

Landscape Sensitivity to Wind Turbine and Solar PV Development



FINAL GILLESPIES

Assessment of the Landscape Sensitivity to On-shore Wind Turbine and Field-Scale Photovoltaic Development in the Borough of Milton Keynes Final Report Prepared by Gillespies LLP June 2016

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SECTION 1: INTRODUCTION

The landscape in the Borough of Milton Keynes (the Borough) has a significant economic, social and community value, contributing to a sense of identity, well-being and enjoyment. It also has an environmental value as a home for wildlife and a cultural record of society's use of the land. The Council recognises the need to manage the development of wind and solar electricity generating installations across the Borough in order to maximize renewable energy generation while at the same time ensuring that the important characteristics of the landscape are not unacceptably harmed.

In order to help understand how best to accommodate wind and solar electricity generation installations, Milton Keynes Council commissioned Gillespies to undertake an assessment of the sensitivity of the landscape to onshore wind turbine and field-scale solar photovoltaic (PV) development in the Borough. The outputs of the study are intended to assist Milton Keynes Council in making robust, well informed decisions on planning applications received for wind and solar PV developments.

This is a strategic level landscape and visual study providing a context for consideration of sensitivity to and capacity for future wind turbine and solar PV development in Milton Keynes. It is not the purpose of a landscape sensitivity assessment to say that renewable energy development should be rejected on account of a sensitivity rating. Such decisions will depend on a wide range of different factors that will be considered in addition to landscape sensitivity. These, amongst other things, are likely to include sustainability, residential visual amenity, biodiversity, agricultural land quality and historic environment as well as local policy.

Prior to the commencement of this study Gillespies undertook a review and update of the Borough's landscape character assessment, *Milton Keynes Landscape Character Assessment* (2015). The landscape character assessment and sensitivity study both exclude the urban area of Milton Keynes itself although areas on the urban fringe are included.

The main aims of this study are:

- To assess the sensitivity of the Borough's six landscape character types¹ (LCTs) to accommodate wind turbine and solar PV development;
- To provide guidance on siting for wind turbine and solar PV development within LCTs and landscape character areas (LCAs); and
- To identifying where particular LCAs may have greater or less capacity for wind turbine and solar PV development.

¹ As defined in Gillespies, (2015) *Milton Keynes Landscape Character Assessment* (2015)

SECTION 2: METHODOLOGY

Overview of Methodology

The approach taken in this study builds on current published guidance and studies of a similar nature. Much of the guidance that is specific to wind turbine development has been developed by Scottish Natural Heritage (SNH) but the principles underlying the guidance are widely accepted as being applicable to England and Wales. These documents are listed in Appendix A.

The Guidelines for Landscape and Visual Impact Assessment (GLVIA3) Third Edition (2013) is the industry standard for landscape and visual assessment. In accordance with GLVIA3, assessments regarding landscape sensitivity are derived from combining judgements about the susceptibility to change arising from the specific proposals with judgements about the value attached to the landscape. In common with most recent wind turbine and solar PV landscape sensitivity studies the final assessment of sensitivity includes both landscape and visual aspects and combines judgements relating to:

- landscape susceptibility;
- the presence and sensitivity of visual receptors; and
- the value attached to the landscape.

Landscape susceptibility and visual sensitivity was evaluated through the application of a series of criteria, developed from recent guidance and current studies, for typologies which represent the spectrum of wind turbine and solar PV development which are currently operating or in the planning system within Milton Keynes Borough.

Alongside this assessment the relative value placed on the landscape was evaluated. This may include regional or local landscape designations, including areas of attractive landscape or similar. Note has also been taken of landscape related heritage assets or value to a community of interest, such as local residents.

The underlying capacity of each landscape character type to accommodate developments of different types was evaluated based on the assessment of susceptibility and value.

Baseline Landscape Character

Milton Keynes Landscape Character Assessment (MK LCA) forms the spatial framework for this study. The MK LCA identifies 6 landscape character types (LCTs) and 15 Landscape Character Areas (LCAs). The LCT and LCA descriptions form the primary evidence base for this study. The boundaries between the LCTs are indicative and close to boundaries, areas are likely to share characteristics. It is generally accepted that when siting renewable energy development landscape character should be maintained as far as possible. LCTs and LCAs within the Borough are shown on Figure 03.

The flow chart below sets out the methodology that has been applied to the sensitivity assessment for both wind turbine and solar PV developments and the study is structured as follows:

Section 1: Introduction

Section 2: Methodology

- an overview of the identification of attributes, typologies and existing development;
- a table setting out susceptibility criteria for wind turbine development;
- a table setting out susceptibility criteria for solar PV development;
- methodology used to assess landscape sensitivity
- methodology used to assess the relative capacity of each LCT

Section 3: Landscape Sensitivity and Capacity Assessments

- contains the sensitivity assessment of each LCT with regard to wind turbine development and solar PV development and includes guidance on siting and capacity;
- Section 8: contains the figures that illustrate the assessment



Consultation

A Draft Landscape Character Assessment (LCA) and an Assessment of the Landscape Sensitivity to Wind Turbine and Solar PV Development was presented to ward councillors on 20 August 2015. Later these documents were the subject of an eight week public consultation from September to November 2015.

All the documents were made available on-line to view and comment on. The draft documents were sent by email to a number of consultees including parish councils in Milton Keynes and those adjoining the borough's boundary, all neighbouring local authorities as well as groups that have an interest in the landscape including the Parks Trust, Berks, Bucks and Oxon Wildlife Trust, the Ramblers Association, renewable energy industry and many others.

Also, a presentation on the draft assessments was given by a planning officer to Newport Pagnell North & Hanslope Area Forum at a meeting in Hanslope on 10 September.

In total, ten organisations submitted comments on the draft Assessments during the consultation period (this number excludes any organisations that responded, but had no comments to make). Appendix C includes all comments made during the consultation and how these influenced the final Assessments.

Identification of Attributes, Existing Development and Typologies

Landscape Attributes and Value

It is generally recognised that the characteristics of a landscape determine whether it is capable of accepting renewable energy development without undue harm to the existing landscape character. Landscape and visual attributes most likely to be affected by wind turbine or solar PV development have been identified and are set out in table below.

Landscape Attributes

Affected by Solar PV

Most Likely to be

Development

Landscape Attributes Most Likely to be Affected by Wind Turbine Development

Scale	Field Pattern
	Enclosure
Landform	Landform
Landcover	Landcover
Built Environment	Built Environment
Historic Landscape Character	Historic landscape character
Skyline and Landmarks	
Intervisibility	
Visual Receptors	Visual Receptors
Perceptual Qualities	Perceptual Qualities

For each attribute a series of criteria have been identified that indicate how susceptible a landscape may be to wind turbine or solar PV development. Not all attributes will be indicators of susceptibility for both forms of development. Section 4 of this study sets out in detail the criteria that have been identified for wind turbine development and Section 5 sets out the criteria identified for solar PV developments. These are the criteria used to assess the susceptibility of each of the Borough's LCTs. National and local designations and other sources of information have been used to assess the value of each landscape character area. Wind turbine and solar PV development may be acceptable in designated landscapes providing the purpose of designation is not compromised. Conversely a landscape that is not designated may be highly sensitive to wind turbine or solar PV developments if it has particular landscape or visual characteristics that are very susceptible to these developments.

Existing Development

The extent and typology of existing wind turbine developments, operational and consented, within the Borough and within 10km of the Borough boundary are set out in Figure 01. Wind turbine developments within the planning system (at March 2015) are shown alongside operational and consented schemes.

The extent and typology of existing solar PV developments, operational and consented, within the Borough and within 10km of the Borough boundary are set out in Figure 02. Solar PV developments within the planning system (at March 2015) are shown alongside operational and consented schemes.

Wind Turbine Development Typologies

This study considers the sensitivity of landscapes in the Borough to commercial scale wind turbines. The turbine assessed is considered to be the most common horizontal axis three-bladed turbine between 90-140m to blade tip in height. It does not include domestic or building-mounted turbines.

This study considers the sensitivity of the landscape to four typologies of wind turbine development based on the number of turbines within the development as set out in Table 1. These group sizes are intended to reflect the group sizes most likely to be proposed for the Borough by developers.

Table 1			
Wind Turbine Group Size	Number of Turbines		
SINGLE	1		
SMALL GROUP	2 - 5		
MEDIUM GROUP	6 - 10		
LARGE GROUP	11 - 15		

This study has not included groups of over 15 wind turbines, because it is considered that nowhere in the Borough is likely to be suitable for very large scale schemes. This conclusion is consistent with current approvals and has considered current and recent schemes proposed within the Borough and within the immediately surrounding districts. However this does not prevent an application for a larger group to be made. In those circumstances the recommendations for a large group would have some weight.

Solar PV Development Typologies

This study considers the sensitivity of landscapes in the Borough to field-scale solar PV developments consisting of 'arrays' of solar PV panels, around 3-4 metres in height and mounted on aluminium/ stainless steel frames, with associated infrastructure. It does not includes domestic or building-mounted solar PV panels.

This study considers the sensitivity of the landscape to four typologies of solar PV development based on the extent of the development as set out in Table 2. These typologies are based on recent development applications within the study area intended to reflect the extent of solar PV development most likely to be proposed for the Borough by developers.

Table 2			
Solar PV Typology	Indicative Criteria		
SMALL ARRAY	Less than 5 hectares		
MEDIUM ARRAY	5 - 10 hectares		
LARGE ARRAY	10 - 15 hectares		
VERY LARGE ARRAY	Over 15 hectares		

Wind Turbine Development Susceptibility Criteria

LOW

Large scale open

lowland or elevated

plateau landscape

mostly with large,

regular field sizes.

Introduction

This section sets out in detail the criteria considered for each landscape attribute when assessing its susceptibility to wind turbine development. Indicators of low, medium and high susceptibility are provided. Some of the attributes considered may be closely linked, for example the degree of intervisibility is likely to influence the importance of skylines and the likely presence of landmark features.

Table 3 Wind Turbine Susceptibility Criteria

SCALE

Small scale intimate landscapes are more susceptible to wind turbine development than large scale open landscapes. Wind turbines are more likely to appear out of scale and dominant in landscapes with smaller and/or irregular field sizes.

The relationship between size and shape of contiguous fields is often strongly related to the age of the field pattern itself. Irregular, smaller fields are generally older than larger, more regular fields

	LOW	MEDIUM	HIGH
le is ly ct	Simple flat, smooth or convex landform e.g. extensive lowland or elevated plateau. Disturbed landscapes.	Distinct landform with convex hills, plateau incised by valleys.	Distinct or irregula landform, sharp or marked changes in level e.g. escarpment slope

MEDIUM

Intimate small-

scale landscape,

mosaic of small-

characterised by a

scale irregular fields.

Medium scale

field sizes.

landscape. May

contain a variety of

LANDFORM

Landscapes with a flat, smooth, or convex landform are less susceptible to wind turbine development than those with a complex rugged landform, distinct landform features or pronounced undulations. This is because wind turbines have the potential to detract from visually important landforms or reduce the apparent scale and drama of distinct landforms. Disturbed landscapes where the landform has been altered by human activities are considered less susceptible to change

LANDCOVER

Simple, regular landscapes with extensive areas of uniform ground cover are less susceptible to wind turbine development. Complex landscapes with a mosaic of land cover, such as pastoral land with pockets of trees and woodlands or river corridors with a mixture of land uses including recreation and agriculture, are more susceptible to wind turbine development.

LOW	MEDIUM	HIGH
Uniform field pattern with little variety in land cover e.g. amalgamated modern enclosure. Landscapes with consistent groundcover e.g. arable.	Regular field pattern with some variations in land cover e.g. mix of arable, grassland and woodland.	Irregular, intricate field pattern with complex and varied land cover e.g. fields interspersed with woodland or other semi-natural land cover such as river meadows, heathland.

BUILT ENVIRONMENT

Large scale infrastructure, major communications routes and largescale developments reduce susceptibility to wind turbine development although development needs to be carefully sited to avoid visual clutter.

Areas which are characterized by a more established, traditional or historic built character, including historic structures, will be more susceptible to wind turbine development.

LOW	MEDIUM	HIGH
A landscape dominated by large scale industrial development or major infrastructure e.g. major transport routes, pylons.	Dispersed settlement; modern housing some large development/ infrastructure.	A sparsely populated 'unspoilt' landscape with small scale vernacular settlements and buildings. Historic settlement pattern apparent. Lack of large scale infrastructure.

HISTORIC LANDSCAPE CHARACTER

Landscapes with a persistence of historic landscape patterns are more susceptible to wind turbine development due to the potential effects of wind turbine development on the coherence of these landscapes and the ability to appreciate them. In landscapes with older enclosure patterns (prehistoric/medieval), rough ground, ancient and other broadleaf woodland, assarts, historic parkland, water meadows and historic river crossing or other features with significant time depth wind turbine developments may be seen as intrusive and out of character.

LOW	MEDIUM	HIGH
Little evidence of historic landscape patterns.	Some evidence of historic landscape patterns. May contain local designations.	Evidence of historic landscape patterns. Registered parks and gardens, or local landscape designation.

SKYLINE AND LANDMARKS

Landscapes with prominent and distinctive skylines, or skylines with important landmark features identified in the landscape character assessment, are more susceptible to wind turbine development. Wind turbines may detract from these skylines as features in the landscape, or draw attention away from existing landmark features on skylines. Historic landmarks such as distinctive church spires increase susceptibility, especially where they occur frequently.

LOW	MEDIUM	HIGH
Flat or plateau landscape where skylines are not prominent and/ or there are no important landmark features on the skyline. Few or no historic landmark features.	Landscape with some prominent skylines, but these are not particularly distinctive. There may be some landmark features.	Landscape comprising prominent or distinctive skylines. Particularly important or frequent landmark features e.g. church spires.

INTERVISIBILITY

Landscapes where view to and from adjacent landscapes areas and settlements have been identified as important, including views to and from landscape and cultural heritage features, are more susceptibility to wind turbine development.

LOW	MEDIUM	HIGH
Very limited connections with surrounding countryside and adjacent LCAs.	Intervisibility with surrounding countryside and with adjacent LCAs.	Extensive views from the surrounding countryside, and adjacent LCAs. Views from designated areas/national trails.

VISUAL RECEPTORS

The presence of sensitive receptors within a landscape increases its susceptibility to wind turbine development. Such receptors may be present on tourist routes, national or regional trails and other recognised visitor locations. Close proximity to settlements increases the chance of adverse effects on visual amenity.

LOWMEDIUMHIGHCommercial areas,
transport routes.Mix of commercial
areas and places of
work with scattered
residential areaResidential areas,
recreational/tourist
areas including
national or regional
trails.

PERCEPTUAL QUALITIES

Areas with attractive scenery and a strong sense of place are more susceptible to wind turbine development that less scenic areas. Developments within such landscapes can undermine special qualities and character by introducing new and uncharacteristic features which affect their perceived remoteness and tranquillity. Landscapes that contain many signs of modern development, such as large scale industry or infrastructure are less susceptible, as wind turbine developments can be seen as in scale and character.

LOW	MEDIUM	HIGH
Much human activity and modern development, significantly affected by major infrastructure. Weak sense of place.	Some modern development and human activity but retaining some rural and serene aspects.	Tranquil landscapes with little human activity and modern development, sense of 'naturalness' and isolation are preeminent. Strong sense of place.

LANDSCAPE VALUE

Landscapes that are recognised for their high natural beauty/scenic quality are more susceptible to wind turbine development. Landscapes of lower scenic quality or where there has been a loss of character due to agricultural intensification or industrial development are likely to be less susceptible. Landscape value is formally recognised by designation, but value can also be informed by published documentation such as tourist leaflets, art and literature.

LOW

Low scenic quality such as an industrial area or despoiled land. A landscape subject to intense agricultural intensification.

quality valued locally for its rural character. May be a landscape with local designations or subject to a stated strategy of landscape conservation.

MEDIUM

Medium scenic

Internationally, nationally or locally designated landscape. Highly scenic landscape, valued for its unspoilt rural character, recreational opportunities, tranquillity or varied topography. Landscape valued through association with people or events.

Solar PV Development Susceptibility Criteria

Introduction

This section sets out in detail the criteria considered for each landscape attribute when assessing its susceptibility to solar PV development. Indicators of low, medium and high susceptibility are provided. Some of the attributes considered may be closely linked, for example the field pattern is likely to influence the degree of enclosure.

Table 4 Solar PV Susceptibility Criteria

FIELD PATTERN

Small scale intimate landscapes with complex, smaller and irregular field patterns are more susceptible to the introduction of solar PV development than landscapes with large, regular field patterns because of the risk of diluting or masking the characteristic landscape patterns. This is particularly apparent if development takes place across a number of adjacent fields where the field pattern is small and intricate (bearing in mind that the height of panels could exceed that of a hedge).

LOW	MEDIUM	HIGH
Large-scale, simple, regular fields of mainly modern enclosure.	A mixture of large- scale, modern fields and some smaller, more historic enclo- sure.	A mosaic of small- scale, ancient field patterns.

ENCLOSURE

Where landscapes have a strong sense of enclosure due to topography and screening (e.g. woodland, high and overgrown hedgerows, hedgerow trees and shelter belts) the susceptibility to solar PV development is reduced.

Landscapes which are visually enclosed with limited views are less susceptible than open landscapes with extensive views. Where the landscape character assessment has identified that views to and from adjacent landscapes areas and settlements are important, including views from landscape and cultural heritage features, the susceptibility to solar PV energy development is increased as landscape impacts may extend to adjacent landscape character areas.

LOW	MEDIUM	HIGH
A very well enclosed landscape with limited inward and outward views – perhaps provided by thick, unmanaged/ high hedgerows, with frequent hedgerow trees, tree belts and woodland.	A landscape with some open and some more enclosed areas – likely to be a rural landscape with some well-managed hedgerows, stone walls and tree belts.	An open and ex- posed landscape with few or fragment- ed field boundaries, sparse woodland or tree cover. Land- scapes with far reaching inward and outward views.

LANDFORM

Landscapes with a flat or gently undulating landform are less susceptible to solar PV development than those with prominent and rolling landforms with visible slopes. This is because arrays of solar PV panels are less easily perceived in a flat landscape than on a slope, especially steeper slopes. Ground mounted solar PV panels are not particularly prominent in height and medium/long distances views can be more restricted/screened in flatter landscapes than those located on visible slopes, prominent landforms or overlooked by higher vantage points. Disturbed landscapes where the landform has been altered by human activities are considered less susceptible to change.

LOW	MEDIUM	HIGH
A simple flat, smooth or convex landform without distinct land- form features e.g. extensive lowlands, elevated plateau.	A gently undulating landform with hidden areas as well as some visible slopes.	Narrow valleys with a steep land-form and exposed, visible slopes

LANDCOVER

Simple landscapes with extensive areas of arable ground cover are less sensitive to solar PV development. In areas with large scale horticulture, solar PV panels can look similar to poly tunnels. 'Brownfield' or urban sites are also less sensitive due to the perceived urban/industrial quality of solar PV developments.

Landscapes dominated by pastoral land and/or semi-natural land cover such as heathland or water meadows, are considered to be more sensitive to solar PV energy developments. Landscapes containing notable or large expanses of woodland (in particular semi-natural woodland) and parkland landscapes are also more susceptible to field-scale solar PV developments because vegetation may need to be removed to facilitate the installation of such developments.

LOW	MEDIUM	HIGH
An arable/ horticultural or 'brownfield' landscape.	A mixed pastoral and arable landscape, perhaps with some brownfield sites or some semi-natural land cover.	A landscape dominated by semi- natural land cover, perhaps with some permanent pasture or parkland.

BUILT DEVELOPMENT

The presence of large scale infrastructure, major communications routes and large-scale developments reduces susceptibility to solar PV development, as does visible influences of quarrying or landfill.

Areas which are characterized by a more established, traditional or historic built character, including historic structures, will be more susceptible to solar PV energy development. Areas which are more sparsely settled and free from disturbance are considered susceptible to solar PV development, due to their perceived naturalness.

LOW	MEDIUM	HIGH
Landscape dominated by large scale industrial development, major infrastructure or large settlements.	Dispersed settlement or built development; modern housing some large development/ infrastructure.	A sparsely populated 'unspoilt' landscape with small scale vernacular settlements and buildings. Historic settlement pattern apparent. Lack of large scale infra- structure.

HISTORIC LANDSCAPE CHARACTER

Landscapes with a persistence of historic landscape patterns are considered to be susceptible to solar PV energy development due to the potential effects on the coherence of these landscapes and the ability to appreciate them. These include landscapes with older enclosure patterns (prehistoric/medieval), rough ground, ancient and other broadleaf woodland, assarts, historic parkland, water meadows and historic river crossing where solar PV energy developments may be seen as intrusive and out of character.

LOW	MEDIUM	HIGH
Little evidence of historic landscape patterns.	Some evidence of historic landscape patterns. May contain local designations.	Evidence of historic landscape patterns. Registered parks and gardens or local landscape designations.

VISUAL RECEPTORS

The presence of sensitive receptors within the landscape increases its susceptibility to solar PV development. Such receptors may be present on tourist routes, national or regional trails or at other recognised visitor locations close to the development. Close proximity to settlement may also increase an area's susceptibility.

LOW	MEDIUM	HIGH
Commercial areas, transport routes.	Mix of commercial areas and places of work with scattered residential areas	Residential areas, recreational/tourist areas including national or regional trails.

PERCEPTUAL QUALITIES

Areas with attractive scenery and a strong sense of place will be more susceptible to solar PV development that less scenic areas. Developments within such landscapes can undermine special qualities and character by introducing new and uncharacteristic features which affect their perceived remoteness and tranquillity. Landscapes that contain many signs of modern development, such as large scale industry or infrastructure are less susceptible as solar PV developments can be seen as in character.

LOW	MEDIUM	HIGH
Much human activity and modern development, significantly affected by major infrastructure. Weak sense of place.	Some modern development and human activity but retaining some rural and serene aspects.	Tranquil landscape with little modern human activity or modern development, sense of 'naturalness' and isolation are prominent. Strong sense of place.

LANDSCAPE VALUE

Landscapes that are recognised for their high natural beauty/scenic quality are more susceptible to solar PV development. Landscapes of lower scenic quality or where there has been a loss of character due to agricultural intensification or industrial development are likely to be less susceptible. Landscape value is formally recognised by designation, but value can also be informed by published documentation such as tourist leaflets, art and literature.

Low scenic quality such as an industrial area or despoiled land. A landscape subject to intense agricultural intensification.

LOW

MEDIUM

Medium scenic quality valued locally for its rural character. May be a landscape with local designations or subject to a stated strategy of landscape conservation.

HIGH Internationally, nationally or locally designated landscape. Highly scenic landscape, valued for its unspoilt rural character, recreational opportunities, recreational opportunities, tranquillity or varied topography. Landscape valued through association with people or events.

Assessment of Landscape Sensitivity

Wind Turbine Development

The attributes of the six LCTs identified in the MK LCA have been assessed against the criteria identified in Tables 3 above and the results are set out below.

In any given LCT the attributes may produce conflicting scores. For example when considering susceptibility to wind turbine development, a settled landscape, while containing greater human influence (indicating a lower susceptibility) will also include more human scale features that could be affected by a large-scale wind turbine development (indicating a higher susceptibility). Enclosure is not included in the list of attributes because it is not considered an attribute that is a good indicator of susceptibility to wind turbine development. Trees and woodland cannot screen wind turbines and whilst a more enclosed landscape may limit wider visibility, indicating a lower susceptibility, the presence of trees and woodlands can provide more contrasts in scale, thereby indicating a higher susceptibility.

These issues are balanced in the overall discussion of landscape sensitivity which considers the susceptibility of the various attributes and the value of the landscape before reaching a conclusion on overall sensitivity of the LCT to the wind turbine typologies identified in Table 1.

Sensitivity judgements in relation to each scale of development are presented on the following basis:

- High sensitivity: wind turbine development of this scale would be likely to result in a significant adverse change in landscape character and/ or affect key landscape values
- Medium sensitivity: there are likely to be opportunities to accommodate wind turbine development of this scale without a significant adverse change in landscape character. However there are likely to be key sensitivities or values that must be respected in relation to turbine development. Proposals must follow the guidance on siting, and cumulative impacts.
- Low sensitivity: wind turbine development of this scale could be accommodated without affecting key characteristics and/or values in the landscape. Proposals must follow the guidance on siting, and cumulative impacts.

Solar PV Development

The attributes of the six LCTs identified in the MK LCA have been assessed against the criteria identified in Table 4 above and the results are set out in the tables below.

In any given LCT the attributes may produce conflicting scores. For example when considering susceptibility to solar PV development, a landscape with a very small-scale field pattern and with a high sense of enclosure might score lower susceptibility for 'sense of enclosure/openness' but higher for 'field pattern and scale'. These issues are balanced in the overall discussion of landscape sensitivity which considers the susceptibility of the various attributes and the value of the landscape before reaching a conclusion on overall sensitivity of the LCT to the solar PV typologies identified in Table 2.

Sensitivity judgements in relation to each typology are presented on the following basis:

- High sensitivity: solar PV development of this scale would be likely to result in a significant adverse change in landscape character and/or affect key landscape values.
- Medium sensitivity: there are likely to be opportunities to accommodate solar PV development of this scale without a significant adverse change in landscape character. However there are likely to be key sensitivities or values that must be respected in relation to solar PV development. Proposals must follow the guidance on siting, and cumulative impacts.
- Low sensitivity: solar PV development of this scale could be accommodated without affecting key characteristics and/or values in the landscape. Proposals must follow the guidance on siting, and cumulative impacts.

Assessment of Landscape Capacity

The assessment of sensitivity is followed by guidance on the appropriate siting and scale of future wind turbine and solar PV development within each of the Borough's LCTs and a recommendation on the capacity of the LCTs.

An overall indicative landscape capacity has been derived for each LCT by considering the following:

- Overall sensitivity to wind turbine or solar PV development, reflecting landscape and visual sensitivity (including landscape value);
- Operational and consented wind turbine and solar PV developments within and adjacent to the each LCT; and
- The size of each LCA. There may be scope for a greater number of developments within larger LCAs before a capacity threshold is reached.

The indicative landscape capacity helps to identify the type of developments which could be potentially accommodated. However, this does not in itself suggest that all planning applications for development of the typology identified will be appropriate in these areas. Site specific landscape and visual issues and other variables such as ecological designations are beyond the scope of this study and will need to be considered on a case by case basis. This page Intentionally left blank

SECTION 3: LANDSCAPE SENSITIVITY AND CAPACITY ASSESSMENTS

LCT 1 Clay Plateau Farmland

Character Areas

LCA 1a YARDLEY CLAY PLATEAU FARMLAND LCA 1b HANSLOPE CLAY PLATEAU FARMLAND

Key Characteristics

- Gently undulating plateau landscape
- Large to medium scale mixed woodlands, linking with the extensive woods of Yardley Chase and Salcey Forest in Northamptonshire. More isolated woodlands within Hanslope Clay Plateau Farmland LCA 1b
- Extensive areas of woodland in Northamptonshire form a backdrop to this LCT
- Medium to large arable fields with clipped hedges
- Areas of pasture and smaller fields closer to the settlements
- Sparsely settled rural landscape crossed by minor roads (with the exception of the M1 in LCA 1b)
- Extensive views over neighbouring valleys



LCA 1a YARDLEY CLAY PLATEAU FARMLAND



LCA 1b HANSLOPE CLAY PLATEAU FARMLAND



Susceptibility to Wind Turbine Development

SCALE Large to medium field sizes with irregular field boundaries. Smaller fields near settlements.	LOW	MEDIUM	HIGH
LANDFORM Gently undulating plateau	LOW	MEDIUM	HIGH
LANDCOVER Mostly arable fields with areas of mixed woodland. Some areas of pasture closer to settlements.	LOW	MEDIUM	HIGH
BUILT ENVIRONMENT Sparsely settled rural landscape crossed by few roads (with the exception of the M1 corridor in LCA 1b).	LOW	MEDIUM	HIGH
HISTORIC LANDSCAPE CHARACTER Ancient woodland with links to historic woodland chases. Evidence of historic field patterns and remnant ridge and furrow.	LOW	MEDIUM	HIGH
SKYLINE AND LANDMARKS Wooded skylines to the north of this LCT, such as Salcey Forest and Yardley Chase, are a prominent feature. Occasional landmarks e.g. Church tower at Hanslope.	LOW	MEDIUM	HIGH
INTERVISIBILITY Some extensive views over neighbouring valleys.	LOW	MEDIUM	HIGH
VISUAL RECEPTORS Users of PRoWs. There are a number of promoted routes in LCA 1b.	LOW	MEDIUM	HIGH
PERCEPTUAL QUALITIES Generally a tranquil rural landscape with little modern influence except for the M1 corridor in LCA 1b.	LOW	MEDIUM	HIGH
LANDSCAPE VALUE The value attached to this LCA derives from its tranquil rural character and a lack of modern development.	LOW	MEDIUM	HIGH

Sensitivity

WIND TURBINE GROUP SIZE	LOW	MEDIUM	HIGH
SINGLE TURBINE (1)	-o		
SMALL GROUP (2-5) +	o		
MEDIUM GROUP (6-10)		•	
LARGE GROUP (11-15) +			•

Guidance on siting

Wind turbine development could be accommodated within localised parts of this landscape with the following considerations;

- Consider opportunities for siting turbines on more open plateau areas with large scale arable fields which have lower sensitivity to wind turbine development.
- Consider the greater sensitivities of the wooded landscapes which are a key characteristic of this landscape type, such as Little Linford Wood, Gayhurst, Bunsty and Longland's Wood, Stokepark Wood and other areas of woodland along the northern boundary of the Borough adjacent to Yardley Chase and Salcey Forest.
- Avoid areas of ridge and furrow e.g. near Tathall End
- Consider the important visual relationship with adjacent landscape in Northamptonshire. The view of the wooded skyline is particularly sensitive. The narrow areas in LCA 1a along the northern boundary of the Borough have close intervisibility with the Yardley Chase and Salcey Forest to the north and the Ouse valley to the south and are unlikely to be able to accommodate any scale of development.
- Consider the potential impacts on views from adjacent landscapes where development would be visible over a wide area, such as the Ouse and Tove valleys (LCT 5 Undulating Clay Farmland and LCT 2 River Valley).
- Respect the site and setting of the linear settlement between Hanslope Park, Hanslope and Long Street and the village of Tathall End.
- Respect the setting of existing landmark features such as Hanslope Church spire and views towards it.

- Sensitivity is increased where the location is prominent in views from well used PRoWs. Avoid dominating the well-used network of paths in the vicinity of Hanslope and long distance walks in the area, such as the Swan's Way, the Hanslope Circular Ride, the Milton Keynes Boundary Walk and the Midshires Way.
- Consider opportunities for locating turbines in association with the M1 corridor in LCA 1b where the tranquillity of the rural landscape is reduced.

Capacity

Baseline Wind Turbine Development

There are currently no turbines within this LCT. There is an application for a 15 turbine development at Stoke Heights Wind Park near Stoke Goldington in LCA 1b. The M1 Wind Farm, with 9 turbines, is located in Northamptonshire, north of LCA 1b along the M1 corridor.

Indicative Overall Capacity

There is unlikely to be capacity for anything other than a single turbine in LCA 1a as larger development would have a significant adverse effect on the local landscape character

In LCA 1b the identified sensitivities indicate that it is unlikely to have capacity for more than one small or medium group of turbines. Although areas closest to the M1 are the least sensitive, a series of single/small developments along the M1 has the potential to create a wind farm corridor. Any development in this area needs to be carefully examined in terms of cumulative effects with existing solar PV development within the LCT and across the Borough boundary in Northamptonshire.

Susceptibility to Solar PV Development

FIELD PATTERN

Large to medium field sizes with irregular field boundaries. Smaller fields near settlements.



ENCLOSURE

Frequent woodland copses provide enclosure. Hedges are in variable condition. Unmanaged hedges will provide more enclosure.

LOW MEDIUM HIGH

LANDFORM Gently undulating plateau.

LOW	MEDIUM	HIGH

LANDCOVER

 Mostly arable fields with areas of mixed woodland. Some areas of pasture fields closer to settlements
 LOW
 MEDIUM
 HIGH

BUILT ENVIRONMENT Sparsely settled rural landscape crossed by few roads

(with the exception of the M1 corridor in LCA 1b).

LOW	MEDIUM	HIGH	

HISTORIC LANDSCAPE CHARACTER Ancient semi-natural woodland with links to historic woodland chases. Evidence of historic field patterns and remnant ridge and furrow.

LOW	MEDIUM	HIGH

VISUAL RECEPTORS Users of PRoWs. There are a number of promoted routes in LCA

A 1b.	LOW	MEDIUM	HIGH
		1	

PERCEPTUAL QUALITIES

Generally a tranquil rural landscape with little modern influence except LOW for the M1 corridor.

LOW MEDIUM HIGH

LANDSCAPE VALUE

The value attached to this LCA derives from its tranquil rural character and a lack of modern development.

er	LOW	MEDIUM	HIGH

_ _ _ _ _ _

Sensitivity

SOLAR PV TYPOLOGY	LOW	MEDIUM	HIGH
SMALL ARRAY (< 5 ha) +	0		
MEDIUM ARRAY (5-10 ha) +	0		
LARGE ARRAY (10-15 ha) +	[0	
VERY LARGE ARRAY (> 15 ha)		o	

Guidance on siting

Solar PV development could be accommodated within localised parts of this landscape with the following considerations;

- Consider opportunities for siting solar PV development on more open plateau areas with large scale arable fields
- Consider siting solar PV development within areas that are visually enclosed by woodland copses or well-maintained hedges.
- Avoid losses of valued woodland and tree cover
- Avoid siting solar PV development on visible slopes where there would be intervisibility with the more sensitive landscapes of the Ouse and Tove valleys (LCT 5 Undulating Clay Farmland).
- Avoid areas of ridge and furrow e.g. near Tathall End
- Respect the site and setting of the linear settlement between Hanslope Park, Hanslope and Long Street and the village of Tathall End.
- Respect the setting of existing landmark features such as Hanslope Church spire and views towards it.
- Avoid visual intrusion into the well-used network of paths in the vicinity of Hanslope and long distance walks in the area, such as the Swan's Way, the Milton Keynes Boundary Walk, the Hanslope Circular Ride and the Midshires Way.
- Consider opportunities for locating solar PV in association with the M1 corridor in LCA 1b where the tranquillity of the rural landscape is reduced.

Capacity

Baseline Solar PV Development

Solar PV development in this area is concentrated in the M1 corridor in or close to LCA 1b. There is one development at Littlewood Farm, west of Stoke Goldington and an array north of the Borough boundary at Hartwell Farm. These are now operational solar farms. Two other developments are located either side of the Borough boundary, east of the Salcey Forest at Bullshead Farm. "Bullshead Farm North" is operational, "Bullshead Farm" in the LCT5 is consented.

There is a development at Manor Farm, near Horton in Northamptonshire, to the north of LCA 1a.

Indicative Overall Capacity

Although the presence of woodland reduces the sensitivity of this LCT to solar PV development there are limited areas in which large or very large solar PV development could be accommodated. This is predominantly to the east of the M1. However, cumulative issues may arise and any development in this area needs to be carefully examined in terms of cumulative effects with existing solar PV development within the LCT and across the Borough boundary in Northamptonshire.

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LCT 2 River Valley

Character Areas

RURAL RIVER VALLEY

LCA 2a Tove Rural River Valley LCA 2b Ouse Rural River Valley

URBAN RIVER VALLEY

LCA 2c Ouse Urban River Valley LCA 2d Ouzel North Urban River Valley LCA 2e Ouzel South Urban River Valley

Key Characteristics

RURAL RIVER VALLEY

- Slow flowing meandering river in sinuous valley floor
- Areas of pasture close to the river
- Open field patterns with ditches and wire fences
- Weirs and historic mills
- Historic parklands
- Limited access to the river in rural areas and few crossing points
- The river is inconspicuous within the landscape, marked only by scattered trees
- Tranquil character

URBAN RIVER VALLEY

- Slow flowing meandering river in sinuous valley floor
- Valley floor widens in urban areas with extensive areas or open water due to mineral extraction
- Wide accessibility due to large scale landscape restoration of mineral extraction sites and creation of linear parks



Landscape character within this landscape type varies between the river valleys in rural areas and areas along the urban edge of Milton Keynes. For this reason sensitivity to wind turbine and solar PV development has been divided between LCAs 2a and 2b which are located in the rural area and LCAs 2c, 2d and 2e which are located on the urban edge of Milton Keynes.

LCA 2a TOVE RURAL RIVER VALLEY



LCA 2b OUSE RURAL RIVER VALLEY



LCA 2c OUSE URBAN RIVER VALLEY



LCA 2d OUZEL NORTH URBAN RIVER VALLEY



LCA 2e OUZEL SOUTH URBAN RIVER VALLEY



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Susceptibility to Wind Turbine Development

LCA 2a, 2b

SCALE Small scale sinuous river valleys with small, irregular field pattern.	LOW	MEDIUM	HIGH
LANDFORM Flat floodplain within a river valley.	LOW	MEDIUM	HIGH
LANDCOVER Pasture and water meadows.	LOW	MEDIUM	HIGH
BUILT ENVIRONMENT Sparsely settled rural landscape. Villages are generally located in the adjacent LCT on higher ground.	LOW	MEDIUM	HIGH
HISTORIC LANDSCAPE CHARACTER Heritage features include historic weirs /mills and river crossings and historic riverside parkland at Tyringham and Gayhurst.	LOW	MEDIUM	HIGH
SKYLINE AND LANDMARKS Historic bridges.	LOW	MEDIUM	HIGH
INTERVISIBILITY Open extensive views along river valleys and across the valleys from local escarpments such as at Olney.	LOW	MEDIUM	HIGH
VISUAL RECEPTORS Users of PRoWs especially long distance footpaths along river valleys.	LOW	MEDIUM	HIGH
PERCEPTUAL QUALITIES Tranquil rural landscape.	LOW	MEDIUM	HIGH
LANDSCAPE VALUE The value attached to this LCA derives from its tranquil rural character and its strong associations with local poet William Cowper.	LOW	MEDIUM	HIGH

Sensitivity

WIND	TURBINE	GROUP	SIZE
------	---------	-------	------

WIND TURBINE GROUP SIZE	LOW	MEDIUM	HIGH
SINGLE TURBINE (1) +		r	o
SMALL GROUP (2-5)			0
MEDIUM GROUP (6-10) +I			o
LARGE GROUP (11-15) +			o

Guidance on siting

This is a tranquil small-scale river valley landscape dominated by pasture and water meadows. There are extensive views along river valleys and across the valleys from local escarpments. These characteristics increase the susceptibility of this landscape to wind turbine development.

Wind turbine development within this landscape would compromise the scenic value and undeveloped quality of the landscape and would potentially be highly visible from surrounding areas.

The lack of built form within the rural river valley with which a single turbine could be associated means that this landscape is considered unlikely to be suitable for wind turbine development.

Capacity

Baseline Wind Turbine Development

None.

Indicative Overall Capacity

There is unlikely to be capacity in this LCT for any scale of commercial wind turbine development as such development would have a significant adverse effect on the local landscape character.

Susceptibility to Wind Turbine Development

LCA 2c, 2d, 2e

SCALE		1	
Small scale sinuous river valleys, wider valley floor to the north of Milton Keynes.	LOW	MEDIUM	HIGH
LANDFORM Flat floodplain.	LOW	MEDIUM	HIGH
There is wide spread land cover change as a result of the restoration of	LOW	MEDIUM	HIGH
mineral workings and development on the urban edge of Milton Keynes. The extent of semi natural habitat cover has increased and includes			
parkland, lakes and wetland.			
BUILT ENVIRONMENT			
	LOW	MEDIOM	HIGH
HISTORIC LANDSCAPE CHARACTER			
Heritage features include historic weirs/mills and river crossings. The Grand Union Canal is a dominant feature	LOW	MEDIUM	HIGH
chand onion oanaris a dominant loatare.			
SKYLINE AND LANDMARKS			
Historic bridges and the Grand Union Canal.	LOW	MEDIUM	HIGH
		•	
INTERVISIBILITY	LOW	MEDIUM	нісн
Views sometimes limited due to planting within river corridor.	LOW	MEDIOM	nign
VISUAL RECEPTORS Close proximity to residential areas on the urban edge of Milton Keynes.	LOW	MEDIUM	HIGH
Recreational areas.			
PERCEPTUAL QUALITIES			
Range of recreational opportunities makes this a well-used area.	LOW	MEDIUM	HIGH
LANDSCAPE VALUE			
This LCA derives its value as accessible land in close proximity to the urban edge of Milton Keynes and the recreational opportunities it offers.	LOW	MEDIUM	HIGH
WIND	TURBINE	GROUP	SIZE
------	---------	-------	------
------	---------	-------	------

WIND TURBINE GROUP SIZE	LOW	MEDIUM	HIGH
SINGLE TURBINE (1) +		r	Ō
SMALL GROUP (2-5)			0
MEDIUM GROUP (6-10) +			o
LARGE GROUP (11-15) +			o

Guidance on siting

This is a small scale landscape in close proximity to the urban edge of Milton Keynes. There is increasing development pressure due to on-going urban expansion The area has high recreational value due to the network of linear parks in the area. Wind turbine development could decrease the recreational value of open space so close to Milton Keynes.

Capacity

Baseline Wind Turbine Development

None.

Indicative Overall Capacity

The proximity of these LCAs to the urban edge of Milton Keynes means that there is unlikely to be capacity for any scale of commercial wind turbine development as such development would have a significant adverse effect on the local landscape character.

Susceptibility to Solar PV Development

LCA 2a, 2b

FIELD PATTERN				
Small, irregular field patterns.	LOW	MEDIUM	HIGH	
ENCLOSURE				
An open landscape where field boundaries are often marked	LOW	MEDIUM	HIGH	
by dicites of post and wire fences.				
LANDFORM Elat floodplain within a river valley	LOW	MEDIUM	HIGH	
			·,	
LANDCOVER				
Pasture and water meadows.				
	LOW	MEDIUM	HIGH	
BUILT ENVIRONMENT				
Sparsely settled rural landscape. Villages are generally located in the	LOW	MEDILIM	шен	
adjacent LCT on higher ground.	LOW	MEDIOM	High	
HISTORIC LANDSCAPE CHARACTER				
Heritage features include historic weirs/mills and river crossings and historic riverside parkland at Tyringham and Gayburst	LOW	MEDIUM	HIGH	
historie riverside parkiarie at rynngham and edyndist.				
VISUAL RECEPTORS Users of PRoWs especially long distance footnaths along river valleys	LOW	MEDIUM	HIGH	
PERCEPTUAL QUALITIES				
Tranquil rural landscape.	LOW	MEDIUM	HIGH	
LANDSCAPE VALUE				
The value attached to this LCA derives from its tranquil rural character	LOW	MEDIUM	HIGH	
and its strong association with the local poet william Cooper.				

SOLAR PV TYPOLOGY	LOW	MEDIUM	HIGH
SMALL ARRAY (< 5 ha)		-0	
MEDIUM ARRAY (5-10 ha) +1		r	0
LARGE ARRAY (10-15 ha) +			0
VERY LARGE ARRAY (> 15 ha)		L	0

Guidance on siting

This is a tranquil small-scale river valley landscape dominated by pasture and water meadows. There is little enclosure as the field boundaries are marked by ditches or post and wire fences. These characteristics increase its susceptibility to solar PV development.

Solar PV development within this landscape would compromise the scenic value and undeveloped quality of the landscape and would potentially be highly visible from surrounding areas.

Capacity

Baseline Solar PV Development

None.

Indicative Overall Capacity

There is unlikely to be capacity in this LCT for medium or large scale commercial solar PV development as such development would have a significant adverse effect on the local landscape character.

Susceptibility to Solar PV Development

LCA 2c, 2d, 2e

FIELD PATTERN MEDIUM Existing small scale field pattern has often been replaced by mineral LOW HIGH extraction or restored landscapes. ENCLOSURE Enclosure provided by riparian vegetation in landscapes restored for LOW MEDIUM HIGH recreational use. LANDFORM LOW MEDIUM HIGH Flat floodplain within a river valley. LANDCOVER There is wide spread land cover change as a result of the restoration of LOW MEDIUM HIGH mineral workings and development on the urban edge of Milton Keynes. The extent of semi natural habitat cover has increased and includes parkland, lakes and wetland. **BUILT ENVIRONMENT** The M1 and A5 cross this LCT. MEDIUM HIGH LOW HISTORIC LANDSCAPE CHARACTER Links to historic weirs/mills and river crossings, Grand Union Canal is a MEDIUM LOW HIGH dominant feature. VISUAL RECEPTORS HIGH Close proximity to recreational areas on the urban edge of Milton Keynes. LOW MEDIUM PERCEPTUAL QUALITIES Range of recreational opportunities makes this a well-used area. LOW MEDIUM HIGH LANDSCAPE VALUE This LCA derives its value as accessible land in close proximity to the MEDIUM LOW HIGH urban edge of Milton Keynes and for the recreational opportunities it offers.

SOLAR PV TYPOLOGY	LOW	MEDIUM	HIGH
SMALL ARRAY (< 5 ha) F	r	0	
MEDIUM ARRAY (5-10 ha)		0	
LARGE ARRAY (10-15 ha)	L	0	
VERY LARGE ARRAY (> 15 ha)			-0

Guidance on siting

This is a small scale landscape in close proximity to the urban edge of Milton Keynes. There is increasing development pressure due to on-going urban expansion The area has high recreational value due to the network of linear parks in the area. Commercial solar PV development could decrease the recreational value of open space so close to Milton Keynes.

Capacity

Baseline Solar PV Development

There is a 13.2 ha array at Kickle's Farm, Lakes Lane north of Newport Pagnell. Within 1.5km of the edge of LCA 2c, a 2.6MW development is permitted at Knotwood Fields; in Aylesbury Vale, a 1.2 MW development is also permitted at Prospect Farm, approximately 4.5 kilometres from the LCA 2e.

Indicative Overall Capacity

Although the Urban River Valley has reduced sensitivity to solar PV development, there are few opportunities to site a new development as much of the area is within the Linear Park. The existing Kickle's solar PV development at Lakes Lane is located in one of the few potential areas for development. This page Intentionally left blank

LCT 3 Clay Plateau Farmland with Tributaries

Character Areas

LCA 3a North Crawley Clay Plateau Farmland with Tributaries LCA 3b Weald Clay Plateau Farmland with Tributaries

Key Characteristics

- Elevated clay plateau
- Incised by small tributaries creating rolling landform
- Elevation ranges from approximately 80m to 108m AOD
- Large fields predominate in LCA 3a with a higher proportion of small fields in LCA 3b
- Predominantly arable with some pasture
- Small pockets of isolated broadleaved woodlands and mature hedgerow trees
- Sparsely settled with small villages and isolated farms
- Long distance and panoramic views across open areas
- Tranquil agricultural landscape



LCT 3 Character Areas

LCA 3a NORTH CRAWLEY CLAY PLATEAU FARMLAND WITH TRIBUTARIES



LCT 3 Character Areas

LCA 3b WEALD CLAY PLATEAU FARMLAND WITH TRIBUTARIES



Susceptibility to Wind Turbine Development

SCALE Elevated plateau landscape. Large fields dominate LCA 3a with a higher LOW MEDIUM HIGH proportion of small irregular fields to the west of Milton Keynes in LCA 3b. LANDFORM Gently undulating plateau with incised valleys. More enclosure in the LOW MEDIUM HIGH tributary valleys, particularly to the west of Milton Keynes in LCA 3b. LANDCOVER Predominantly arable with some pasture. A higher proportion of pasture LOW MEDIUM HIGH to the west of Milton Keynes in LCA 3b. A scattered pattern of small woodlands and copses. **BUILT ENVIRONMENT** Sparsely settled rural landscape with small villages and isolated farms. LOW MEDIUM HIGH Towered village churches are a distinctive feature. Pylons run across both LCAs. HISTORIC LANDSCAPE CHARACTER Field amalgamation in LCA 3a has led to a locally degraded landscape. LOW MEDIUM HIGH LCA 3b contains areas of ridge and furrow. SKYLINE AND LANDMARKS MEDIUM Towered village churches are a distinctive feature. LOW HIGH INTERVISIBILITY LOW MEDIUM HIGH Long distance and panoramic views from higher ground. VISUAL RECEPTORS The Milton Keynes Western Expansion Area lies adjacent to LCA 3b. LOW MEDIUM HIGH Potential proximity to residential areas on the urban edge of Milton Keynes. Users of the good network of PRoWs. PERCEPTUAL QUALITIES Tranquil settled agricultural landscape with isolated settlements. Elevated LOW MEDIUM HIGH plateaus provide a rural backdrop to Milton Keynes. _ _ _ _ _ _ _ _ _ _ -----LANDSCAPE VALUE The value attached to this LCA derives from the tranquility of the rural MEDIUM LOW HIGH farmland even in close proximity to Milton Keynes. The open landscape allows long distance and panoramic views. Historic villages such as Calverton are valued for their heritage value.



Guidance on siting

Wind turbine development could be accommodated within localised parts of this landscape with the following considerations;

- Consider opportunities for siting turbines in higher plateau areas with large scale fields which have lower sensitivity to wind turbine development.
- Consider the greater sensitivities of incised tributary valleys. Avoid siting wind turbine development in the more enclosed tributary valleys where a turbine could be visually dominant, such as the Chicheley Brook in LCA 3a and the Calverton Brook in LCA 3b.
- Avoid areas of ridge and furrow.
- Consider the potential impacts on views from adjacent landscapes where development would be visible over a wide area. Avoid siting turbines on the plateau edge in LCA 3a where there is intervisibility with the more sensitive landscape of the Ouse valley. In LCA 3b consider the visual relationship with the historic landscape to the west of Milton Keynes around Whaddon Chase in Aylesbury Vale District.
- Avoid an adverse effect on the role of this LCT as a rural backdrop to the urban area of Milton Keynes.
- Respect the site and setting of historic villages such as Moulsoe, North Crawley and Chicheley and more distant villages in the Ouse valley.
- Respect the site and setting of existing distinctive features such as the towered village churches and views towards them, both within the LCT and in the Ouse valley to the north.
- LCA 3b is unlikely to be able to accommodate development due to the sensitivities of the historic villages, the narrow incised valley and development pressures due to the proximity of the Milton Keynes Western Expansion Area.
- Sensitivity is increased where the location is prominent in views from well used PRoWs. Avoid dominating the well-used network of paths in the vicinity of North Crawley and long distance paths such as the North Buckinghamshire Way and

the Milton Keynes boundary walk.

Capacity

Baseline Wind Turbine Development

There is one 7 turbine wind turbine development on the boundary of this LCT and LCT 5 at Petsoe Manor Farm.

Indicative Overall Capacity

Any wind turbine development will need to be carefully examined in terms of cumulative effects with the existing turbine development at Petsoe Manor Farm. However, there is likely to be capacity elsewhere in LCA 3a for a single, small or medium groups of turbines.

The capacity of LCA 3b is constrained by its limited size and other development pressures which are likely to affect the capacity of the area to accommodate any commercial scale wind turbine development.

Susceptibility to Solar PV Development

FIELD PATTERN

Large fields dominate LCA 3a with a higher proportion of small irregular fields to the west of Milton Keynes in LCA 3b.



ENCLOSURE

A scattered pattern of small woodlands and copses provide local enclosure. Hedgerows associated with roads are well maintained.



MEDIUM

HIGH

HIGH

HIGH

LANDFORM

Gently undulating plateau with narrow incised valleys. More enclosure in the tributary valley, particularly to the west of Milton Keynes in LCA 3b.

LANDCOVER

 Predominantly arable and some pasture. A higher proportion of pasture to the west of Milton Keynes in LCA 3b. A scattered pattern of small
 LOW
 MEDIUM

LOW

LOW

BUILT ENVIRONMENT

woodlands and copses.

Sparsely settled rural landscape with small villages and isolated farms. Towered village churches are a distinctive feature. Pylons run across both LCAs.

HISTORIC LANDSCAPE CHARACTER

Field amalgamation in LCA 3a has led to a locally degraded landscape. LCA 3b contains areas of ridge and furrow.



MEDIUM

VISUAL RECEPTORS			
Users of the good network of PRoWs.	LOW	MEDIUM	HIGH

PERCEPTUAL QUALITIES Tranquil settled agricultural landscape with isolated settlements. Elevated

plateaus provide a rural backdrop to Milton Keynes.



LANDSCAPE VALUE

The value attached to this LCA derives from the tranquility of the rural landscape even in close proximity to Milton Keynes. The open undulating topography allows long distance and panoramic views. Historic villages such as Calverton are valued for their heritage value.

LOW	MEDIUM	HIGH

SOLAR PV TYPOLOGY	LOW	MEDIUM	HIGH
SMALL ARRAY (< 5 ha)	- <mark>-0</mark>		
MEDIUM ARRAY (5-10 ha) +	• <mark>•</mark>		
LARGE ARRAY (10-15 ha) +		0	
VERY LARGE ARRAY (> 15 ha) +	L	0	

Guidance on siting

Solar PV development could be accommodated within localised parts of this landscape with the following considerations;

- Consider opportunities for siting solar PV development on the higher plateau areas which have lower sensitivity to solar PV development.
- Consider the greater sensitivities of incised tributary valleys. Avoid siting solar PV development in the more enclosed tributary valleys where solar PV development could be dominant, such as the Chicheley Brook in LCA 3a and the Calverton Brook in LCA 3b.
- Consider opportunities for siting solar PV development within fields with thick and high hedgerows.
- Avoid areas of ridge and furrow.
- Consider the potential impacts on views from adjacent landscapes where development would be visible over a wide area. Avoid siting development on visible slopes on the plateau edge in LCA 3a where there is intervisibility with the sensitive landscape of the Ouse valley. In LCA 3b consider the visual relationship with the historic landscape to the west of Milton Keynes around Whaddon Chase in Aylesbury Vale.
- Respect the site and setting of historic villages such as Moulsoe, North Crawley and Chicheley.
- Respect the site and setting of existing distinctive features such as the towered village churches and views towards them, both within the LCT and in the Ouse valley to the north.
- Areas around Calverton in LCA 3b are unlikely to be able to accommodate development due to the sensitivities of the historic village, the narrow incised valley and development pressures due to the proximity of the Milton Keynes Western Expansion Area.
- Sensitivity is increased where the location is prominent in views from well used PRoWs. Avoid visual intrusion into the well-used network of paths in the vicinity of North Crawley in

LCA3a and the long distance Milton Keynes boundary walk and North Buckinghamshire Way in LCA 3b.

Capacity

Baseline Solar PV Development

None.

Indicative Overall Capacity

The limiting factor for solar PV development in LCA 3a is the lack of woodland which could result in extensive cumulative issues.

LCA 3b is constrained by its size and other development pressures and is unlikely to be able to accommodate anything other than a small array. This page Intentionally left blank

LCT 4 Clay Lowland Farmland

Character Areas

LCA 4a Broughton to Tickford Clay Lowland Farmland LCA 4b Wavendon Clay Lowland Farmland

Key Characteristics

- Low lying and generally flat landscape on the urban edge of Milton Keynes
- Mixed arable, pasture and recreational land uses
- Large scale arable fields with overgrown hedges and smaller areas of pasture for horses and stabling
- Wide range of urban fringe activities and uses including garden centres, allotments, individual industrial premises to the south east of Milton Keynes
- Limited woodland cover
- Conifer shelterbelts
- Few field trees except in the vicinity of Wavendon House
- Dominated by major transport routes
- Scattered villages with a mix of characters
- On-going residential and commercial development adjacent to this LCT
- Locally more intact historic landscape to the east of Wavendon
- Gravel, sand and clay workings and restoration
- Extensive and openviews to the clay plateau, wooded Greens and Ridge and towards Milton Keynes
- The open agricultural landscape of LCA 4b provides a visually important setting for the Greensand Ridge.



LCT 4 Character Areas

LCA 4a BROUGHTON TO TICKFORD CLAY LOWLAND FARMLAND



LCT 4 Character Areas

LCA 4b WEALDON CLAY LOWLAND FARMLAND



Susceptibility to Wind Turbine Development

SCALE			
Mix of large scale and smaller fields.	LOW	MEDIUM	HIGH
LANDFORM			
Low-lying and generally flat landscape.	LOW	MEDIUM	HIGH
LANDCOVER			
Mix of arable, pasture and other urban fringe land uses.	LOW	MEDIUM	HIGH
Urban fringe landscape dominated by major transport routes. Scattered	LOW	MEDIUM	HIGH
historic villages with encroaching development on the urban edge of			
Millon Reynes.			
HISTORIC LANDSCAPE CHARACTER			
Little evidence of historic landscape character except in the vicinity of	LOW	MEDIUM	HIGH
Wavendon and Cross End. Small areas of ridge and furrow near Bow Brickhill.			
SKYLINE AND LANDMARKS	LOW	MEDIUM	HIGH
this LCT.			
INTERVISIBILITY	LOW	MEDIUM	нісн
north and wooded ridges to the east.	LOW	MEDIOM	Hidri
VISUAL RECEPTORS			
Residential areas on the southern urban edge of Milton Keynes and other small towns within the LCT. Users of PRoWs ⁻	LOW	MEDIUM	HIGH
PERCEPTUAL QUALITIES			
This is an urban fringe landscape dominated by areas of ongoing	LOW	MEDIUM	HIGH
the LCT			
LANDSCAPE VALUE			
The landscape is generally of low scenic quality but derives value from its	LOW	MEDIUM	HIGH
visually important setting it provides for the Greensand Ridge.			

WIND TURBINE GROUP SIZE	LOW	MEDIUM	HIGH
SINGLE TURBINE (1)	0		
SMALL GROUP (2-5) F	r	0	
MEDIUM GROUP (6-10)		0	
LARGE GROUP (11-15) ⊢			-0

Guidance on siting

Wind turbine development could be accommodated within localised parts of this landscape with the following considerations;

- Consider the greater sensitivities of the smaller scale landscape near the villages within this LCT and around Wavendon House.
- Avoid areas of ridge and furrow e.g. near Bow Brickhill.
- Consider the potential impacts on views from adjacent landscapes where development would be visible over a wide area, particulary the important visual relationship with the adjacent Greensand Ridge LCT 6.
- Respect the setting of existing historic villages, such as Wavendon, Woburn Sands and Bow Brickhill and the village of Moulsoe in the adjacent LCA 3a.
- Consider the greater sensitivities of residential areas. The location of wind turbine development within this landscape should avoid proximity to residential areas on the urban edge of Milton Keynes.
- Consider the sensitivity of the visual setting provided by LCA 4b for the Greensand Ridge.

Capacity

Baseline Wind Turbine Development

None

Indicative Overall Capacity

LCT 4 is constrained by its limited overall size and by other development pressures. Wind turbine development in this LCT could compromise potential future residential expansion.

There is unlikely to be opportunities for more than one small or medium scale development in each LCA.

Susceptibility to Solar PV Development

FIELD PATTERN Mix of large scale and smaller fields.	LOW	MEDIUM	HIGH
ENCLOSURE Hedgerow cover is variable but generally good, although there are few hedgerow trees apart from around Wavendon. There are far reaching inward and outward views towards the ridges and plateaus to the east.	LOW	MEDIUM	HIGH
LANDFORM Low-lying, generally flat landscape.	LOW	MEDIUM	HIGH
LANDCOVER Mix of arable, pasture, and other urban edge land uses.	LOW	MEDIUM	HIGH
BUILT ENVIRONMENT Urban edge landscape dominated by major transport routes. Scattered historic villages with encroaching development on the urban edge of Milton Keynes.	LOW	MEDIUM	HIGH
HISTORIC LANDSCAPE CHARACTER Little evidence of historic landscape character except in the vicinity of Wavendon. Some ridge and furrow near Bow Brickhill.	LOW	MEDIUM	HIGH
VISUAL RECEPTORS Users of PRoWs.	LOW	MEDIUM	HIGH
PERCEPTUAL QUALITIES This is an urban edge landscape dominated by areas of ongoing residential and commercial development. Major transport routes cross the LCT.	LOW	MEDIUM	HIGH
LANDSCAPE VALUE The landscape is generally of low scenic quality but derives value from its rural character adjacent to the settlement edge of Milton Keynes and the visually important setting it provides for the Greensand Ridge.	LOW	MEDIUM	HIGH

SOLAR PV TYPOLOGY	LOW	MEDIUM	HIGH
SMALL ARRAY (< 5 ha)	- <mark>0</mark>		
MEDIUM ARRAY (5-10 ha) +	-0		
LARGE ARRAY (10-15 ha) +		-0	
VERY LARGE ARRAY (> 15 ha)			-0

Guidance on siting

Solar PV development could be accommodated within localised parts of this landscape with the following considerations;

- Consider opportunities for locating solar PV development in areas of lower sensitivity in association with existing transport routes, particularly areas near the M1 and the A5 corridor.
- Consider the greater sensitivities of the smaller scale landscape near the villages within this LCT and around Wavendon House.
- Avoid areas of ridge and furrow e.g. near Bow Brickhill.
- Consider the potential impacts on views from adjacent landscapes where development would be visible over a wide area, particularly the important visual relationship with the adjacent Greensand Ridge LCT 6.
- Respect the setting of existing historic villages, such as Wavendon, Woburn Sands and Bow Brickhill.
- Consider the sensitivity of the visual setting provided by LCT LCA 4b for the Greensand Ridge.

Capacity

Baseline Solar PV Development

None.

Indicative Overall Capacity

There are likely to be opportunities for small or medium solar PV array within this LCT. However LCA 4b is constrained both by its limited overall size and other development pressures and is unlikely to be able to accommodate anything other than a small array.

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LCT 5 Undulating Clay Farmland

Character Areas

LCA 5a Ouse North Undulating Clay Farmland LCA 5b Ouse South Undulating Clay Farmland LCA 5c Tove Undulating Clay Farmland

Key Characteristics

- Undulating lowland landscape which slopes down towards the river valley floor
- Secondary valleys provide local enclosure
- Large scale arable fields with unclipped hedges
- Pasture on lower slopes and near settlements
- Occasional stone walls to fields boundaries and limestone in fields
- Paddocks in association with village margins
- Low proportion of woodland and hedgerow trees
- Limited impact from built urban development
- Historic limestone villages
- Landmark church towers/spires
- Historic parkland
- Panoramic views over meandering valley floor
- Tranquil and remote
- General absence of visual detractors except for wind turbines and pylons to the east side of the LCT and railway line to the west



LCT 5 Character Areas

LCA 5a OUSE NORTH UNDULATING CLAY FARMLAND



LCT 5 Character Areas

LCA 5b OUSE SOUTH UNDULATING CLAY FARMLAND



LCT 5 Character Areas

LCA 5c TOVE UNDULATING CLAY FARMLAND



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Susceptibility to Wind Turbine Development

SCALE MEDIUM A medium scale landscape with a mix of field sizes. Predominantly large LOW HIGH scale fields with smaller fields on lower slopes and near settlements. LANDFORM Undulating landscape with secondary valleys. LOW MEDIUM HIGH LANDCOVER MEDIUM Predominantly arable fields with pasture on lower slopes and near LOW HIGH settlements. Woodland cover limited to small isolated woods and copses. **BUILT ENVIRONMENT** An 'unspoilt' river valley landscape with traditional limestone villages LOW MEDIUM HIGH many with Conservation Areas. Limited impact from built development except for electricity pylons west of Lavendon and West Coast Main Line in the Tove valley. HISTORIC LANDSCAPE CHARACTER Parkland landscapes such as Tyringham Hall and Gayhurst House are LOW MEDIUM HIGH distinctive features of the valley landscape. Pockets of ridge and furrow and a range of historic field patterns including areas of assarted enclosure. SKYLINE AND LANDMARKS LOW MEDIUM HIGH Landmark churches within the villages. The wooded skyline of the wooded ridges of Yardley Chase to the north of the LCA 5a. INTERVISIBILITY Extensive views across and along the meandering river valleys. There are LOW MEDIUM HIGH panoramic views from a number of locations often from local escarpments. VISUAL RECEPTORS MEDIUM HIGH Users of the good network of PRoWs including long distance footpaths. I OW Urban edge of Milton Keynes near Little Linford. PERCEPTUAL QUALITIES This is a picturesque rural landscape with traditional villages. It has little LOW MEDIUM HIGH impact from modern development. _ _ _ _ _ _ _ _ _ _ _ - -LANDSCAPE VALUE This landscape type has a remote and tranquil character with few visual LOW MEDIUM HIGH detractors. The consistently high quality of the villages with their landmark churches and the historic parklands along the river all combine to make this an attractive landscape with a strong sense of place.

WIND TURBINE GROUP SIZE	LOW	MEDIUM	HIGH
SINGLE TURBINE (1)		-0	
SMALL GROUP (2-5) F		r	o
MEDIUM GROUP (6-10) ⊢		·	•O
LARGE GROUP (11-15)		L	• •

Guidance on siting

Wind turbine development could be accommodated within localised parts of this landscape with the following considerations;

- Avoid the undulating and enclosed landscape of the river valleys where turbines would dominate the overall scale of the landscape.
- Avoid interrupting panoramic views across the river valleys from elevated areas within the LCT.
- Consider the potential impacts on views from adjacent landscapes where development would be visible over a wide area.
- Consider the important visual relationship with the river valley floodplain and avoid siting development on elevated ground which forms a backdrop to this sensitive landscape.
- Consider the important visual relationship with the adjacent undulating claylands in Northamptonshire across the Tove river valley.
- Respect the site and setting of the traditional limestone villages that characterize this LCT. Examples in the Ouse valley include the villages of Ravenstone, Weston Underwood, Newton Blossomville, Clifton Reynes Sherington, Filgrave, Emberton and the small market town of Olney. In the Tove valley this includes the village of Castlethorpe.
- Respect the site and setting of the historic houses and parklands that are a key features of this LCT, such as Gayhurst House and Park, Weston Park and Tyringham Hall and Park.
- Respect the setting and views towards distinctive landmark features including church towers and spires which are visible across this LCT and from the adjacent plateau landscapes.
- Maintain the recreational value of the LCT. Avoid visual intrusion into the network of PRoWs, particularly those with expansive views over the Ouse and Tove valleys.
- The distinctive landscape of the Ouse valley east of the M1 (LCA 5b & and most of LCA 5a) is a picturesque rural landscape with a strong sense of place and is considered to have a high sensitivity to all forms of wind turbine development. Although not remote, the generally tranquil rural character

and undeveloped quality should be respected. Wind turbine development in this area would compromise the scenic value of the landscape.

- The Ouse Valley west of the M1 (within LCA 5a) has a less remote character due to the proximity of the Milton Keynes Northern Expansion Area and the major transport routes that cross it (M1 and West Coast Main Line). In theory the presence of major transport routes could provide a focus to anchor development, however care in siting will be critical to avoid harm to the setting of the villages of Haversham and Little Linford, the Ouse Valley Park in the urban river valley floor to the south and the residential development on the urban edge of Milton Keynes.
- The Tove valley (LCA 5c) is a less sharply defined river valley than the Ouse, and the presence of the West Coast Main Line across the LCA reduces the sensitivity of this area. However the LCA remains a peaceful, rural landscape. This tranquil rural character should be respected.

Capacity

Baseline Wind Turbine Development

There is one 7 turbine wind turbine development at present on the boundary of this LCT and LCT 3 at Petsoe Manor Farm. The turbines are visually prominent across the undulating landscape of this LCT.

Indicative Overall Capacity

Any wind turbine development will need to be carefully examined in terms of cumulative effects with the existing turbine development at Petsoe Manor Farm.

Due to the overall sensitivities of this LCT, there is likely to be capacity for only well sited single turbines.

Susceptibility to Solar PV Development

FIELD PATTERN

Mix of field sizes, predominantly large scale fields with smaller fields on lower slopes and near settlements.

LOW MEDIUM HIGH

MEDIUM

MEDIUM

MEDIUM

HIGH

HIGH

HIGH

LOW

LOW

LOW

ENCLOSURE

Hedgerow cover is variable, generally better along minor lanes. Woodland cover limited to small isolated woods and copses.

LANDFORM

Gently undulating river valley landscape with secondary valleys and visible slopes.

LANDCOVER

BUILT ENVIRONMENT

Predominantly arable fields with pasture on lower slopes and near settlements. Woodland cover limited to small isolated woods and copses.

LOW MEDIUM HIGH

An 'unspoilt' river valley landscape with traditional limestone villages many with Conservation Areas. Limited impact from built development except for electricity pylons west of Lavendon and West Coast Main Line in the Tove valley.

HISTORIC LANDSCAPE CHARACTER

Parkland landscapes such as Tyringham Hall and Gayhurst House are distinctive features of the valley landscape. Pockets of ridge and furrow and a range of historic field patterns including areas of assarted enclosure.

VISUAL RECEPTORS

Users of the good network of PRoWs including long distance footpaths. Urban edge of Milton Keynes near Little Linford.

PERCEPTUAL QUALITIES

This is a picturesque rural landscape with traditional villages. It has little impact from modern development.



LOW	MEDIUM	HIGH

LOW MEDIUM HIGH

LANDSCAPE VALUE

This landscape type has a remote and tranquil character with few visual detractors. The consistently high quality of the villages with their landmark churches and the historic parklands along the river all combine to make this an attractive landscape with a strong sense of place.

LOW	MEDIUM	HIGH

SOLAR PV TYPOLOGY	LOW	MEDIUM	HIGH
SMALL ARRAY (< 5 ha)	-0		
MEDIUM ARRAY (5-10 ha) +		ю	
LARGE ARRAY (10-15 ha)		-0	
VERY LARGE ARRAY (> 15 ha) +			-0

Guidance on siting

Solar PV development could be accommodated within localised parts of this landscape with the following considerations;

- Consider the potential impacts on views from adjacent LCTs where development would be visible over a wide area and the important visual relationship with the adjacent undulating claylands in Northamptonshire across the Tove river valley.
- Consider the important visual relationship between the river valley floodplain and the valley slopes and avoid siting development on the slopes.
- Respect the site and setting of the traditional limestone villages that characterize this LCT. Examples in the Ouse valley include the villages of Ravenstone, Weston Underwood, Newton Blossomville Clifton Reynes Sherington, Filgrave, Emberton and the small market town of Olney. In the Tove valley this includes the village of Castlethorpe.
- Respect the site and setting of the historic houses and parklands that are a key features of this LCT, such as Gayhurst House and Park, Weston Park and Tyringham Hall and Park.
- Respect the setting and views towards distinctive landmark features including church towers and spires.
- Maintain the recreational value of the LCT. Avoid visual intrusion into the network of PRoWs, particularly those with expansive views over the Ouse and Tove valleys.
- The distinctive landscape of the Ouse valley east of the M1 (located within LCA 5a & b) is a picturesque rural landscape with a strong sense of place. Although not remote, this area has a generally tranquil rural character and undeveloped quality. Solar PV development in this area should respect the scenic value of the landscape.
- The Ouse Valley west of the M1 (located within LCA 5a) has a less remote character due to the proximity of the Milton Keynes Northern Expansion Area and the major transport routes that cross it (M1 and West Coast Main Line). In theory the presence of major transport routes could provide a focus to anchor development, however care in siting will be critical

to avoid harm to the setting of the villages of Haversham and Little Linford, the Ouse Valley Park in the urban river valley floor to the south and the residential development on the urban edge of Milton Keynes.

The Tove valley (LCA 5c) is a less sharply defined river valley than the Ouse, and the presence of the West Coast Main Line across the LCA reduces the sensitivity of this area. However the LCA remains a peaceful, rural landscape. This tranquil rural character should be respected.

Capacity

Baseline Solar PV Development

There is one 16 ha solar PV development East of Rectory Farm, Emberton within this LCT, which is now in operation. There are two consented developments in the LCT, Bullshead Farm and Hyde Farm, which are located within the LCA5.

Indicative Overall Capacity

Any development in this area needs to be carefully examined in terms of cumulative effects with existing solar PV development within the LCT at Emberton. Solar development within the Tove valley (LCA 5c) needs to be considered in terms of cumulative effects with solar PV development across the Borough boundary in Northamptonshire.

Parts of this LCT have low to medium sensitivity to solar PV development, due principally to enclosure. However the LCT is highly valued for its scenic qualities and much of the area has wide visibility. As a result there is unlikely to be capacity in this LCT for any scale of solar PV development unless it is sensitively located as such development would have a significant adverse effect on the local landscape character.

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LCT 6 Greensand Ridge

Character Areas

LCA 6a Brickhill Greensand Ridge

Key Characteristics

- High proportion of woodland cover including areas of both deciduous and conifer plantations
- Patchwork of pasture fields to the lower slopes and open land on the slopes with over mature hedges
- Small areas of original existing heath habitat on the plateau with parcels of pasture
- Sandy nature of the ground aids year round access
- Extensive recreational uses including walking, cycling, riding, golf courses and shooting
- Settlement mainly limited to vernacular buildings in small villages on the slopes with only isolated vernacular buildings on the plateau.
- Presence of greensand 'sandstone' in local buildings
- Panoramic views to Milton Keynes to north from the slopes and the A5
- Relatively peaceful away from the A5 and Bow Brickhill Road



LCT 6 Character Areas

LCA 6a BRICKHILL GREENSAND RIDGE



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Susceptibility to Wind Turbine Development

SCALE LOW MEDIUM HIGH A small scale landscape with a mix of pasture fields on the lower slopes and woodlands and open heathland on the upper slopes and plateau. LANDFORM MEDIUM A prominent ridgeline with a plateau along its crest. The escarpment LOW HIGH slope rises sharply from the clay lowlands below. LANDCOVER Heavily wooded with deciduous and conifer plantations. Small areas of LOW MEDIUM HIGH heath habitat on the plateau and pasture on the lower slopes. **BUILT ENVIRONMENT** Settlement limited to two small historic villages of Little Brickhill and Bow LOW MEDIUM HIGH Brickhill which contain picturesque cottages and landmark churches, many built from the local greensand. HISTORIC LANDSCAPE CHARACTER LOW MEDIUM HIGH There are a few areas of ancient woodland. Smaller strips of organic pre 18th century enclosure relate to the pasture on the lower slopes. SKYLINE AND LANDMARKS The LCT forms a prominent wooded skyline which can be seen from LOW MEDIUM HIGH within or outside the area, including from Milton Keynes. Danesborough Hill Fort, an iron age fort is an important local landmark. **INTERVISIBILITY** Extensive panoramic views to Milton Keynes and over the clay lowland LOW MEDIUM HIGH farmland.

VISUAL RECEPTORS Extensive recreational use including walking, cycling, riding and golf.

LOW	MEDIUM	HIGH

PERCEPTUAL QUALITIES

This is a distinctive landscape with a strong sense of place. It offers an opportunity for tranquility and outdoor recreation close to the urban area. There is little impact from modern development and is only crossed by narrow lanes apart from the A5 dual carriageway.

LOW	MEDIUM	HIGH

LANDSCAPE VALUE

This landscape type is distinctively different from the remainder of the rural areas of the Borough. It is valued for the recreational opportunities it offers in such close proximity to Milton Keynes. There are fine panoramic views from the ridge and it forms a distinctive backdrop and context to much of Milton Keynes.

LOW	MEDIUM	HIGH
Sensitivity

WIND TURBINE GROUP SIZE	LOW	MEDIUM	HIGH
SINGLE TURBINE (1) F		r	Ō
SMALL GROUP (2-5)			0
MEDIUM GROUP (6-10) H			o
LARGE GROUP (11-15) +		L	Ō

Guidance on siting

This is a distinctive landscape with a strong sense of place. The prominent wooded ridgeline has extensive inward and outward views and a high number of sensitive receptors due to the recreational opportunities it offers in such close proximity to Milton Keynes. Wind turbine development within this landscape would compromise the scenic value and undeveloped quality of the landscape and would potentially be highly visible from surrounding areas including residential areas within Milton Keynes.

Capacity

Baseline Wind Turbine Development

None within the LCT. A single turbine is located at Double Arches Quarry within Central Bedfordshire adjacent to the A5, and a 120m tall single turbine has also been recently installed at Marstone Vale Millenium Coutry Park.

Indicative Overall Capacity

There is unlikely to be capacity in this LCT for any scale of commercial wind turbine development as such development would have a significant adverse effect on the local landscape character.

Susceptibility to Solar PV Development

FIELD PATTERN

A mix of pasture fields on the lower slopes with woodlands and open heath land on the upper slopes and plateau.

LOW	MEDIUM	HIGH

ENCLOSURE

A wooded but exposed escarpment slope with far reaching inward and outward views.

LOW	MEDIUM	HIGH

MEDIUM

MEDIUM

MEDIUM

HIGH

HIGH

HIGH

HIGH

LANDFORM

A prominent ridgeline with a plateau along its crest. The escarpment slope rises sharply from the clay lowlands below.

LANDCOVER

Heavily wooded with both deciduous and conifer plantations. Small areas of original heath habitat on the plateau and pasture on the lower slopes.

BUILT ENVIRONMENT

Settlement limited to two small historic villages of Little Brickhill and Bow Brickhill which contain picturesque cottages and landmark churches, many built from the local greensand.

HISTORIC LANDSCAPE CHARACTER

There are a few areas of ancient woodland. Smaller strips of organic pre 18th century enclosure relate to the pasture on the lower slopes.

VISUAL RECEPTORS

Extensive recreational use including walking, cycling, riding and golf.

PERCEPTUAL QUALITIES

This is a distinctive landscape that offers an opportunity for tranquility and outdoor recreation close to the urban area. There is little impact from modern development and is crossed by only narrow lanes apart from the A5 dual carriageway.

LANDSCAPE VALUE

This landscape type is distinctively different from the remainder of the rural areas of the Borough. It is valued for the recreational opportunities it offers in such close proximity to Milton Keynes. There are fine panoramic views from the ridge and it forms a distinctive backdrop and context to much of Milton Keynes.

LOW MEDIUM HI	GH

organia	LOW	MEDIUM	HIGH

LOW

LOW

LOW

LOW

MEDIUM

Sensitivity

	LOW	MEDIUM	HIGH
SMALL ARRAY (< 5 ha) +		r	Ō
MEDIUM ARRAY (5-10 ha)			0
LARGE ARRAY (10-15 ha)			o
VERY LARGE ARRAY (> 15 ha) +			ŀo

Guidance on siting

This is a distinctive landscape with a strong sense of place. The prominent wooded ridgeline has extensive inward and outward views and a high number of sensitive receptors due to the recreational opportunities it offers in such close proximity to Milton Keynes.

Siting solar PV development on the escarpment slope within this landscape would potentially be highly visible from surrounding areas. Siting solar PV development within the valued mixed woodland or heathland would compromise the scenic value and undeveloped quality of the landscape.

Capacity

Baseline Solar PV Development

None.

Indicative Overall Capacity

There is unlikely to be capacity in this LCT for any scale of commercial solar PV development as such development would have a significant adverse effect on the local landscape character.

Appendix A

Glossary of Key Terms

- Landscape is defined as 'An area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors.' GVLIA3 notes that the term does not only mean landscapes that are recognised as being special or valuable but is also about the ordinary and the everyday landscapes where people live and work, and spend their leisure time. This includes rural landscapes, seascapes and townscapes.
- Landscape Capacity relates to how much change arising from wind turbine development can be accommodated without unacceptable adverse effects on the character or perception of the landscape and without compromising any values attached to it.
- Landscape Sensitivity is a term applied to specific receptors, combing judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor.

- Landscape Value is defined as the relative value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a whole variety of reasons.
- Cumulative Effects are the additional effects caused by the proposed development when considered in conjunction with other proposed developments or as the combined effect of a set of developments taken together.
- Cumulative Landscape Effects 'can impact on either the physical fabric or character of the landscape, or any special values attached to it'.²
- Cumulative Visual Effects can be caused by combined visibility, which 'occurs where the observer is able to see two or more developments from one viewpoint' and/or sequential effects which 'occur when the observer has to move to another viewpoint to see different developments'.³
- Tranquillity is defined as a state of calm and quietude assoc iated with peace, considered to be a significant asset of landscape.

¹European Landscape Convention (2007) ²Scottish Natural Heritage 2012:10 ³Scottish Natural Heritage 2012:11

Appendix B

Summary of Public Consultation

CONSULTEE	COMMENTS	OFFICER & CONSULTANTS RESPONSE
Parish and Town Councils		
Bow Brickhill Parish Council	No comments	
Newport Pagnell Town Council	Future planning applications will be assessed based on the information in these documents. The Committee noted the Indicative Overall Capacity relating to the two LCAs that include Newport Pagnell (2c - Ouse Urban River Valley, and 2d - Ouzel North Urban River Valley). In terms of potential Wind Turbine development, the proximity of these LCAs to the urban edge of Milton Keynes means that there is unlikely to be capacity for any scale of commercial wind turbine development as such development would have a significant adverse effect on the local landscape character. In terms of potential solar PV development, the report concluded that although the Urban River Valley has reduced sensitivity to solar PV development, there are few opportunities to site a new development as much of the area is within the Linear Park. The existing solar PV development at Kickles, Lakes Lane is located in one of the few potential areas for development	Noted.
Kents Hill and Monkston Parish Council	What about individuals wanting wind and solar solutions? Need to think about the vertical windmill not just the traditional ones.	Domestic scale wind and solar solutions are outside the scope of this study.
Emberton PC	The consultation document should take into account the height of the turbines and the fact that Emberton already has 7 x 125m turbines in area 5b	The typologies in the study is based on the most commonly occurring wind turbine sizes in applications received to date from Milton Keynes Borough and surrounding authorities. The Assessment notes that any wind turbine development will need to be carefully examined in terms of cumulative effects with the existing turbine development at Petsoe Manor Farm.
Olney Town Council	Olney Town Council generally supports in principle the draft Landscape Character Assessment and Landscape Sensitivity to Wind and Solar PV Development.	Noted

CONSULTEE	COMMENTS	OFFICER & CONSULTANTS RESPONSE
 Castlethorpe Parish 1. This is a very misleading document because it will be taken in isolation by applicants when it is purely the character of the landscape which is being assessed which is only one of about 20 key factors such as proximity to heritage assets, dwellings, roads, footpaths, railways, microwave routes, wildlife areas, previous planning decisions, community support or cumulative effect of existing turbines (e.g. the Hartwell farm is clearly visible from Hanslope) nor even the most obvious factor of wind speeds. The danger is that an applicant will seize on this in isolation to select suitable sites for wind turbines or solar farms wasting not only his own tin and money but that of the planning authority and the inevitable objectors. At the very least, the Introduction should make clear the context of this document but ideally some of the more obvious exclusions should be overlaid onto the Assessment maps. 2. Whilst it is appreciated that the Scottish Natural Heritage methodology is well-regarded elsewhere, the broad landscape of the Scottish Highlands significantly different to that of Milton Keynes. Specifically, it seems stran to base the assessment on the geology, which is pretty much rise actually used in the assessment of the suitability of land for solar farms. For example, in our area, there is little or no distinction between the landscape in Hanslope (study area 1b) or Castlethorpe village (study area 5c) though the differing geology gives rise to different character assessments (Hanslope is regarded as low impact for a single turbine.) 	1. An additional note has been added to the introduction to underline the context of the study as a strategic level assessment. It is not the purpose of this study to say that renewable energy development should be accepted or rejected on account of a landscape sensitivity rating. Such decisions will depend on a range of different factors that will be considered in addition to landscape sensitivity during the planning process. These, among other things are likely to include sustainability, residential visual amenity, biodiversity, agricultural land quality and historic environment as well as local policy.	
	2. Whilst it is appreciated that the Scottish Natural Heritage methodology is well-regarded elsewhere, the broad landscape of the Scottish Highlands is significantly different to that of Milton Keynes. Specifically, it seems strange to base the assessment on the geology, which is pretty much irrelevant, rather than the formal quality grade of the agricultural land which is actually used in the assessment of the suitability of land for solar farms. For example, in our area, there is little or no distinction between the landscape in Hanslope (study area 1b) or Castlethorpe village (study area 5c) though the differing geology gives rise to different character assessments (Hanslope is regarded as low impact for small scale wind farms whereas Castlethorpe is medium impact for a single turbine.)	 2. The principles underlying this guidance are widely accepted as being applicable to England and Wales as the SNH has wider experience of wind turbine development than Natural England. This guidance is generic and not tied to a particular landscape type. Geology is an important aspect of landscape and determines many characteristics of the local landscape. The study is not looking at the villages per se, but at the wider landscape in those localities.

CONSULTEE	COMMENTS	OFFICER & CONSULTANTS RESPONSE
	3. In fact, part of Castlethorpe and Haversham fall into study area 2c with yet another assessment despite the landscape being highly similar. Or again, Area 2a, Tove Valley, is virtually only the area of the river bed. It does not include the hinterland on either side of the river which virtually everyone would say actually forms the river valley, particularly as it is the floodplain of the river and floods extensively with great regularity. That area is classed as 5c Tove Farmland but, in any practical sense, the whole of the 'valley' would have the same characteristics with respect to sensitivity to renewable energy production. The Assessment appears to have been written as a 'book exercise' without actually visiting the area. In other words, a simple test shows the methodology to give inconsistent results. A classic case of blinding with science.	3. LCA 2a is a floodplain landscape character area. The valley sides are within LCA 5c. This type of division accords with a similar LCAs in the bordering authorities who also distinguish between the valley floodplain and the wider valley sides. It is outside the remit of the study to take account of flooding issues, however, during the normal application process such issues would be considered. Any planning decisions will depend on a range of different factors that will be considered in addition to landscape sensitivity during the planning process. These, among other things are likely to include sustainability, residential visual amenity, biodiversity, agricultural land quality and historic environment as well as local policy.
	4. The assessment is for rural Milton Keynes only. Yet there would be many industrial sites within urban Milton Keynes that would be suitable for single medium sized turbines. Single turbines are within the scope of the Assessment though obviously an urban wind farm would not be acceptable. An example of one rule for the urbans and one for the rurals.	This study specifically excluded an analysis of the areas within development limits. In order to analyse and assess townscapes of Milton Keyes a separate study would be required using a different methodology.
	Would you please advise when the consultation will be coming up for debate at Cabinet / Council as the parish council would be happy to have a representative speak to it?	The Assessments do not write or propose policy and should be considered alongside the wider Local Plan evidence base, which do not require Cabinet approval.

CONSULTEE	COMMENTS	OFFICER & CONSULTANTS RESPONSE
Neighbouring LPAs		
Aylesbury Vale District Council	We note the areas adjacent the district boundary are all shown either as highly sensitive or medium sensitive to large solar development or highly sensitive to large groups of wind turbines or any size. Therefore we are now aware in terms of this draft evidence base there would be likely to have a significant impact on the landscape in the Milton Keynes Council area and dialogue needed under the Duty to co-operate.	Noted.
Renewable Energy Industry		
Ecotricity	The draft draws on the updated character assessment and applies standard criteria to assess the sensitivity and capacity of the various LCTs to / for a range of wind and PV solar energy typologies. Ecotricity have a number of concerns with the assessment approach, criteria and judgements made in the LSS as set out below:	The upper limit of 15 turbines is not arbitrary but based on applications received to date from Milton Keynes Borough and surrounding authorities. The largest application to date is for 15 turbines at Stoke Heights,
	Renewable Energy Typologies	although the usual range of
	setting an upper limit of 15 wind turbines appears arbitrary and a prejudgement of capacity; it has no logical or reasoned basis apart from the unqualified pre-assessment statement that: "it is considered that nowhere in the Borough is likely to be suitable for very large scale schemes";	turbines. However, the sensitivity study does not preclude applications for a larger number of turbines.
	In common with solar energy technology the LSS should not impose an arbitrary upper limit in relation to wind energy typologies.	

CONSULTEE	COMMENTS	OFFICER & CONSULTANTS RESPONSE
	Landscape Sensitivity Criteria	Sensitivity Criteria:
	The use of different sensitivity criteria for wind energy as opposed to solar is problematic and unnecessary. It leads to inconsistency of assessment and judgements, and results in unreliable findings.	It is common industry practice to use different susceptibility criteria for WTD and solar PV
	It is inappropriate to exclude the 'enclosure' criterion from the sensitivity assessment of wind energy. It is not correct to state with respect to wind energy susceptibility that the screening effect of woodland / trees etc. is counterbalanced by the contrast of scale issue. Enclosure is a critical landscape criterion for both wind and solar energy, the exclusion of which from one typology (wind) undermines the credibility of the LSS;	development, or other kinds of development. Landscape susceptibility should be judged according to the specific type of development proposed and it is common industry practice to use different criteria to judge WTD
	Similarly, regarding the solar energy sensitivity criteria, it is not appropriate to substitute 'field pattern' for 'scale', or exclude the former in the case of wind energy. It is incorrect to imply that solar energy is not susceptible to landscape scale, or wind energy not susceptible to field pattern. These two criteria are linked and both are key to landscape sensitivity assessment;	and solar development. e.g. Enclosure cannot be a sensitivity criteria used in relation to WTD, where turbines will commonly reach 125m, and a
	Assessing landscape sensitivity at the wider LCT level is too broad and excludes the local differences / nuances described at the LCA level, as evident for example in the marked difference between the LCA1A Yardley Clay Plateau Farmland and LCA1B Hanslope Clay Plateau Farmland, due in part to the presence of the M1 motorway bisecting the latter LCA;	mature woodland would only reach a height of 40m at most. The woodland would little 'enclosure' for WTD but could effectively screen a solar PV
	To achieve a robust assessment of landscape sensitivity each LCA must be assessed using all the standard criteria including scale, field pattern and enclosure; inconsistent and / or inappropriate application of assessment criteria assessment throws doubt on the LSS findings; consider, for example, the 'high' sensitivity finding for the 'perceptual qualities' of LCT1 Clay Plateau Farmland which, being assessed at the broad LCT level, does not take due account of the M1 motorway lying at the heart of the LCA1B, in contrast to LCA1A which is not influenced by the motorway; The LSS should assess landscape sensitivity at the LCA level and apply	development. Although the study would benefit from the additional level of detail if it was conducted at LCA level, major differences between LCAs in the same LCT are mentioned within the study. This is a borough wide study. and this
	all relevant criteria, including 'scale' and 'enclosure', consistently to both wind and solar energy. Assessing sensitivity at the broader LCT level with inconsistent criteria undermines the assessment's credibility and leads to unreliable findings in relation to both landscape sensitivity and capacity.	doesn't preclude more detailed studies being made at application stage.

CONSULTEE	COMMENTS	OFFICER & CONSULTANTS RESPONSE
Organisations		
Care4Castlethorpe	The WSA Landscape Sensitivity Study to Wind Turbines and PV in Milton Keynes Draft Report will cause much confusion with regard to siting of wind turbines and solar installations. At the very least, a foreword should be added making it clear that the criteria it uses to assess the siting of wind turbines and solar farms is only a small part of the overall criteria which would be used to determine a planning application and that maps must not be taken in isolation. We find it difficult to see what real value this report adds to this important and contentious subject. The main effect of the report is likely to be one of causing confusion, leading to wasted public and private effort and expenditure in the promotion of projects for wind turbines and solar farms which subsequently fall foul of the many other well established criteria in areas other than the geological nature of the terrain. These other criteria include, but are not limited to, impact on Heritage Assets and the landscape, planning decision history in the locality, proximity of dwellings, wind speeds, impact on wildlife, proximity to Rights of Way, agricultural quality of the land and the local community's attitude to such projects. In our area there have been recent projects proposed near Castlethorpe and Hanslope for medium sized turbines, and for a large wind farm at Haversham. These were all vigorously opposed by the local communities and all failed to gain planning permission. The Castlethorpe and Haversham projects were turned down after lengthy appeal processes, at great public	An additional note has been added to the introduction to underline the context of the study as a strategic level assessment. It is not the purpose of this study to say that renewable energy development should be accepted or rejected on account of a landscape sensitivity rating. Such decisions will depend on a range of different factors that will be considered in addition to landscape sensitivity during the planning process. These, among other things are likely to include sustainability, residential visual amenity, biodiversity, agricultural land quality and historic environment as well as local policy.

and private expense.

CONSULTEE	COMMENTS	OFFICER & CONSULTANTS RESPONSE
	The detail of the report shows little local knowledge or indeed, common sense. Taking the schematic WSA Figure 04 (Sensitivity Single Turbine) as an example, area 2a Tove Valley is shown as virtually only as the river bed. It does not include the hinterland on either side of the river which virtually everyone would say actually forms the river valley, particularly as it is the flood plain of the river and floods extensively with great regularity. That larger area is classed as 5c Tove Farmland. So the practical effect of the report is that it is not permissible to put a turbine in the river, which is hardly surprising, but it may be permissible to put one a hundred metres away from it, in an area which floods regularly, and is a major wildlife corridor for resident birds and migratory birds.	LCA 2a is a floodplain landscape character area. The valley sides are within LCA 5c. This type of division accords with a similar LCAs in the bordering authorities who also distinguish between the valley floodplain and the wider valley sides. It is outside the remit of the study to take account of flooding issues, however, during the normal application process such issues would be considered. Any planning decisions will depend on a range of different factors that will be considered in addition to landscape sensitivity during the planning process. These, among other things are likely to include sustainability, residential visual amenity, biodiversity, agricultural land quality and historic environment as well as local policy.
	The study method and remit also has obvious flaws such as using the Scottish Natural Heritage methodology which is geared towards a landscape and terrain very different to the predominantly flat and undulating landscape of Hanslope, Castlethorpe and the Tove Valley. It also includes only the rural area of Milton Keynes and does not consider sites within the urban area which could be suitable for small or medium sized turbines, without detriment to landscape or Heritage Assets and with low impact on local residents. This is surprising as the report states that the urban areas comprise 15% of Milton Keynes.	The principles underlying this guidance are widely accepted as being applicable to England and Wales as the SNH has wider experience of wind turbine development than Natural England. This guidance is generic and not tied to a particular landscape type.
The Parks Trust	The Parks Trust made detailed comments on the Sensitivity Study. Those specific comments that were related to small factual inaccuracies or inconsistencies have been amended within the text. Those comments that related to a questions of judgement are listed below.	

CONSULTEE	COMMENTS	OFFICER & CONSULTANTS RESPONSE
	The Parks Trust hold and manage significant structural landscape features, such as three semi-natural ancient woodlands and 80 miles of 'parkway' landscape either side of the grid-roads. Some of these areas provide valued vantage points from which the surrounding rural areas are viewed. We therefore value the contribution to the protection of that landscape provided by the draft 'Landscape Sensitivity to Wind Turbine and Solar PV Development' report dated June 2015.	Noted.
	LCT 3 p.45 WTD The conclusion that "There is unlikely to be capacity for any scale of commercial wind turbine development as such developments would have a significant adverse effect on the local landscape character" is at odds with Figure 04 which shows LCA 3b as an area of 'Low Sensitivity' to a single turbine development and Figure 05 indicating 'Medium Sensitivity' to a small group of 2-5 wind turbines. We suggest that the wording provided in the 'Guidance on siting' should lead to no turbines being the appropriate conclusion for this area because of 'High Sensitivity'.	There is a degree of confusion here between sensitivity and capacity which has now been addressed in the introduction of the study through an explanation of the differences. LCA 3b (around Calverton) has very limited capacity due to its limited size and other development pressures which affects the capacity of the area to accommodate commercial wind turbine developments.
	LCT 4 p.53 WTD The Parks Trust have questioned the guidance note for locating turbines in areas of existing transport routes (M1 / A5) as this conflicts with the guidance to avoid proximity to residential areas.	Any turbine proposals within the M1 or A5 corridors would have major impact on residents due to the proximity of the urban area of Milton Keynes. The text has been amended to remove this guidance note.
	LCT 4 p.55 SOLAR. LCT 4. The Parks Trust questioned the conclusions of the study of low sensitivity to small and medium PV arrays	LCT 4 has low sensitivity to PV arrays but little capacity for development due to its limited size and other development pressures in the area.
	LCT 5: SOLAR PV Development p.65 The Parks Trust have written: We support the conclusion about 'Indicative Overall Capacity' that "there is unlikely to be capacity in this LCT for any scale of solar PV development" though we question whether there is scope for any to be "sensitively located".	There is a degree of confusion here between sensitivity and capacity which has now been addressed in the introduction of the study through an explanation of the differences. It is felt that there can potentially be locations within LCT5 for solar development.

Appendix C

References

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