sites and Conservation Areas), as well as technical and other practical limitations. However, the outputs of this sensitivity assessment do provide a systematic and transparent coarse-to-moderate grain filter of areas where wind energy development of the different typologies considered in the study would or would not be appropriate in landscape and visual terms.

APPENDICES

Appendix A:
Landscape Character Types and Landscape Character Areas
(NLCA 2010)

Landscape Character Type (LCT)		Landscape Character Area (LCA)	
1	Broad River Mouth	1a	Tweed River Mouth
2	Coastal Incised Valley	2a	Lower Aln
		2b	Lower Coquet
3	Farmed Coastal Plain	3a	Haggerston
		3b	Lucker
		3c	Rock
4	Rocky Coastline	4a	North Tweed Coast
		4b	Farne Islands Coast
		4c	Craster Coast
5	Sandy Coastline	5a	Holy Island Coast
		5b	Beadnell and Embleton Bays
		5c	Aln and Coquet Estuaries
6	Broad Sandstone Valley	6a	Whittingham Vale
7	Estate Valley	7a	Hulne Park
8	Outcrop Hills and Escarpments	8a	Doddington Ridge
		8b	Kyloe and Chillingham Hills
		8c	Charlton Ridge
		8d	Beanley Moor
		8e	Rothbury Forest
		8f	Harwood Forest
		8g	Sweethope and Blackdown
9	Sandstone Upland Valleys	9a	Coquetdale
10	Smooth Moorland	10a	Rosebrough Moor
		10b	Alnwick Moor
11	Sandstone Fringe Farmland	11a	Belford Hills
		11b	Buteland and Colt Crag
		11c	Hetton
12	Broad Farmed Vale	12a	Breamish Vale

13	Broad Floodplain Valley	13a	Till and Glen Valleys
14	Igneous Foothills	14a	Moneylaws and Coldside
		14b	Wooler Foothills
		14c	Old Fawdon
15	Upland Fringe Farmland	15a	Lilburn and Roddam
		15b	Upper Coquet
16	Open Rolling Farmland	16a	Halidon
		16b	Duddo and Lowick
		16c	East Learmouth
17	Upland Fringe Ridges	17a	Horse Rigg
18	Upland Fringe Valley	18a	Bowmont Valley
		18b	Wooler Vale
		18c	Upper Breamish
		18d	Upper Aln
19	Moorland and Forest Mosaic	19a	Kielder and Redesdale Forests
		19b	Kielder Reservoir
20	Rolling Upland Valleys	20a	Otterburn and Elsdon Valley
		20b	Bellingham and Woodburn Valley
		20c	Upper North Tyne Valley
21	Rolling Uplands	21a	Corsenside Common
		21b	Ealingham Rigg
		21c	Otterburn Plateau
22	Farmed River Valleys	22a	Devil's Water and Hinterland
		22b	Dipton Wood and Slaley
23	Lower Dale	23a	Lower South Tyne
		23b	Lower Allenheads
		23c	Lower Derwent
24	Middle Dale	24a	Middle South Tyne
		24b	Middle West Allen
		24c	Middle East Allen
		24d	Middle Devil's Water
		24e	Middle Derwent
26	Upland Farmland and Plantations	26a	Healey

27	Upper Dale	27a	Upper West Allen
		27b	Upper East Allen
28	Basin Valley and Fringes	28a	River Irthing
29	Broad Wooded Valley	29a	North Tyne Valley
30	Glacial Trough Valley Floor	30a	Haltwhistle to Newbrough
		30b	Newbrough to Corbridge
		30c	Corbridge to Wylam
31	Glacial Trough Valley Sides	31a	Tipalt Burn
		31b	Haltwhistle to Bridge End
		31c	North Plenmeller Common
		31d	Langley to Stocksfield
		31e	Stocksfield to Prudhoe
		31f	Acomb to Ovington
		31g	Ovington to Wylam
32	Parallel Ridges and Commons	32a	Howden Hill
		32b	Haltwhistle, Melkridge and Ridley Commons
33	Tributary Valley	33a	Erring Burn
34	Upland Commons and Farmland	34a	Acomb Ridge
		34b	Broadpool Common
		34c	Grindon Common
		34d	Featherstone Common
		34e	Lowes and Nubbock Fells
35	Broad Lowland Valleys	35a	Coquet Valley
		35b	Font and Wansbeck Valleys
36	Lowland Farmed Moor	36a	Ingoe Moor
37	Lowland Farmed Ridges	37a	Wingates Ridge
		37b	Longwitton Ridge
38	Lowland Rolling Farmland	38a	Longframlington
		38b	Longhorsley
		38c	Whalton and Belsay
		38d	Pont Valley
		38e	North Tyne Ridge
39	Coalfield Farmland	39a	Coastal Coalfields
		39b	Seaton Delaval

		39c	Stannington
40	Broad Bays and Dunes	40a	Druridge Bay
		40b	Seaton Dunes
41	Developed Coast	41a	Blyth and Wansbeck Estuaries
42	Urban and Urban Fringe	42a	Ashington, Blyth and Cramlington
43	Coalfield Upland Fringe	43a	Kiln Pit Hill Hinterland
		43b	Prudhoe Hinterland
44	Coalfield Valley	44a	Derwent Valley

Appendix B:

Key Landscape Characteristics and General Influence on Wind Energy

Landscape Attributes	Key Landscape Considerations	General Influence on Wind Energy Development
Landform	Topography, shape, complexity; distinctive features; influence on views	• Simple, smooth, flat or gently undulating landforms generally have greater capacity than complex, rugged or steep landforms • Larger turbine groups may sometimes be accommodated on simple, flat or gently sloping hill fringe or lowland landscapes • Smaller turbine groups are likely to fit better in a rolling or undulating hill fringe or lowland landscape • Generally turbine height should be proportionate to landform height, with taller turbines on higher hills and smaller turbines on lower ground, to help retain topographic distinctions and contrasts between upland and lowland landscapes • Where sited on ridges or hills, turbine height should be typically less than one-third the perceived height of the ridge or hill to be proportionate to the landform • Development could intrude or be visually confusing if close to distinctive topographical features • Development within lowland landscapes could affect sense of contrast where there is existing wind development on adjoining upland areas • Floodplain landscapes have little capacity due to their essentially open character • Simple flat coastal landscapes probably have greater capacity than complex coastal landscape with combinations of cliffs, headlands or rocky shorelines • Extensive flat lowland plateau or lowland plain landscapes may have capacity to accommodate wind energy development • Development could affect sense of distance
Land use	Land use change, historical continuity	• Development could affect perceptions of 'naturalness' in landscapes largely unaffected by modern influences
Land cover	Pattern, variety and complexity due to the number and diversity of landscape features; infrastructure, settlement & other development	• Extensive areas of homogenous character and similar ground cover generally have greater capacity than landscapes with a smaller pattern and variety of land cover • Large turbine groups may have an adverse 'flattening' effect on landscapes with a complex character and varied land cover where smaller groupings are likely to fit better • Relationship of turbines with the pattern, scale, location, character and setting of other built development, in particular the height of existing tall structures, will influence capacity • May be the need for visual separation to avoid visual conflicts due to contrasts in scale where existing structures are seen in close proximity to turbines • May be the need for visual separation to avoid cumulative effects where existing structures are seen in close proximity to turbines
Rarity	Rare / unusual landscapes with a distinctive 'sense of place'	• Development could affect perceptions of distinctiveness and could physically affect landscapes with a rare or unusual character
Scale	Horizontal and vertical 'size' of the landscape and	• Development must be in scale with the landscape, including any features in it, otherwise it will either dominate or appear too small and trivial

Landscape Attributes	Key Landscape Considerations	General Influence on Wind Energy Development
	extent of land visible (scale generally increases with elevation and distance); size of features in the landscape	• Intimate and small scale landscapes generally have less capacity than large scale landscapes • Large turbine groups may have an adverse 'flattening' effect on small scale, more intricate landscapes where smaller groupings are likely to fit better • Large turbine groups may be appropriate in simple, flat coastal landscapes, and smaller turbines and groups may be more appropriate in more complex, varied coastlines • Development could affect perception of vertical scale if turbines are too tall in comparison with landscape features or smaller turbines
Openness	Extent of enclosure / containment due to the arrangement of landscape elements and the interaction of their height and distance between them	• Enclosed or confined landscapes generally have less capacity than more open landscapes • Sensitivity is likely to be increased where views are focussed along coastlines or across open water to other land masses
Experience	For example wildness, solitude, tranquillity, sense of movement, etc.	• Development could affect perceptions of remoteness, calmness etc.
Landscape Context	Consideration of how adjacent areas and features alter key sensitivities i.e. importance to setting or providing a backdrop	• Existing development in adjacent areas is taken into account in assessing existing 'baseline' character • Existing development in adjacent areas is taken into account in assessing whether an area has reached or is approaching landscape capacity for wind energy development • Development in one area can affect key sensitivities in adjacent areas and increase cumulative landscape effects • The setting of distinctive landmark coastal features can be especially sensitive