March 2005

Wind Turbine Development in Huntingdonshire

Final Report

for Huntingdonshire District Council by Land Use Consultants

WIND TURBINE DEVELOPMENT IN HUNTINGDONSHIRE

Prepared for

Huntingdonshire District Council

by
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Part 1: Introduction

1. INTRODUCTION

Background

1.1. Huntingdonshire District Council commissioned Land Use Consultants (LUC) to undertake a study to inform proposals for wind turbine development in the Huntingdonshire District, and to assist in the formulation of appropriate policies. The study area encompasses the entire district, approximately 90,000ha of predominantly rural land, situated between Peterborough, Cambridge and Bedford. It builds on the Huntingdonshire Landscape Assessment[1] which identified nine landscape character areas, ranging from the rolling Wolds in the west, the Central and Southern Claylands, the low lying Fen landscapes in the north-east and the distinctive river valleys of the Ouse and Nene.

1.2. The study was undertaken over a four-month timescale between August and December 2004.

Need for the study

1.3. Huntingdonshire District despite having relatively modest wind speeds has attracted increasing interest as a location for siting wind turbine developments; a scheme involving twelve turbines has recently been granted permission east of Ramsey and the Council has received preliminary enquires relating to several other locations for turbine development. The project has been undertaken against the background of PPS22[2], which encourages local authorities to respond positively to renewable energy projects and to develop criteria-based policies against which applications can be assessed.

1.4. The planning process allows for consideration of a wide range of factors, it is less well equipped to provide a tool for evaluating landscape impacts. Less easily defined concepts including visual impacts, impacts on character and the integrity of the landscape, cumulative impacts and sequential experiences of the landscape, are particularly difficult to evaluate on a consistent case-by-case basis. Given the pressures for turbine development within this area, there is clearly a need for developing a transparent, robust and defensible evaluation framework that can provide a secure case for approving and refusing wind energy development applications on landscape grounds and provide positive guidance to developers.

[1] Supplementary Planning Guidance. Huntingdonshire Landscape and Townscape Assessment. July 2003. Huntingdonshire District Council.
[2] Planning Policy Statement 22: Renewable Energy. HMSO. 2004

1.5. The aim of the study is to provide guidance for those seeking to identify suitable sites for the location of wind turbines and for the council in providing an initial response to such proposals. It will also help in the formulation of criteria against which specific proposals may be assessed in relation to landscape impact.

The brief for the study

1.6. The brief identifies four main objectives for the study:

i) Consider the implications of different scales of turbine development for the various landscape character areas in the District;

ii) Assess the scope for mitigation measures where necessary;

iii) Draw conclusions about the relative capacities of different character areas as well as opportunities associated with urban extensions for accommodating turbine development; and

iv) Suggest potential criteria that may be employed in assessing specific applications.

How the report should be used

1.7. The study provides strategic guidance on the landscape factors influencing the location of wind turbines within the Huntingdonshire District. It is intended to set out a positive approach to guide development rather than absolute thresholds. Clearly, turbines can form a very visible feature in the landscape, although not all landscapes are sensitive to the same degree. This study has aimed to articulate which characteristics of the landscape are sensitive to different forms of turbine development and an understanding of any special values attached to the landscape in order to inform overall understanding of capacity for development. The study builds on the information in the Huntingdonshire Landscape Character Assessment, undertaken at 1:25,000. It sets out a robust and transparent evaluation framework following the guidance set out the recent Landscape Character Assessment Guidance[3] and the subsequent Topic Paper 6[4].

1.8. The results should help guide the right type of development to the right location to ensure that the key characteristics and values of the landscape are not adversely affected. It is not intended to 'stereotype' any landscape type as suitable for a particular type of

[3] Countryside Agency and Scottish Natural Heritage (2002) *Landscape Character Assessment Guidance for England and Scotland* CAX 84.

[4] Countryside Agency and Scottish Natural Heritage (2004) *Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity*: An exploration of current thinking about landscape sensitivity and landscape capacity, to stimulate debate and encourage the development of common approaches.

development. Nor, does it suggest that simply by virtue of having guidance that some landscapes are more suitable for such development. **Clearly, any decision on an application for wind turbines should not be considered in isolation, and should be the subject of a site-specific investigation, drawing on the information in this guidance. The decision will also need to draw on a range of factors including biodiversity value, historic environment and other planning and economic issues. The effect of cumulative development will be a further key factor influencing individual decisions.**

1.9. The report has been prepared for the Huntingdonshire District Council. It is envisaged that it will have a number of potential applications:

- contribute to planning policy in relation to wind energy developments;
- provide objective baseline information to allow developers to consider effects on the landscape in identifying locations for wind energy developments;
- assist development control officers in making decisions on individual applications by setting out the aspects of the landscape that are most sensitive to this type of development and proving a clear set of criteria and baseline against which to judge the landscape effects of development;
- provide a basis for further stakeholder consultation to widen public understanding of wind turbine development and landscape sensitivities.

Limitations of the study

1.10. The following points should be noted:

- the study is undertaken from the starting point that wind turbine applications are, and will continue to come forward within the district; it does not debate the merits of wind turbines *vis a vis* other forms of renewable energy development or offshore turbine development;
- this study only considers landscape and visual considerations, clearly there are many other factors which will all influence decisions;
- the study provides strategic guidance to inform decision-making at the landscape type level and help focus the approach of officers. Local variations in character (within a landscape type) will also need to be considered in relation to individual applications;

- the study does not negate the need for detailed considerations of landscape and visual impact on a case-by-case basis in relation to an individual application or part of an environmental statement.

Structure of this report

1.11. The report is presented in three parts.

Part 1: Introduction

- Introduction to the study.
- Method statement.
- The landscape character areas.

Part 2: The Landscape Character Areas: Analysis, Capacity Judgements and Guidance

1.12. This is the main part of the report. It follows a standard format for each of the nine landscape character areas and includes:

- Location and boundaries.
- Key characteristics.
- Analysis of key sensitivities likely to be affected by turbine development.
- Consideration of landscape values.
- Capacity judgement.
- Guidance on the form and siting of the most appropriate type of turbine development for each landscape type.

Part 3: Wind Turbines and Urban Extensions

This section provides generic guidance for considerations of turbine development in relation to urban extensions and provides examples of its application at two case study sites in St. Neots and Ramsey.

Part 4: Summary

1.13. The report concludes with a summary of the results for the individual landscape types allowing conclusions to be drawn at the district scale to guide location of different types of turbine development.

2. METHOD STATEMENT

Introduction

2.1. This chapter sets out method for undertaking the study. Findings from the study will be used to inform policy and planning decisions and be incorporated into preparation of Supplementary Planning Guidance. The method adopted therefore aims to be transparent, robust and defensible.

2.2. There is clear guidance on landscape assessment as set out in the recent publication *'Landscape Character Assessment: Guidance for England and Scotland, The Countryside Agency and Scottish Natural Heritage 2002.* The subsequent *'Topic Paper 6'*: sets out further guidance on approaches to evaluating landscape sensitivity and capacity. Our method in Huntingdonshire builds on current best practice described in the Topic Paper and LUC's considerable experience from previous and ongoing studies, notably adaptation of methods developed for assessing capacity for wind turbine development in Scotland and a recent study for Breckland and King's Lynn & West Norfolk Councils.

2.3. The study is based on the existing Huntingdonshire Landscape Assessment (*Supplementary Planning Guidance Huntingdonshire Landscape and Townscape Assessment, 2003*), supplemented by field work to collect additional information specifically relating to this study and provide the basis for the evaluation. It was piloted within two landscape character areas (South East Claylands and Southern Wolds) and the results were reviewed by Huntingdonshire District Council. The agreed method was then rolled out across the study area.

Determining Wind Turbine Typologies

2.4. The first task was to determine a range of generic wind turbine typologies against which the assessment of capacity could be undertaken. The study does not develop typologies based on individual commercial models but develops typologies based on features such as hub height, number and layout. It is based on and understanding of the industry and the types of models considered to be most efficient in the area and likely to come forward in future planning applications in Huntingdonshire. The recent study 'Delivering Renewable Energy in the Cambridge Sub region[5] indicated that wind speeds at 45m above ground level are predominantly in the 6.0 – 6.4m/s range. These relatively modest wind speeds will require selection of taller turbines with a greater blade diameter. The most appropriate (efficient) turbine type to be utilised within this area are considered to be 1.5 or 2.0mW turbine, typically with a hub height of >67 m and a blade diameter typically of >70 m. For the purposes of this study we have assumed a commercial turbine of up to

[5] Cambridge Sub Regional Partners: Delivering Renewable Energy in the Cambridge Sub Region. Final Report 2004.

120m height. It is assumed that variations in height of + or – 20m will generally not be discernable on the ground. An indication of the size of turbine is provided in **Figure 2.1.**

2.5. Developments are therefore grouped into four broad types based on the number of commercial turbines – single, small scale, medium and large scale. The study specifically does not address small domestic installations or offshore developments. .

- **Single Turbines** – a single turbine.
- **Small Scale** – a linear or clustered arrangement of 2 – 12 turbines.
- **Medium Scale** – a development of 13 – 24 turbines.
- **Large Scale** – a large development of 25 plus turbines.

2.6. It should be noted that the four typologies single, small, medium and large are relative terms representing arbitrary divisions of a continuum; they have been developed simply as an aid to the evaluation and making of judgements. If a planning application is received on the threshold of a type, for example for 11 or 12 turbines the judgements for both a medium and large scale group of turbines should be reviewed

2.7. A commercial wind turbine development may include a range of ancillary structures such as access tracks, power/pylon lines, sub stations, fencing, anemometers. Built structures such as sub stations maybe located on site or off site.

2.8. These generic typologies were taken forward to allow visualisation of the effect of different scales of development within the landscape.

Identifying attributes likely to be sensitive to wind turbine development

2.9. Topic Paper 6 states that in making judgements on overall landscape sensitivity careful consideration needs to be given to two aspects:

- landscape character sensitivity;
- visual sensitivity.

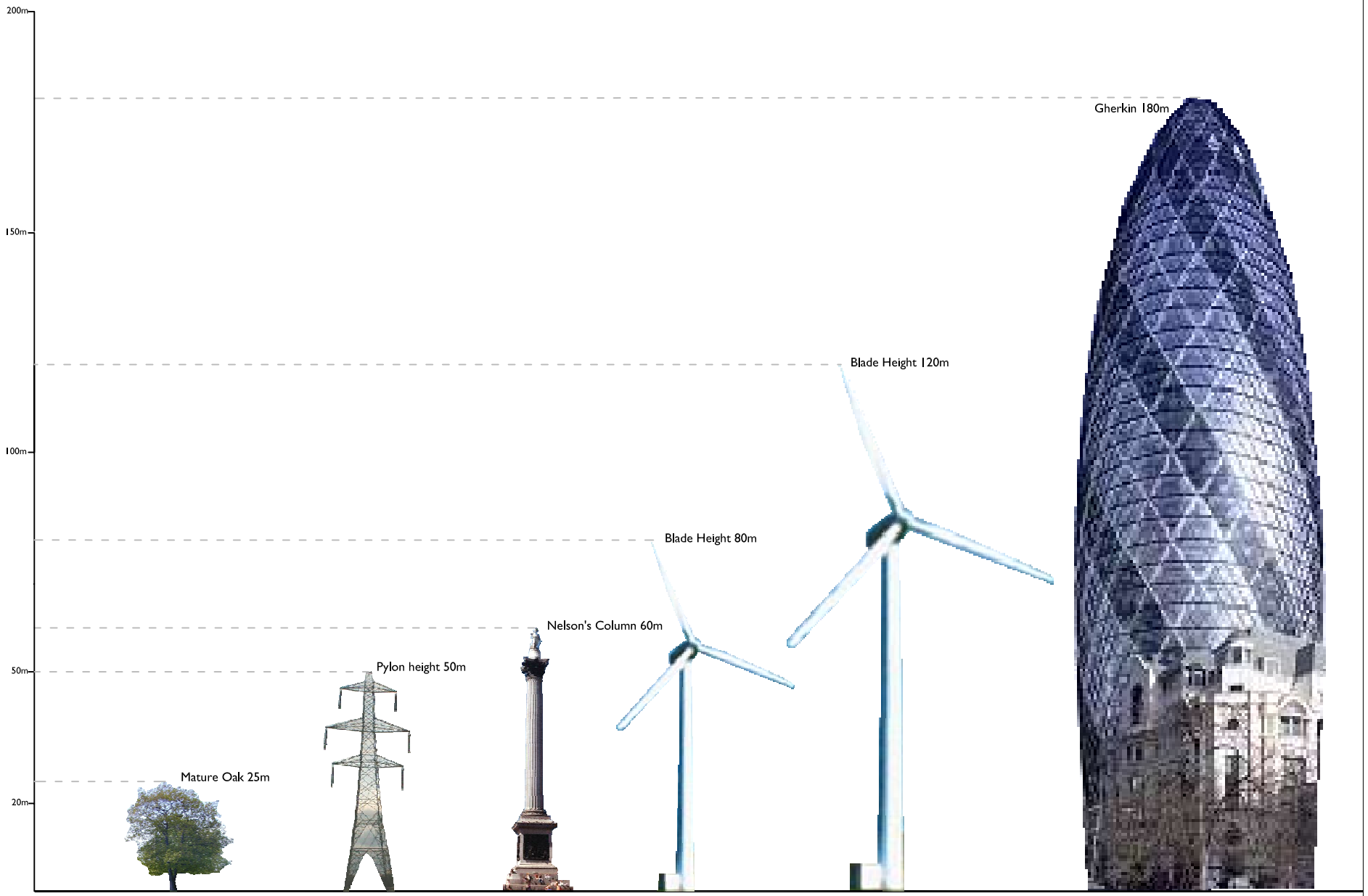


Figure 1.1 Turbine Height Comparisons 1:1250@A3

2.10. For the purposes of this study the particular attributes of the landscape likely to be sensitive to wind turbine development have been identified under the following headings:

Landscape Character	*Visual*
• Scale and Enclosure	• Views to Landmarks and Visible Built Structures
• Landform and Topography	• Skyline
• Land Cover	• Visual Connections with Adjacent Landscapes
• Settlement Density and Pattern	

These headings are closely linked and to an extent interchangeable, for example information on scale and enclosure and land cover will influence the extent that any development is visible within the landscape.

Desk Study – Review of the Landscape Character Assessment

2.11. The study is based on the *Supplementary Planning Guidance, Huntingdonshire Landscape and Townscape Assessment* (2003) which identified nine character areas across the District. The review of the assessment considered:

- the appropriateness of the existing classification is appropriate for the purpose of assessing sensitivity/capacity to turbine development;
- reviewing the key characteristics and descriptions to elucidate those key characteristics to be taken forward as part of the sensitivity analysis;
- identifying key landscape values, including stakeholder values collated as part of the landscape character workshops[6].

2.12. The initial desk study confirmed that the classification was appropriate for the study, although noted a number of variations within the landscape types, which would need to be considered in the evaluation. The desk study identified key characteristics under each of the

[6] Huntingdonshire Landscape and Townscape Assessment. Stakeholder Workshop Report (Second Draft) Prepared by Landscape Design Associations on behalf of Huntingdonshire District Council. August 2001.

headings set out in para. 2.10 (above). The results provided a checklist to inform the field survey and provided the basis for the analysis.

Field survey

2.13. A tailored field survey sheet (Appendix 1) was developed to provide a consistent structured means of collating information and making judgements. A rapid survey of each landscape character area was undertaken to verify information obtained from the desk study and collect additional information where gaps had been identified, specifically in relation to aspects of the landscape likely to be sensitive to turbine developments. Two landscape types were identified where there was perceived to be some variation from the published character assessment in relation to wind turbine development, as follows:

- **South East Claylands** – described in the assessment as *"an intimate tranquil landscape"* and *"extensive areas of high quality landscape… with established woodlands and hedgerows"*. The field assessment suggested that these characteristics are most prominent to the south of the character area, roughly south of the B1046. The remainder of the area was considered to be larger in scale, more open and spacious in character. These characteristics may increase capacity in relation to some types of turbine development.

- **Fens** – described in the assessment as an expansive geometric landscape with "*roads, ditches and field boundaries laid out on regular grids"*. This is true but there is also perceived to be a more organic pattern with sinuous watercourses, field boundaries and shelterbelts/woodland, compared to the extremely open, regular Fen landscapes identified in some part of Norfolk and Lincolnshire. These characteristics may reduce capacity for some types of turbine development.

Analysis

2.14. The process of analysis used the information from the desk study and field survey. It resulted in judgements on the capacity of each landscape type to accommodate one of each of the different types of turbine development. The capacity judgements were based on an understanding of both landscape sensitivity and landscape values. The analysis involved five stages as set out below:

Sensitivity analysis

2.15. In this study, sensitivity is defined as the extent to which the character of the landscape is vulnerable to being changed as a result of wind turbine development. It is an indication of the overall robustness of the landscape and the extent that it can accommodate wind turbine development. It is an overall judgement and recognises that some attributes of the landscape may be more important in defining character than others and may be more sensitive. The judgement is not therefore a simple sum of the sensitivity of all

attributes and is based on transparent professional analysis, rather than any form of scoring system. The judgements on sensitivity were made on a three-point scale:

Low – key characteristics of the landscape are robust and would not be adversely affected by turbine development. The landscape would be able to accommodate development without a significant change in character.

Moderate – key characteristics of the landscape are vulnerable and maybe adversely affected by turbine development. The landscape may have some ability to absorb types of wind energy development without a significant change in character.

High - key characteristics of the landscape are fragile and would be adversely affected by turbine development. Wind turbine development would be likely to result in a significant change in character.

2.16. For each of the nine landscape types, a matrix was developed to assess the sensitivity of each of the characteristics to the 4 types of wind energy development.

Key Characteristics of the landscape	Single Turbine	Small Scale Group	Medium Scale Group	Large Scale Group
Scale and Enclosure				
Landform and Topography				
Land Cover Pattern				
Settlement Pattern and Density				
Landmarks and Visible Built Structures and Landmarks				
Skyline				
Views and Connections with Adjacent Landscapes				

2.17. The sensitivity judgements relate to broad thresholds of change rather than absolutes. It should be noted that guidance contained in any single row of the table should not be considered in isolation. The sensitivity of the combination of landscape characteristics (each column) should be considered in forming a judgement about capacity to accommodate development. However, the judgement is not simply an average for all the characteristics in any column - as some characteristics maybe deemed to be so sensitive that they have an overriding influence on the overall sensitivity of the landscape.

Integrating information relating to landscape values

2.18. In Huntingdonshire there are no nationally designated (valued) landscapes. However, there are a number of local values that need to be recognised in making capacity judgements. Information on landscape values was derived from a review of the *Supplementary Planning Guidance, Huntingdonshire Landscape and Townscape Assessment (2003)*, notably the section for each landscape type on '*Human Response*'. The study also drew on information collated as part of stakeholder workshops undertaken as part of the landscape assessment process, which recorded the values that local people and interest groups attach to the landscape. In addition recorded historic, cultural and biodiversity values were recorded from exiting designations. Landscape values were considered under four headings:

- Landscape character and condition.
- Human response (perceptions of the landscape and aesthetic qualities).
- Remoteness and tranquillity.
- Other values (historic, natural, cultural associations, recreational).

2.19. A judgement was made on whether landscape values would be affected by each of the four scales of turbine development.

Capacity judgement

2.20. The overall capacity judgement for each landscape type was derived by reviewing the results of the sensitivity analysis and information from the assessment of landscape values. In this study, capacity is defined as the extent to which the landscape is able to accommodate a wind turbine development without adversely affecting key characteristics of the landscape or landscape values.

2.21. The capacity judgements refer to the capacity of the landscape character area to accommodate one development (from each of the four turbine typologies). Judgements are not intended to imply capacity for multiples of any type of development and do not give an indication of the precise number of turbines that could be accommodated within any given character area. This level of detail will need to come through an assessment of individual applications on a case-by-case basis. An indication of considerations in relation to cumulative development is provided to assist this process.

2.22. The judgements are made on a three point scale:

Low Capacity to accommodate wind turbine development. Any development would be likely to result in a significant adverse change in landscape character and/or effect key landscape values and is therefore not recommended in the landscape type.

Moderate Capacity to accommodate wind turbine development, without detriment to landscape character. There are likely to be key sensitivities or values that must be respected in relation to turbine development. In particular, development must follow guidance on siting, form and cumulative impacts.

High Capacity to accommodate wind turbine development. There is an opportunity to locate wind turbine development in this area that would not affect key characteristics and/or values of the landscape. Guidance on siting, form and cumulative impacts should be followed.

Providing guidance

2.23. For those areas where capacity is identified to be moderate or high, guidance notes are provided on the siting, form and arrangement of turbines and their associated ancillary structures. Simple sketches are provided to illustrate the guidance.

3. THE LANDSCAPE CHARACTER AREAS

Landscape classification

3.1. A landscape assessment of Huntingdonshire District was completed by Landscape Design Associates in 2001. This has subsequently been published as Supplementary Planning Guidance (2003). The district-wide assessment identifies nine landscape character areas, which are defined as having 'a distinct and recognisable pattern of elements that occur consistently'. The character areas are discrete geographical areas that are identified on the basis of their particular combinations of geology, landform, soils, vegetation, land use, field patterns and settlement. The nine landscape character areas are the building blocks for this study and provide the baseline for assessing sensitivities to and capacity for wind turbine development. The landscape character areas are indicated below and illustrated on **Figure 3.1.**

Format

3.2. The information in each landscape type is presented in the following format.

Location and boundaries

3.3. The introductory paragraph describes the location of the landscape type within the study and the nature of the boundaries including relationship to adjoining landscape types.

Key characteristics

3.4. The key characteristics are taken directly from the landscape assessment and are presented as bullet points summarising the fundamental characteristics of the landscape.

Sensitivity to turbine development

3.5. Considers the sensitivity of key characteristics of the landscape to different scales of wind turbine development. Scale and enclosure.

Landscape values

3.6. Considers the impact of wind turbine development on landscape values.

Capacity

3.7. An indication is given of the capacity of the landscape to accommodate different scales of turbine development.

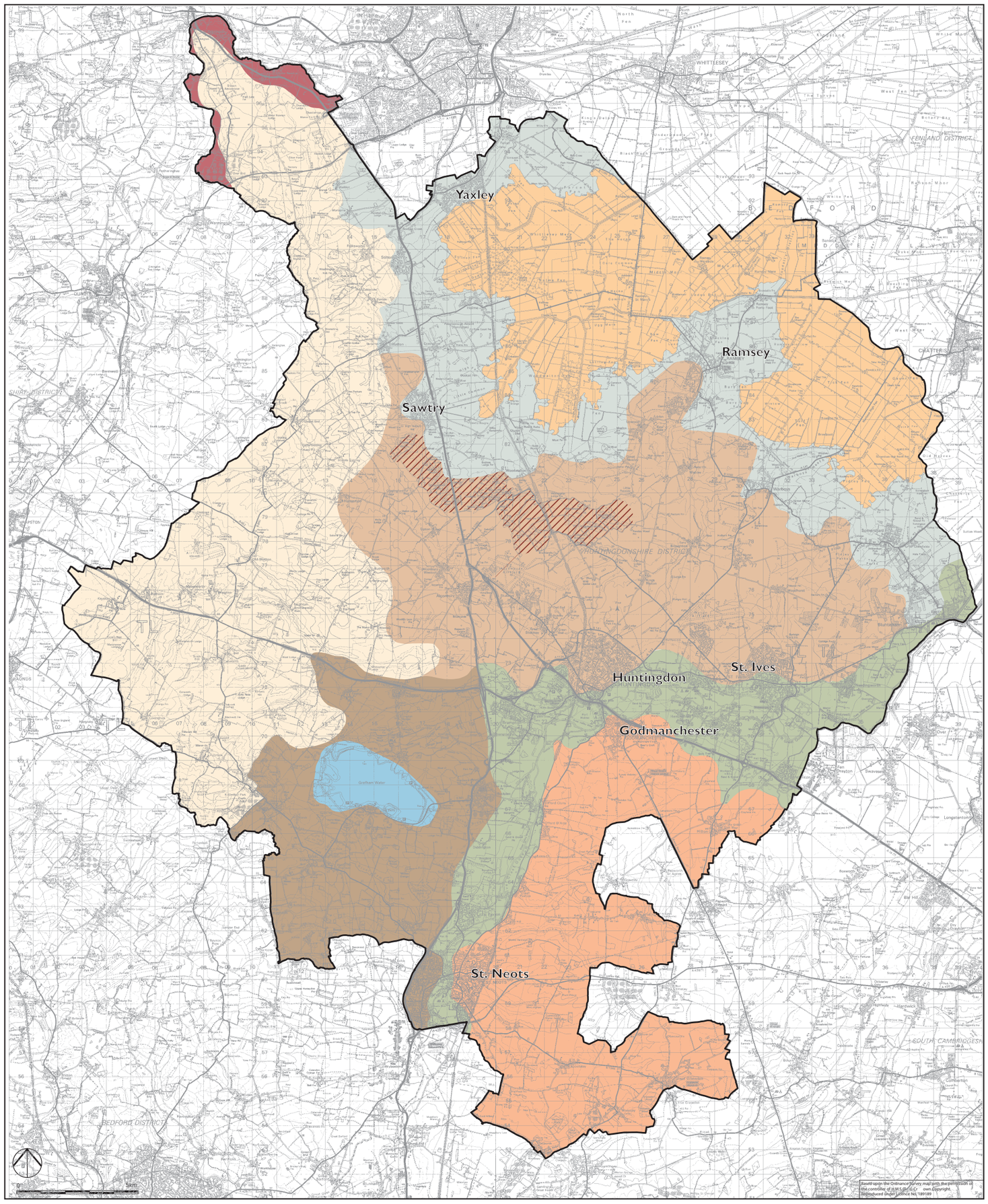
Guidance

3.8. The identified sensitivities and values of the landscape are used to generate positive guidance on siting and form of turbine development appropriate to landscape character.

Cumulative development

3.9. Provides information on the potential for the landscape to accommodate cumulative development.

Figure 3.1: The Landscape Character of Huntingdonshire



Legend

- The Fens
- Fen Margin
- Central Claylands
- Ouse Valley
- South East Claylands
- Northern Wolds
- Grafham Water
- Southern Wolds
- Nene Valley
- Central Claylands sub area of Extensive Woodland

Based upon the Ordinance Survey map with the permission of the controller of H.M.S.O. © Crown Copyright. Reproduced Under Licence No. 1991189

Note: This map reproduces Map 3: Landscape Character Areas, produced by Landscape Design Associates (LDA) in July 2003

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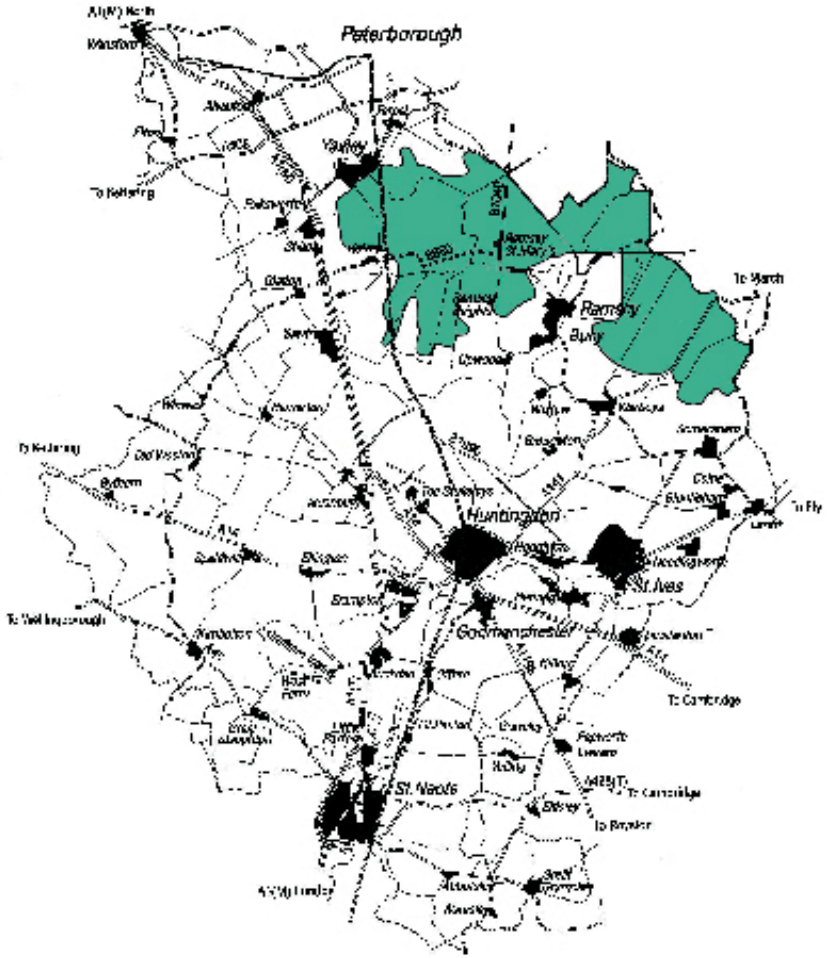
Part 2: The Landscape Character Areas:

Analysis, Capacity Judgement and Guidance

The Fens



A geometric landscape but with sinuous roads, drainage channels and woodland blocks creating a less regimented appearance in places.

Expansive landscape of flat land with long views.

In some areas ditches laid out in regular grids across open fields are characteristic.

4. THE FENS

LOCATION AND BOUNDARIES

4.1. The Fens landscape character area lies in the northeast of Huntingdonshire, and is distinctive for its low-lying, flat, and often regimented open character. The northeastern edge of the character area is marked by the district boundary (although the fens extend into surrounding districts). The southern and western boundaries of the character area follow the 0 metre contour (sea level), and abut the gently rising slopes of the Fen Margin landscape character area.

Key Characteristics

- An expansive landscape of flat land below sea level, with long views to distant horizons. The sky plays a dominant role in creating mood and interest.
- An area characterised by arable agriculture and dark peaty soil.
- Water management (drainage) is fundamental to the appearance and maintenance of the landscape: ditches, dykes and rivers (often artificially straightened and raised above the surrounding land level) are prominent in views.
- Roads, ditches, field boundaries and crops are laid out on regular grids, which gives rise to a geometric landscape.
- The flat and horizontal nature of the landscape can give vertical features an unusual prominence.
- Settlement is limited to isolated farms, with a few linear villages along main roads.
- Sparse woodland cover. Isolated field trees and shelterbelts are visually significant.
- In the western part of the area, the nature reserves at Holme and Woodwalton illustrate the wet and wooded character of the Fens before they were cleared and drained.

SENSITIVITY TO WIND TURBINE DEVELOPMENT

4.2. The following table considers the key characteristics of the character area under each of the seven attributes identified as being potentially sensitive to turbine development. The sensitivity of each characteristic of the landscape has been evaluated in relation to four different scales of turbine development – single, small, medium and large scale. Considering each characteristic independently results in a comprehensive, integrated assessment and provides a detailed understanding of the sensitivity of the landscape and the

reasons why. Note that it is the *combination* of key characteristics (i.e. each column) that should be considered in forming a judgement about sensitivity to turbine development. The guidance contained in any single row of the table, should not be considered in isolation.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (12-24 turbines)	Large Scale Group (25+ turbines)
Scale and Enclosure • An expansive, open landscape with long views to distant horizons. • Open landform and wide Fen skies. In some areas woodland blocks and tree cover reduce the scale.	**Low** A single turbine could be accommodated in this landscape, as it would not dominate the scale and could form a focal point or landmark feature in long views.	**Low** A small-scale group of wind turbines could be accommodated in this open expansive landscape. A group could form a focal point or landmark feature.	**Moderate** A medium scale group of turbines could be accommodated in more open and less wooded areas of this landscape. However, the remaining remote, inaccessible and isolated areas have a higher sensitivity to this scale of development.	**Moderate** A large-scale group of turbines could be accommodated in more open and less wooded areas of this landscape. However, the remaining remote, inaccessible isolated areas and have a higher sensitivity to this scale of development.
Landform and Topography • An expansive horizontal landscape of flat land below sea level. • Essential character of the Fens is derived from the combination of open views of flat land and sky.	**Low** The flat topography and simple landform could accommodate a single turbine – the vertical form of the turbine forming a simple contrast with the horizontal plane.	**Low** The flat topography and simple landform could accommodate a small-scale group of turbines – the vertical form providing a simple contrast with the horizontal plane.	**Low** The flat topography and simple landform could accommodate a medium scale group of turbines. However, note the relationship between flat land and sky and open views.	**Low** The flat topography and simple landform could accommodate a large scale group of turbines. However, note the relationship between the flat land, sky and open views.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (12-24 turbines)	Large Scale Group (25+ turbines)
Land Cover Pattern • Characterised by arable agriculture and dark peaty soil. • Dykes, ditches and rivers (some artificially straightened) are visible. • A geometric landscape, but also including sinuous roads, drainage channels and woodland blocks creating a less regimented, grid-like appearance. • Remnant wet and woodland character at Holme and Woodwalton. • Isolated field trees and shelterbelts (poplar and Leylandii) are visually prominent. • Great Fen Project identifies opportunities for woodland and wetland habitat creation.	**Low** The large areas of arable land could accommodate a single turbine. Its vertical form would complement the land cover and the linear field boundaries, roads and ditches. Pasture, woodland and wetland including areas with potential for habitat creation are more sensitive.	**Low** The large areas of arable land could accommodate a small-scale group of turbines. Its vertical form would complement the land cover and the linear field boundaries, roads and ditches. Pasture, woodland and wetland including areas with potential for habitat creation are more sensitive.	**Moderate** The land cover pattern and presence of woodland blocks in particular, could make it difficult to relate a medium scale group of turbines to the land cover pattern. Pasture, woodland and wetland including areas with potential for habitat creation are more sensitive.	**High** It would be difficult to relate a large-scale group of turbines to the land cover patterns in the area. The presence of several large woodland blocks and shelterbelts reduces the extent of open land available.
Settlement Pattern and Density • Settlement includes isolated farms and linear villages along roads comprising dispersed residential development. • Farms frequently on isolated islands of slightly raised ground with prominent shelterbelt planting.	**Low** There is sufficient scope to site a single turbine away from settled areas in this landscape. The traditional linear form and single plot depth of the settlement suggests that there is no scope to attach a turbine to a settlement.	**Low** There is sufficient scope to site a small-scale group away from settled areas in this landscape.	**Moderate** A medium scale group of turbines could be out of scale with the size, nature and setting of the villages and the dispersed settlement pattern beginning to dominate the open areas between and views from settlements.	**High** A large-scale group of turbines could be out of scale with the size, nature and setting of the villages and the dispersed settlement pattern beginning to dominate the open areas between and views from settlements.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (12-24 turbines)	Large Scale Group (25+ turbines)
Landmarks and Visible Built Structures • Horizontal rhythms of regular straight roads and drains interrupted by vertical features such as telegraph poles, trees, farm buildings and windmills which punctuate the skyline. • Key landmarks include the tall chimneys of Whittlesey Brickworks on the northern horizon. • Trees form landmarks, particularly lines of poplar shelterbelts. • Vertical features have an unusual prominence due to flat/horizontal nature of the landscape.	**Low** There is scope for a single turbine to relate to or be sited away from existing landmarks and vertical features in the landscape. A single turbine would be highly visible and prominent in the landscape and thus form a landmark in its own right.	**Low** There is scope for a small-scale turbine group to relate to or be sited away from existing landmarks and vertical features already in the landscape. A small-scale turbine group would be a highly visible and prominent feature in this open landscape and could form a landmark feature in its own right.	**Moderate** A medium scale group of turbines could start to dominate open views within the landscape and create a confusing image in relation to existing vertical features.	**High** A large-scale group is likely to be too dominant in this landscape closing the long open views and creating a confusing image in relation to existing vertical features.
Skyline • Long views to distant horizons • The sky plays a dominant role in creating mood and interest. • The rising land of the Fen Margins, Wolds and Claylands form a gentle ridge and backdrop in views to the south and west.	**Low** A single turbine could be accommodated in this landscape forming a focal point within the context of long views and open skyscape.	**Low** A small cluster of turbines could be accommodated in the landscape and could form a focal point or landmark feature within the context of long views and open skyscape.	**Moderate** A medium scale group of turbines could begin to dominate the open views and distinctive skyscape.	**High** A large-scale group of turbines would dominate and interrupt the distinctive long open views and distinctive skyscape of the Fens.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (12-24 turbines)	Large Scale Group (25+ turbines)
Visual Connections with Adjacent Landscapes • In views to the south and west the rising land of the Wolds and Claylands landscape character areas form a ridge on the horizon. • Expansive landscape of Fenlands continuing beyond the district boundary to the north.	**Low** A single turbine could be accommodated without affecting the visual relationship with the adjacent landscapes of the Wolds, Claylands and Fen Margins. However, consideration should be given to relationships with turbine developments in the Fens beyond the district boundary.	**Low** A small group of turbines could be accommodated without affecting the visual relationship with the adjacent Wolds, Claylands and Fen Margin landscapes. However, consideration should be given relationships with turbine developments in the Fens beyond the district boundary.	**Moderate** A medium scale group could be accommodated, although the higher end of a group of this size could be very dominant in views from the higher land of the Wolds, Claylands and Fen Margins. Also note need to consider visual relationships with turbine developments in the Fens beyond the district boundary.	**High** A large scale group of turbines would be a very dominant feature in views from the adjacent higher ground and disrupt the long views across this landscape to and from the Fen Margins. There would also be issues regarding visibility beyond the district boundary.
Landscape Sensitivity Overview: An assessment of the seven attributes likely to be sensitive to turbine development indicate that the Fens landscape generally has a low sensitivity to a single turbine or a small scale turbine group, i.e. these developments could be accommodated without an adverse effect on overall landscape character. The landscape has a moderate sensitivity to the lower end of a medium scale group providing careful consideration is given to siting and design. It has a high sensitivity to large-scale developments.				

CONSIDERING LANDSCAPE VALUES

4.3. In addition, to considerations of sensitivity is the need for an understanding of special landscape values. The following section considers landscape values under four main headings. The information has been drawn from the landscape character assessment, including the human responses to the landscape. It incorporates stakeholder perceptions from the 2001 workshop.

Landscape Values

Character and Condition

- A strong character and sense of place, although vulnerable to inappropriate change.

Human Response

- Some people find the open landform and wide fen skies exhilarating and dynamic, whilst others find the lack of hills and the regularity of the landscape uninspiring and monotonous.
- There is no real sense of seclusion although there is a strong sense of isolation in the less settled parts.
- At the stakeholder workshop the Fens were identified as particularly highly valued landscape for their openness and distinctive sense of place.

Remoteness and Tranquillity

- Strong sense of isolation in less settled areas - quiet and peaceful.

Other Values

Cultural: Landscape essentially created by pioneering 17th century drainage initiatives (e.g. Ramsey 40 foot drain). Peat likely to be an important archaeological resource.

Natural: Holme Fen and Woodwalton Fen – open water and woodland SSSI – remnant wet fen and carr provide a rare habitat. The Fens contain valuable environments which are becoming increasingly rare at national and local levels. The Great Fen Project identifies a potential for large scale habitat restoration.

Recreation: Great Fen Project will form a focus for access and recreation.

Landscape Value Overview

Single Turbine: A single turbine could be accommodated providing it does not impinge on the site or setting of valued features. A single turbine would not affect the tranquil and sometimes isolated character of parts of the landscape. Overall, it is considered that a single turbine development would not have an adverse effect on landscape values.

Small-scale group: A small-scale group of turbines could be accommodated within the Fens landscape providing it does not impinge on the site or setting of

valued features. A small-scale turbine group could be sited so that it does not affect the tranquil and isolated character of areas or areas identified with potential for habitat restoration.

Medium scale group: A medium scale group of turbines could be dominant and have an effect on landscape values particularly the perception of parts of the area as tranquil and isolated.

Large scale group: A large scale group of turbines could be dominant and have an effect on landscape values particularly the perception of parts of the area as tranquil and isolated. A large-scale group could significantly degrade the isolated and open parts of the landscape and create a cluttering with other vertical elements.

CAPACITY JUDGEMENT

The judgements on landscape sensitivity and landscape values indicate that a **single** or a **small-scale** turbine group is the type of development, which could be most easily accommodated within the Fens landscape. The lower end of a **medium scale** group may be accommodated providing careful consideration is given to siting and design to ensure it does not affect valued characteristics of the landscape.

GUIDANCE

Single Turbine (1 turbine)

4.4. The Fens have a **high** capacity to accommodate a single turbine. The expansive scale of the landscape, flat topography and simple land cover patterns would allow a single turbine to fit well and it could form a landmark feature or focal point. However, care will need to be taken in siting turbines to avoid the sites and setting of valued landscape components. The location of a single turbine should consider the following guidance:

- *Provide a positive contribution providing a focal point within long-range open views.*
- *Avoid those areas where there are already a large number of vertical elements (e.g. pylons and communication structures) to ensure that the development does not result in visual confusion and clutter.*
- *Consider relationships with the small-scale dispersed settlement pattern. The traditional linear form and single plot depth suggests there is no scope to attach a turbine to a settlement.*

- *Relate to existing building clusters in the landscape for example the occasional large farm buildings, utility buildings or industrial areas. There may also be an opportunity for a single turbine to relate to infrastructure associated with the main road routes.*
- *Relate to the land cover pattern in particular the geometric field patterns.*
- *Avoid introducing solid built structures into isolated areas, which are generally characterised by the absence of buildings. Additional structures would be better accommodated in relation to existing farm/utility buildings.*
- *Consider visual relationship with turbine developments in the adjacent districts.*
- *Avoid the site and setting of valued landscape components notably the remaining areas of peat, and woodland and wetland SSSI, plus areas identified for the habitat restoration (Great Fen). However, there may be an opportunity to site a single turbine in relation to recreation/educational infrastructure associated with the Great Fen.*
- *Consider relationship with existing and proposed turbine developments in the adjacent areas of Fen landscape beyond the District boundary.*
- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

4.5. ***Cumulative Development:*** There is scope for the Fens to accommodate a number of single turbines, however care will need to be taken in their location and relationship to each other. Single turbines within this landscape will act as a point of focus or landmark. Views of more than one turbine development could dilute the perceived landmark function of a turbine and create a potentially confusing viewing experience. Particular consideration should be given to the visual relationship with turbine developments in the adjacent districts.

Small Scale Group (2-12 turbines)

4.6. The Fens have a **high** capacity to accommodate a small-scale group. Although a more obvious and dominant feature in the landscape a small scale development could respond well to the landscape structure and pattern. However, there are a number of key sensitive elements that will need to be respected, notably the need to conserve isolated tranquil areas and important habitats. Particular care will need to be taken in siting turbines and to avoid creating visual confusion and clutter where existing vertical elements are already

dominant. Providing it was appropriately sited, such a development would not have an adverse impact on key landscape values. In siting a small-scale group the following guidance should be considered:

- *Avoid those areas where there are already a large number of vertical elements to ensure that the development does not result in visual confusion and clutter. Introduction of new pylon lines will not generally be appropriate in the Fens.*
- *Avoid the site and setting of valued habitat components (pasture, woodland and wetland) including areas identified as having potential for habitat creation through the Great Fen Project.*
- *Consider relationships with the dispersed settlement pattern. Small-scale turbine developments should be sited away from settlements.*
- *Consider the visual relationship with turbine developments in the adjacent districts.*
- *Relate to the land cover pattern, in particular the rigid geometric field patterns which could provide a template for the arrangement with a consistent and repetitive spacing of turbines. Note that some areas within the Fens have a more sinuous, organic pattern; where a geometric arrangement would be inappropriate.*
- *Relate to existing building clusters in the landscape, for example the occasional large farm buildings, utility buildings or industrial areas. Additional buildings or infrastructure, associated with turbine development should not be introduced into areas characterised as being remote with an absence of built features.*
- *Conserve and maintain areas characterised as having a strong sense of remoteness and isolation.*
- *Consider relationship with existing and proposed turbine developments in the adjacent areas of Fen landscape beyond the District boundary.*
- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

4.7. ***Cumulative Development:*** The landform and land cover pattern provides scope for more than one small-scale turbine group within this landscape. It is essential that there is consistency in form and siting of developments respecting the consistent character of the landscape**.** In this landscape long-range views are often characteristic and views of more than one type of turbine development could

create a potentially confusing viewing experience. Particular consideration should be given to the visual relationship with turbine developments in the adjacent district.

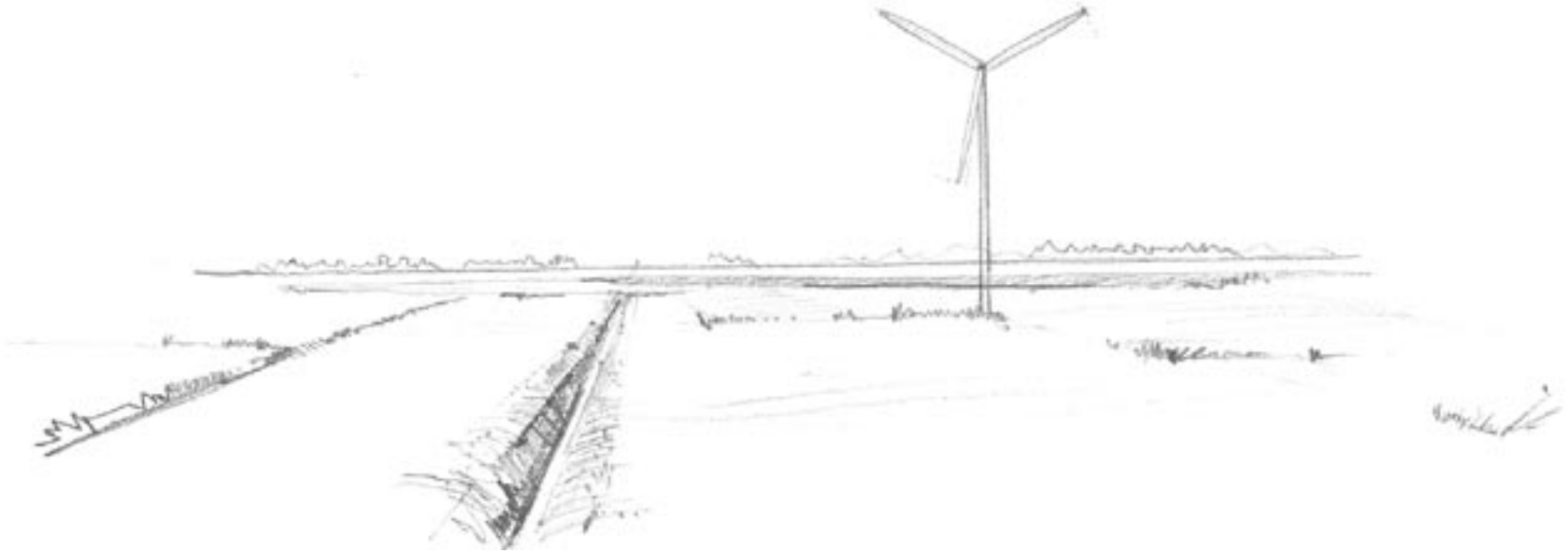
Medium-Scale Group (13-24 turbines)

4.8. The Fens have a **moderate** capacity to accommodate a medium scale group. Although such a development could be accommodated within context of the flat landform and expansive open landscape, it could impinge on the sense of remoteness and isolation and be out of scale in the context of the woodland and settlements. Locations for a medium scale group of turbines are constrained and should follow the guidelines set out for a small scale group (above). In addition, consider the following guidance:

- *A lower end of this scale of group will be more appropriate.*
- *Consider a clustered arrangement to avoid disrupting long views to the horizon.*
- *Respect existing landmark features and the views to them, such as Whittlesley Brickwork Chimneys.*
- *Consider relationship with existing and proposed turbine developments in the adjacent areas of Fen landscape beyond the District boundary.*
- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

4.9. ***Cumulative Development:*** The low-lying flat topography and the land cover pattern of this landscape provides scope for a medium scale group of turbines if at the lower end of the scale. It is vital that the layout of the turbines is well considered and consistent so as not to dominate the landscape and disrupt important long distance views. There is unlikely to be capacity for more than one medium scale group within this character area.

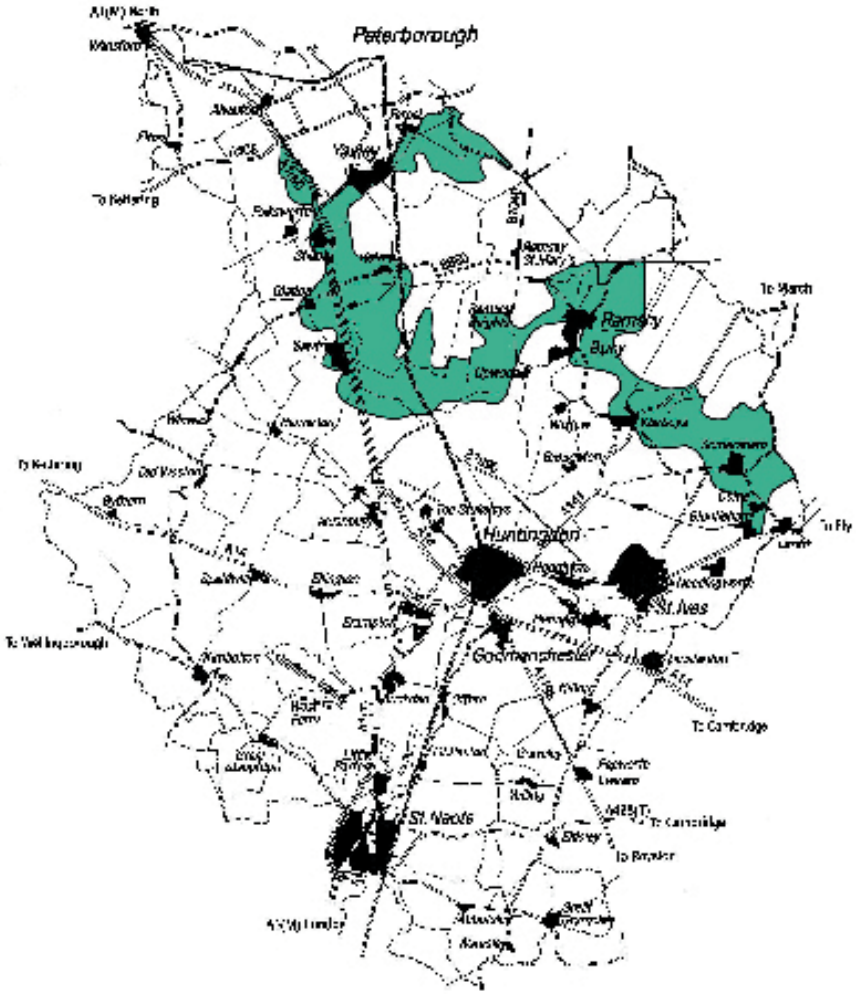
THE FENS



There is scope for a single turbine to relate well to the open landform and geometric pattern. It would form a prominent landform or focal point within the open landscape.

A small scale turbine group could respond to the strong linear landscape pattern. The development would need to be sited sensitively in relation to existing vertical elements and valued landscape features.

Fen Margin



Lowlying area sloping towards the Fens. Well vegetated with woodland and hedgerow trees.

A mix of land uses similar to the Fens.

Settlements situated on higher land. Generally sparsely populated.

5. FEN MARGIN

LOCATION AND BOUNDARIES

5.1. The Fen Margin character area comprises a narrow arc of land, which forms a transition between the Fens and Central Claylands and Northern Wolds landscape character areas. The southern boundary of this area is marked by the start of the rising Claylands. The boundary with the low-lying Fens is defined by the 0 metre contour (sea level). The area has a generally consistent character with some variations including the intimate orchard dominated landscape around Colne and some more isolated, remote areas between Sawtry and Ramsey.

Key Characteristics

- A low-lying area, which slopes gently eastwards towards the Fens.
- Generally well vegetated, with deciduous woodland, hedgerow trees and orchards, particularly around the village of Colne.
- A matrix of land uses, comprising arable farmland, pasture, airfield, orchards, deciduous woodland and settlements.
- Settlements situated on the higher land, otherwise a sparsely populated landscape.
- Considerable recent housing development on the edges of most settlements.
- Rich in archaeology with numerous Scheduled Ancient Monuments, mostly from the Medieval period, including several moats, an abbey and a motte & bailey castle.

SENSITIVITY TO WIND TURBINE DEVELOPMENT

5.2. The following table considers the key characteristics of the character area under each of the seven attributes identified as being potentially sensitive to turbine development. The sensitivity of each characteristic of the landscape has been evaluated in relation to four different scales of turbine development – single, small, medium and large scale. Considering each characteristic independently results in a comprehensive, integrated assessment and provides a detailed understanding of the sensitivity of the landscape and the reasons why. Note that it is the *combination* of key characteristics that should be considered (i.e. each column) in forming a judgement about sensitivity to turbine development. The guidance contained in any single row of the table, should not be considered in isolation.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
Scale and Enclosure • An intimately scaled landscape offset by expansive and dramatic skies and landform, which allows long open views.	**Low** A single turbine could be accommodated in this landscape. It would not dominate it or disrupt the scale.	**Low** A small-scale group of wind turbines could be accommodated. They would not dominate it or disrupt the scale of the landscape.	**Moderate** A medium scale group of turbines could start to dominate the scale of the landscape. Although would be appropriate in the context of the expansive skies.	**High** A large scale group of turbines would not fit the intimate landscape scale.
Landform and Topography • Low lying, sloping gently eastwards towards the Fens.	**Low** The gentle topography and simple landform of this area would allow a single turbine to fit in the landscape.	**Low** The gentle topography and simple landform of this area would allow a small-scale group of turbines to fit in the landscape.	**Moderate** The gentle topography and simple landform of this area could allow a medium scale group of turbines to fit in the landscape. However, the introduction of additional structures and pylon lines that this scale of development might require would be less easily accommodated.	**High** A large scale group of turbines could begin to dominate the landform and would be very prominent in views from the lower lying Fens.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
Land Cover Pattern • A matrix of land uses, comprising arable farmland, pasture, airfield, orchards, deciduous woodlands and settlements. • Fields are medium scale, irregular and divided by hedges. Hedges are often tall and contain a variety of tree and shrub species. • The area near Colne adjoining the Central Claylands is more intimately scaled with a mix of pasture and Orchards and the appearance of being well wooded.	**Low** The areas of arable land and pasture could accommodate a single turbine.	**Low** The areas of arable land and pasture could accommodate a small group of turbines. However, it would be difficult to locate a small-scale group of turbines within the more intimately scaled wooded/orchard landscape around Colne.	**Moderate** The land cover pattern and presence of a mix of pasture and woodland blocks in particular, could make it difficult to relate a medium scale group of turbines to the land cover pattern.	**High** It would be difficult to relate a large-scale group of turbines to the scale and diversity of land cover patterns in the area.
Settlement Pattern and Density • Settlement is situated on the higher land and largely contained within villages, otherwise a sparsely populated landscape. • Some very large settlements at Yaxley, Somersham, Ramsey Sawtry. Recent housing development on the edge of most settlements. • Settlements in the area are diverse in character, ranging from small, isolated, historic villages (Connington) to bustling larger villages. • The A1 is locally a dominant feature.	**Low** There is sufficient scope to site a single turbine away from settled areas in this landscape. A single turbine would also relate well to the edge of larger expanded settlements where it could form a landmark or gateway feature as at Ramsey.	**Low** There is sufficient scope to site a small-scale group of turbines away from settled areas in this landscape. A small-scale group of turbines could also relate well to the edges of larger expanded settlements. However, the higher end of a group could overwhelm the scale of settlements.	**Moderate** A medium group of turbines could be out of scale with the size, nature and setting of the villages, beginning to dominate some areas between settlements.	**High** A large-scale group of turbines could be out of scale with the size, nature and setting of the villages and dominate areas between settlements.
Landmarks and Visible Built Structures • Rich in archaeology with numerous Scheduled Ancient Monuments, mostly from the medieval period, including several moats, an abbey and a motte and bailey castle.	**Low** A single turbine could be accommodated in this landscape and may provide a focal point	**Low** A small-scale group of turbines could be accommodated in this landscape and could	**Moderate** A medium scale group of turbines could be accommodated in this landscape, however the	**High** A large-scale group of turbines would create a very dominant feature within the landscape.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
• Relatively few existing vertical features – pylon lines are not a dominant feature.	and landmark. A single turbine should respect the site and setting of important historic landmarks.	create a focal point or landmark. Such a development should respect the site and setting of important historic landmarks.	introduction of numerous vertical elements of turbines and pylon lines could create clutter in a landscape characterised by the absence of such features.	
Skyline • The sky plays a dominant role in creating mood and interest – expansive and dramatic skies are a feature. • The Fen Margins provide a gentle backdrop and skyline to the lower lying Fens.	**Low** A single turbine could be accommodated in this landscape and provide a focal point within the context of long views and dominant skyscape.	**Low** A small cluster or line of turbines could be accommodated in the landscape and provide a focal point within the context of long views and dominant skyscape.	**High** A medium scale group of turbines and associated structures could be over dominant in this landscape and begin to clutter the long views and skies and particularly the relationship with the Fens.	**High** A large-scale group of turbines could be over dominant in this landscape and clutter the long views and skyscape.
Visual Connections with Adjacent Landscapes • The Fens and Central Claylands influence both the views and atmosphere in the Fen Margin. • The Fen Margins provide a gentle backdrop and skyline to the lower lying Fens. The skyline view from the Fens includes a mix of woodland, pasture, crops and settlement. Some new developments can be visually intrusive in views from the Fens.	**Low** A single turbine could be sited without affecting the visual relationship with the adjacent landscapes. A single turbine could provide a focal point or landmark feature on the skyline view from the Fens.	**Low** The lower end of a small group of turbines could be sited in the landscape without affecting the visual connection with adjacent landscapes.	**High** A medium scale group of turbines could dominate the views from the Fens particularly if sited on the skyline.	**High** A large-scale group of turbines would visually dominate the views from the Fens. A development of this scale would mask the subtle transition with the adjacent landscapes.
Landscape Sensitivity Overview: An assessment of the seven attributes likely to be sensitive to turbine development indicates that the Fen Margin landscape				

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
generally has a low sensitivity to a single turbine or small scale turbine group. However, variations in the landscape should be noted particularly the more intimately scaled landscape around Colne. The landscape is judged to have a moderate sensitivity to medium scale developments (at the smaller end of the scale e.g. 13 – 15 turbines) again, provided these are located appropriately, particularly in relation to the adjacent low-lying Fens. The Fen Margins are considered to have a high sensitivity to large-scale turbine development.				

CONSIDERING LANDSCAPE VALUES

5.3. In addition, to considerations of sensitivity is the need for an understanding of special landscape values. The following section considers landscape values under four main headings. The information has been drawn from the landscape character assessment, including the human responses to the landscape. It incorporates stakeholder perceptions, from the August 2001 workshop.

Landscape Values

Character and Condition

- Overall the character of the Fen margin remains largely intact although is under pressure. Changes in land management practice have resulted in a loss of landscape quality.

Human Response

- The different landscapes of the Fen Margins provoke different responses. Generally an intimate scale offset by expansive and dramatic skies.
- The settlements also generate different responses – most housing estates feel featureless and empty during the day, whilst the centres of larger villages have a busy character.

Remoteness and Tranquillity

- In general the area feels tranquil and parts feel quite isolated although the busy main roads and traffic are dominant in some areas. The central part of the area east of Sawtry is isolated and characterised by the absence of roads/access and any form of built development.

Other Values

Cultural: Rich in archaeology with numerous Scheduled Ancient Monuments, mostly from the medieval period. Medieval features are still visible as earthworks. Historic village cores designated as Conservation Areas

Natural: Small isolated woodland SSSI and County Wildlife Sites. Opportunities have been identified for the creation of Fen Edge Woodlands (Strategic Biodiversity Initiative).

Landscape Value Overview

Single Turbine: Overall, it is considered that a single turbine development would not have an adverse effect on landscape values, provided it respects the site and location of valued features including the historic sites and woodlands.

Small-scale group: A small-scale group of turbines could be accommodated within the Fen Margin landscape providing it does not impinge on the site or setting of valued features including archaeological sites, SSSI and areas with a particular sense of tranquillity and isolation, such as the area east of Sawtry.

Medium scale group: A medium scale group of turbines could be dominant and have an effect on landscape values particularly the perception of parts of the area as tranquil and isolated.

Large-scale group: A large-scale group of turbines could be dominant and have an effect on landscape values particularly the perception of parts of the area as tranquil and isolated.

CAPACITY JUDGEMENT

The judgements on landscape sensitivity and landscape values indicate the Fen Margin landscape has a high capacity to accommodate a **single** or a **small-scale** turbine group. It is considered that this scale of development, providing it is appropriately sited and designed, would not have an adverse impact on overall landscape character or key landscape values. It is judged that some locations within the Fen Margins have moderate capacity to accommodate a **medium scale** group of turbines at the lower end of the scale (e.g. 13 – 15 turbines). There is low capacity to accommodate a large-scale group.

GUIDANCE

Single Turbine (1 turbine)

5.4. The landscape has a **high** capacity to accommodate a single turbine. The scale of the landscape, gentle topography and land cover patterns would allow a single turbine to fit well and it could also correspond to settlement patterns forming a landmark feature or focal point in relation to the edge of larger extended villages. The location of a single turbine should consider the following guidance:

- *Consider opportunities for a single turbine to provide a landmark 'gateway' feature or focal point in relation to the edge of larger villages such as Yaxley, Somersham, Ramsey and Sawtry. The aim should be to enhance the settlement edge and relationship with the surrounding landscape, and avoiding creation of visual clutter.*
- *Avoid impinging on the setting of the smaller historic villages such as Connington.*
- *Relate to the land cover pattern in particular the woodland edges and hedgerow field boundaries.*
- *Avoid introducing turbines and additional structures into rural areas, which are generally characterised by sense of tranquillity and isolation with limited access such as the area east of Sawtry.*
- *Relate to existing building clusters in the landscape for example the occasional large farm buildings or industrial areas. There may also be an opportunity for a single turbine development to relate to infrastructure associated with the main road routes (A1).*
- *Respect the sites and setting of valued landscape components including the woodlands and historic features.*
- *Consider strategic opportunities for the creation of Fen Edge woodland.*
- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

5.5. ***Cumulative Development:*** There is scope for the Fen Margins to accommodate a number of single turbines, however care will need to be taken in their location and relationship to each other. Single turbines within this landscape will act as a point of focus or landmark within long open views and set against dramatic skies. Views with more than one turbine development could dilute the

perceived landmark function and could create a confused viewing experience. The skyline ridge forming the backdrop to the Fens is also sensitive to more than one single turbine development.

Small Scale Group (2-12 turbines)

5.6. The landscape has a **high** capacity to accommodate a small-scale group. Although a more obvious and dominant feature in the landscape a small scale development could respond well to the landscape structure and pattern. However, there are a number of key sensitive elements that will need to be respected, notably the more intimately scaled landscape around Colne and ensuring the development is sited to avoid impacts on valued landscape components, in particular the relationship with the Fens, settlements and areas identified as having a tranquil and isolated character. Proposals for a small-scale group of turbines should consider the following guidance:

- *Avoid the more intimately scaled wooded/orchard landscape around Colne.*
- *Consider opportunities for a small-scale group of turbines to provide a landmark 'gateway' feature or focal point in relation to the edge of larger villages such as Yaxley, Somersham, Ramsey and Sawtry. The aim should be to enhance the settlement edge and relationship with the surrounding landscape, and avoiding creation of visual clutter. However, it is likely that a group of turbines at the upper end of a small-scale group (e.g. > 6 turbines) would be too dominant in relation to the scale of settlements in this area.*
- *Avoid impinging on the setting of the smaller historic villages such as Connington.*
- *Relate to the land cover pattern in particular the woodland edges and hedgerow field boundaries with consistent, repetitive spacing between turbines.*
- *Avoid introducing turbines and additional structures into the parts of the area, which are generally characterised by a sense of tranquillity and isolation with an absence of built structures and limited access, such as the area east of Sawtry. Note that pylons are not currently a visible feature within the area and could be a very dominant influence cutting across the sloping topography.*
- *Relate to existing building clusters in the landscape for example the occasional large farm buildings or industrial areas. There may also be an opportunity for a small-scale turbine group to relate to infrastructure associated with the main road routes (A1).*
- *Respect the sites and setting of valued landscape components including the woodlands and historic features.*

- *Consider a linear arrangement along contours as opposed to crossing contours.*
- *Consider the important visual relationship with the adjacent Fens landscape. The skyline view from the Fens is particularly sensitive and in these areas the lower end of a small-scale group would be more appropriate.*
- *Consider strategic opportunities for the creation of Fen Edge Woodland.*
- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

5.7. ***Cumulative Development:*** The landform and land cover pattern provides scope for more than one small-scale turbine group within this landscape. A small-scale turbine development within this landscape will act as a point of focus or landmark within long open views and set against dramatic skies. Views with more than one turbine development could dilute the perceived landmark function and could create a confused viewing experience. The skyline ridge forming the backdrop to the Fens is also sensitive to more than one turbine development. It is essential that there is consistency in form and siting of developments.

Medium Scale Turbine (13-25 turbines)

5.8. This landscape has a **moderate** capacity to accommodate a medium scale group. A medium scale group could relate to the landscape scale and gently sloping topography although would not fit well in relation to the skyline and views from the Fens where it is considered that such a group could appear over dominant in the landscape. It is suggested that the lower end of a medium scale group (e.g.13 – 17 turbines) would be more appropriate than a larger number of turbines. Locations for a medium scale group are constrained and the following guidance should be considered:

- *Where capacity is identified a turbine group at the lower end of the scale i.e. 13 – 17 turbines will be more appropriate.*
- *Avoid the more intimately scaled wooded/orchard landscape around Colne.*
- *Relate to the land cover pattern in particular the woodland edges and hedgerow field boundaries with consistent, repetitive spacing between turbines.*

- *Avoid introducing turbines and additional structures into the parts of the area, which are generally characterised by sense of tranquillity and isolation with an absence of built structures and limited access. Note that pylons are not a feature of this area and would be a very visible intrusion in views from the Fens.*

- *Ensure that the development does not conflict with settlements - a development of this size will be out of scale and over dominating in relation to the villages.*

- *Relate to existing development, for example the occasional large farm buildings or industrial areas.*

- *Respect the sites and setting of valued landscape components including the woodlands and historic features.*

- *Consider the visual relationship of a medium group of turbines with the adjacent Fens landscape.*

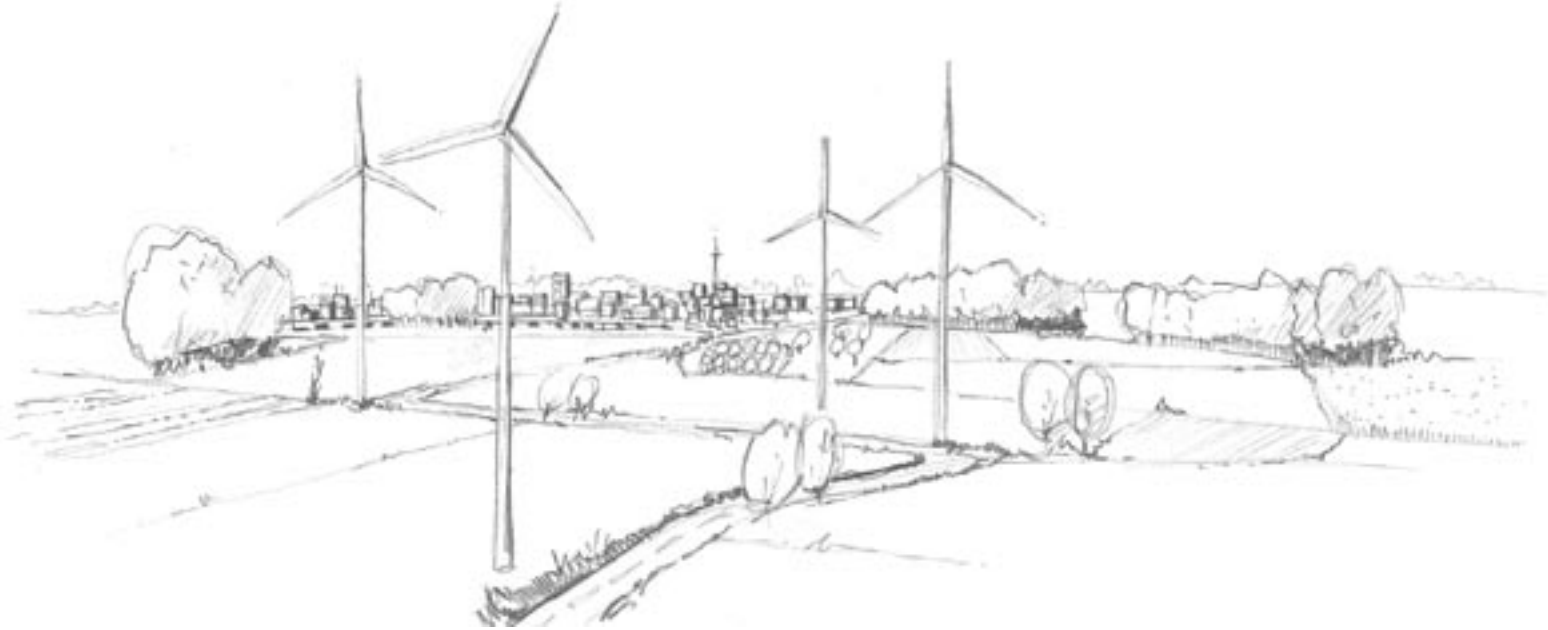
- *Avoid siting a development on the Fens ridgeline which form the backdrop skyline with the Fens.*

- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

5.9. ***Cumulative Development:*** Given the size of the area and importance of protecting the setting of settlements, the sensitive relationship with the Fens and conserving isolated tranquil areas it is unlikely that more than one medium scale developments could be introduced within this landscape character area. Capacity for cumulative development is therefore low.

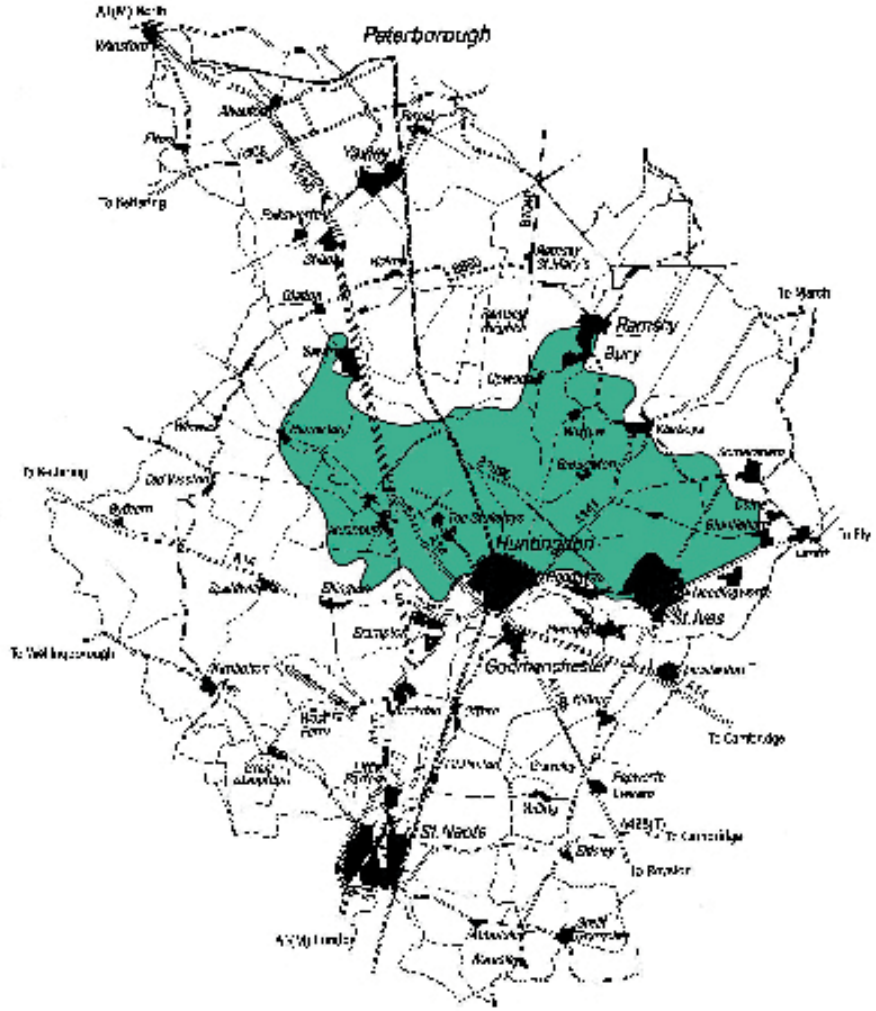
FEN MARGIN

Single turbines should be sensitively sited and should avoid conflicts with existing important views such to distinctive church towers.



Consider opportunities for the lower end of a small scale group (e.g. 2-3 turbines), to provide a landmark or gateway feature in relation to the edge of larger villages.

Central Claylands



Large scale field pattern. with few trees creating an open landscape.

Undulating farmland with isolated farms.

Large scale development includes airfields, transport corridors and urban extensions of Huntingdon and St Ives (airfield buildings visible on the skyline).

6. CENTRAL CLAYLANDS

LOCATION AND BOUNDARIES

6.1. The Central Claylands comprise a large character area in the centre of Huntingdonshire. The area consists of gently undulating farmland situated between the Fen Margin (to the north and east) and the Ouse Valley to the south. To the west lies the Northern Wolds landscape character area. The area has an essentially consistent character of open predominantly arable farmland. North-east of St. Ives (around Bluntisham) is a small area with a more intimate landscape of orchards and pasture. A further sub-area relates to the wooded ridge in the north-west part of the area.

Key Characteristics

- Gently undulating arable farmland.
- Large scale field pattern with few hedgerows or hedgerow trees, giving rise to a predominantly open landscape.
- Relatively large scale developments, including airfields at Alconbury and Wyton, the major transport corridor of the A1/A14 spur, and significant northern extensions to the towns of Huntingdon and St Ives.
- Extensive cover of ancient woodland in the north west.
- Regularly spaced traditional villages, often clustered around village greens.
- Numerous Medieval moats visible as earthworks in the landscape.

SENSITIVITY TO WIND TURBINE DEVELOPMENT

6.2. The following table considers the key characteristics of the character area under each of the seven attributes identified as being potentially sensitive to turbine development. The sensitivity of each characteristic of the landscape has been evaluated in relation to four different scales of turbine development – single, small, medium and large scale. Considering each characteristic independently results in a comprehensive, integrated assessment and provides a detailed understanding of the sensitivity of the landscape and the reasons why. Note that it is the *combination* of key characteristics that should be considered (i.e. each column) in forming a judgement about sensitivity to turbine development. The guidance contained in any single row of the table, should not be considered in isolation.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
Scale and Enclosure • The large field size and absence of trees and hedgerows creates an open and exposed landscape becoming visibly larger in scale towards the east where the landscape is flatter. • There is a greater sense of enclosure in the wooded north west part of the character area and in the east around Bluntisham.	**Low** A single turbine could be accommodated in this landscape owing to its large scale, open and exposed character.	**Low** A small-scale group of turbines could be accommodated in this landscape owing to its large scale, open and exposed character. Consideration should be given to the greater sensitivity of the more enclosed parts of the landscape to the north west and east.	**Low** A medium-scale group of turbines could be accommodated in this landscape owing to its large scale, open and exposed character. Consideration should be given to the greater sensitivity of the more enclosed parts of the landscape to the north west and east.	**Moderate** A large-scale group of turbines may be appropriate in some more open areas.
Landform and Topography • Gently undulating arable farmland (between 10-50AOD) becoming more undulating towards the west. • Topographically the plateau to the north west of Huntingdon is a strong landform feature.	**Low** A single turbine could be accommodated within the simple undulating landform.	**Low** A small-scale group of turbines could be accommodated within the simple undulating landform.	**Low** A medium scale group of turbines could be accommodated in relation to simple landform, notably the plateau area to the north west of Huntingdon.	**Moderate** A large-scale group of turbines could be out of scale with the landform and topography, although there maybe opportunities for siting in relation to the flatter plateau areas.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
Land Cover Pattern • The landscape is essentially made up of vast expanses of arable farmland divided by a large-scale field pattern, with sparse tree and hedgerow cover. • Extensive woodland cover in the north west including large blocks of ancient woodland plus conifer plantations creating a sub area with greater sense of structure, enclosure, and higher visual quality. • Shelterbelts of poplars characterise former orchard areas (to the east around Bluntisham).	**Low** A single turbine could be accommodated in relation to the simple land cover and large-scale field patterns.	**Low** A small-scale group of turbines could be accommodated in relation to the simple land cover and large-scale field patterns. Note presence of more sensitive 'wooded' areas to the north west and east.	**Low** A medium -scale group of turbines could be accommodated in relation to the simple land cover and large-scale field patterns. Note presence of more sensitive 'wooded' areas to the north west and east.	**Moderate** A large-scale group of turbines could be accommodated in relation to the flat arable plateau.
Settlement Pattern and Density • Regularly spaced traditional nucleated villages often formed around a village green, with many of the villages ancient in origin. • Extensive modern houses and industrial buildings associated with the RAF bases at Alconbury and Wyton. • Includes the suburban extensions of larger towns such as Huntingdon and St. Ives which have grown out from the adjacent Ouse Valley.	**Low** A single turbine could be accommodated in locations away from the historic villages. A single turbine would also relate well to modern/industrial buildings or the extended edges of larger towns taking on a functional role.	**Low** A small group of turbines could be accommodated in locations away from the historic villages. A small turbine group could also relate well to modern/industrial buildings or the extended edges of larger towns taking on a functional role.	**Moderate** Although the extensive arable land between settlements may be able to accommodate a medium scale group of turbines it is possible that at this scale the turbines may begin to dominate the landscape between settlements.	**High** Although the extensive arable land between settlements may be able to accommodate a medium scale group of turbines it is likely that at this scale the turbines may dominate the landscape between settlements.
Landmarks and Visible Built Structures • Major communication routes cross the area (A1, A14 and A141) with immediate landscape dominated by large-scale developments including large industrial units, extensive housing areas and infrastructure associated with the roads. • Large farm buildings in the east of the area are also a feature. Plus occasional views to landmark	**Low** A single turbine would be in keeping with existing large scale infrastructure, particularly along communication routes.	**Low** A small-scale group of turbines would be in keeping with existing large scale infrastructure, particularly along communication routes.	**Low** The lower end of a medium scale group of turbines could be in keeping with existing large scale infrastructure, particularly along	**Moderate** A large-scale group could be over dominant in relation to the existing structures in the landscape.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
church spires.			communication routes.	
Skyline • Some extensive distant views relating to the flat plateau topography and absence of screening features. • Woodland provides a backdrop to views in the north west.	**Low** A single turbine could be accommodated and could form a landmark feature in relation to the open, distant skyline.	**Low** A small-scale group of turbines could be accommodated and would not compromise the open, distant skyline.	**Moderate** A medium scale group of turbines could be accommodated, although would obviously locally detract from open distant views. Consideration would also need to be given to the impact such a group might have on views to and from the Fens.	**Moderate** A large-scale group of turbines would be very dominant in the open landscape. However, a moderate rating is given as the skyline is not a critical feature of this character area.
Visual Connections with Adjacent Landscapes • Extensive views from the north and eastern out across Wood Walton Fen and beyond (The Fens and Fen Margins). The area in turns forms a strong skyline in views from the Fens. • To the west the elevated land of the Northern Wolds creates an 'upland' horizon.	**Low** A single turbine could be accommodated without disrupting the extensive views from the north and east towards the Fens.	**Low** A small-scale group of turbines could be accommodated without disrupting the extensive views from the north and east towards the Fens.	**Moderate** To the north, a moderate scale group of turbines could be very dominant in relation to skyline views from the Fens.	**Moderate** To the north, a moderate scale group of turbines could be very dominant in relation to skyline views from the Fens.
Landscape Sensitivity Overview: An assessment of the seven attributes likely to be sensitive to turbine development indicate that the Central Claylands landscape generally has a low sensitivity to a single turbine, small scale turbines group and medium scale turbine group, i.e. these developments could be accommodated without an adverse effect on overall landscape character. The landscape has a high sensitivity to large-scale developments and it is therefore recommended that this scale of development would not be appropriate within the Central Claylands.				

CONSIDERING LANDSCAPE VALUES

6.3. In addition, to considerations of sensitivity is the need for an understanding of special landscape values. The following section considers landscape values under four main headings. The information has been drawn from the landscape character assessment, including the human responses to the landscape. It incorporates stakeholder perceptions, from the August 2001 workshop.

Landscape Values

Character and Condition

- The distinctiveness and sense of place of the Central Claylands is partly achieved by the regular distribution of historic villages and other features such as airfields.
- The area contains numerous examples of the vulnerabilities of the landscape to development pressure and changes in farming practice.

Human Response

- Around the main roads and settlements the landscape feels restless, noisy and lacking in distinctive local character.
- Nature reserves such as Monks Wood are highly valued by local stakeholders.

Remoteness and Tranquillity

- Away from the main roads and settlements, the landscape is tranquil and there is a sense of remoteness within much of the open arable land.
- The tranquillity is greatest in the north west wooded area, where the large blocks of woodland give the landscape a strong sense of enclosure, and provide an attractive feature and backdrop to views.
- Within the wooded areas there is a strong sense of peace, isolation and secrecy.

Other Values

Cultural: Long history of settlement including Woodhurst – a fine example of a 'Ring Village' with street plan unchanged since its establishment 1,300 years ago. Many villages are Conservation Areas. Distribution of Scheduled Ancient Monuments – numerous medieval moats visible as earthworks in the landscape.

Natural: Extensive cover of ancient woodland in the north west – with concentration of nature reserves, SSSI and County Wildlife sites.

Landscape Value Overview

Single Turbine: A single turbine could be accommodated providing it does not impinge on the site or setting of any valued landscape components, in particular historic features and the intact villages. Turbine development should also respect areas of ancient woodland and areas with potential for woodland re-creation. A single turbine would not affect the tranquil and isolated character of parts of the landscape. Overall, it is considered that a single turbine development would not have an adverse effect on landscape values.

Small-scale group: A small-scale group of turbines could be accommodated with the Central Claylands landscape providing it does not impinge on the site or setting of any valued landscape components, in particular historic features and the intact villages. Turbine development should also respect areas of ancient woodland and areas with potential for woodland re-creation. A small scale turbine group would not affect the tranquil and remote character of parts of the landscape. Overall, it is considered that such a development would not have an adverse effect on landscape values.

Medium scale group: A medium-scale group of turbines could be accommodated with the Central Claylands landscape providing it does not impinge on the site or setting of any valued landscape components, in particular historic features and the intact villages. A medium-scale turbine group could start to impinge on values of remoteness and tranquillity associated with parts of the landscape.

Large scale group: A large scale group of turbines could have an adverse effect on landscape values particularly the perception of parts of the area as remote tranquil.

CAPACITY JUDGEMENT

The judgements on landscape sensitivity and landscape values indicate that overall there is a high capacity for single turbine development and a small-scale turbine group within the Central Claylands landscape. There is moderate capacity for a medium scale turbine development, with particular attention required to criteria for siting and design. It is judged that there is low capacity for a large scale turbine scheme and further guidance is therefore not provided for this scale of development.

GUIDANCE

Single Turbine (1 turbine)

6.4. The landscape of the Central Claylands has a **high** capacity to accommodate a single turbine. The large scale, open landform and simple arable dominated land cover pattern form would allow a single turbine to fit well forming a landmark feature or focal point. There is also scope for a single turbine to relate to existing built structures and development. In considering the location of a single turbine the following guidance should be taken into account:

- *Consider the greater sensitivities of the more enclosed wooded landscape to the north west and the intimate orchard dominated landscape to the east around Bluntisham.*
- *Avoid rural areas where there are already a large number of vertical elements (e.g. pylons and communication structures) to ensure that the development does not result in visual confusion and clutter and respect existing landmark features such as views to church spires.*
- *Relate to existing building clusters in the landscape for example utility buildings or industrial areas or buildings associated with disused airfields. There may also be an opportunity for a single turbine to relate to infrastructure associated with the main road routes (A1, A14, A141).*
- *Consider opportunities for siting in relation to extended urban areas on the edge of the larger settlement such as those at St Ives and Huntingdon. In this way a single turbine could take on a functional role as well as providing a new landmark or gateway on the urban edge (see guidance in relation to urban extensions in this report).*
- *Relate to the landform with turbines sited on the extensive open plateau areas (where this does not conflict with other e.g. active airfield use)*
- *Respect the sites and settings of key valued landscape features, particularly areas currently open, but where there are identified opportunities for woodland creation to link existing ancient woodland sites in the north west part of the character area.*
- *Respect the scale and setting of the intact historic villages and historic landscape features such as the Medieval moats.*
- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

6.5. ***Cumulative Development:*** There is scope for the Central Claylands to accommodate a number of single turbines, however care will need to be taken in their location and relationship to each other. Single turbines within this landscape will act as a point of focus or landmark. Views of more than one turbine development could dilute the perceived landmark function of a turbine and create a potentially confusing viewing experience. An exception is the location of turbines along communications corridors where it may be acceptable to have a regular spacing of single turbines relating to existing large scale infrastructure.

Small Scale Group (2 – 12 turbines)

6.6. The Central Claylands landscape has a **high** capacity to accommodate a small-scale group. Although a more obvious and dominant feature in the landscape a small scale development could respond well to the landscape structure and pattern. Providing it was appropriately sited, such a development would not have an adverse impact on key landscape values. The guidance relating to the siting and design of a small scale group of turbines is essentially the same as that for a single turbine.

- *Consider the greater sensitivities of the more enclosed wooded landscape to the north west and the intimate orchard dominated landscape to the east around Bluntisham.*
- *Avoid rural areas where there are already a large number of vertical elements (e.g. pylons and communication structures) to ensure that the development does not result in visual confusion and clutter and respect existing landmark features such as views to church spires.*
- *Relate to existing building clusters in the landscape for example utility buildings or industrial areas or buildings associated with disused airfields. There may also be an opportunity for a single turbine to relate to infrastructure associated with the main road routes (A1, A14, A141).*
- *Consider opportunities for siting in relation extended urban areas on the edge of the larger settlement such as those at St Ives and Huntingdon. In this way a single turbine could take on a functional role as well as providing a new landmark or gateway on the urban edge (see guidance in relation to urban extensions in this report).*
- *Relate to the land cover pattern in particular the large-scale field pattern. With turbines sited in a simple linear or grid arrangement with consistent and repetitive spacing between individual turbines.*
- *Relate to the landform with turbines sited on the extensive open plateau areas (where this does not conflict with other e.g. active airfield use)*
- *Respect the sites and settings of key valued landscape features, particularly areas currently open, but where there are identified opportunities for woodland creation to link existing ancient woodland sites in the north west part of the character area.*
- *Respect the scale and setting of the intact historic villages and historic landscape features such as the Medieval moats.*
- *Avoid introducing additional built structures into rural areas, which are generally characterised by the absence of buildings. Additional structures would be better accommodated in relation to existing farm/utility buildings.*

- *Consider impacts on views in relation to the lower lying Fens and Fen Margins.*
- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

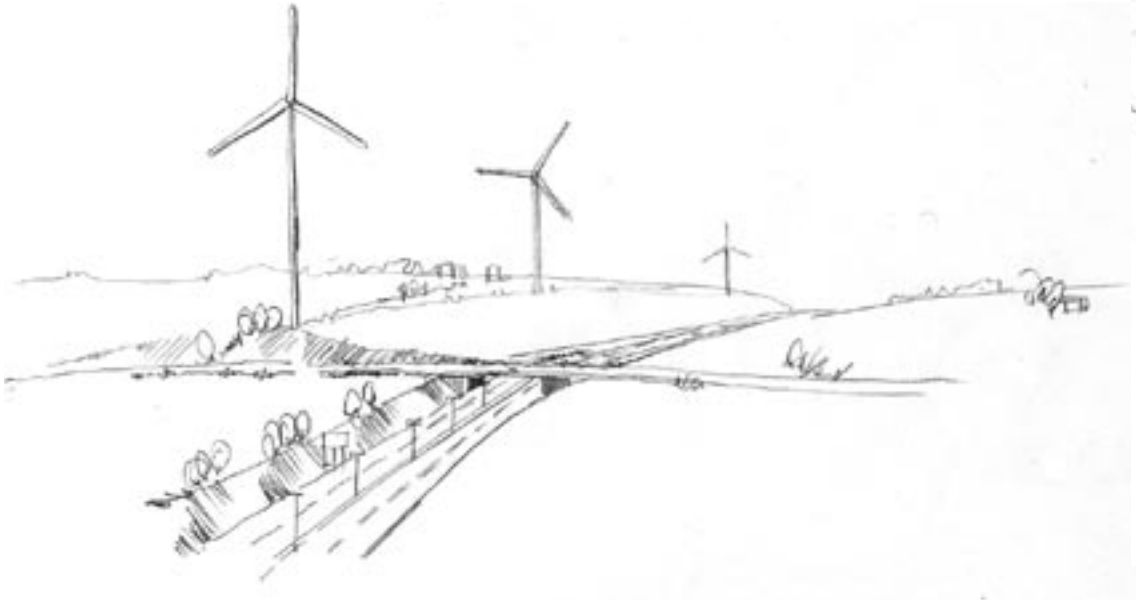
6.7. ***Cumulative Development:*** The landform and land cover pattern provides scope for more than one small-scale turbine group within this landscape. It is essential that there is consistency in form and siting of developments respecting the consistent character of the landscape. In this landscape some long-range views are often possible and views of more than one type of turbine development could create a potentially confusing viewing experience. Decisions will need to be made on a case-by-case basis.

Medium Scale group (13 – 25 turbines)

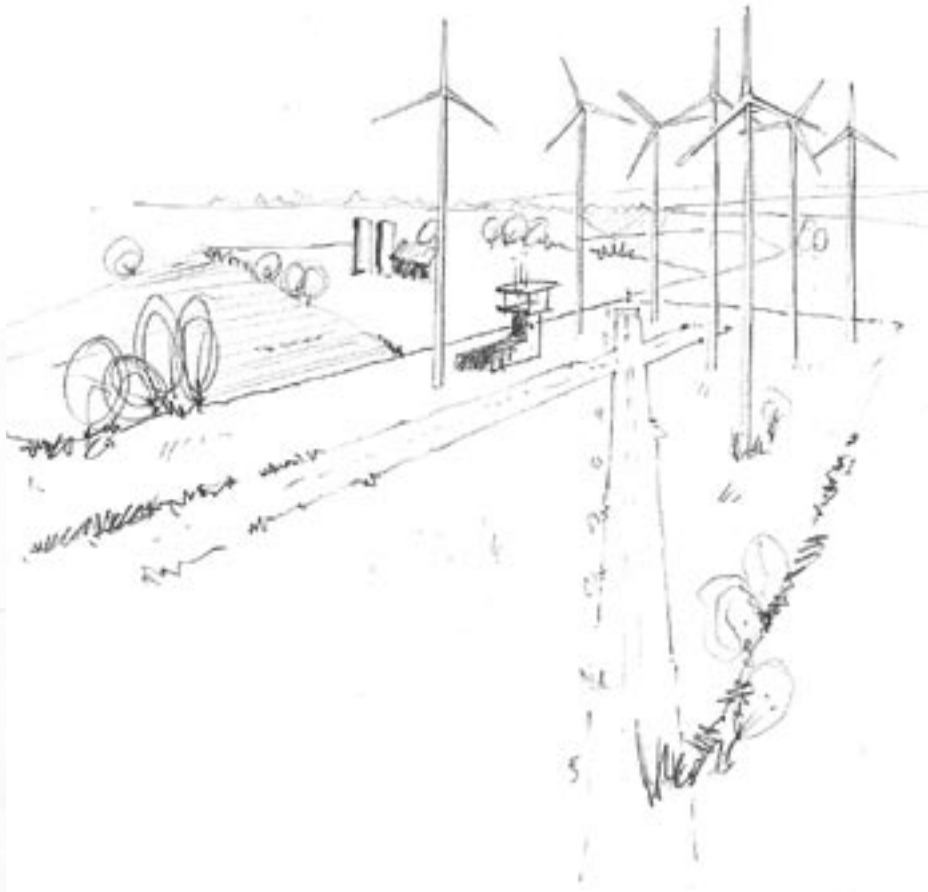
6.8. The landscape has a **moderate** capacity to accommodate a medium scale group of turbines. Although a more obvious and dominant feature in the landscape a medium scale development could respond well to the landscape structure and pattern if efficiently arranged and could relate particularly well the more open, level plateau areas. The guidance set out for a small scale turbine group applies, however in the case of urban extensions it is considered that >12 turbines will usually be too dominant in relation to the size of the market towns. In relation to cumulative development, the Central Claylands may have capacity to accommodate more than one development of this scale although locations will be relatively constrained particularly in relation to settlement and impact on long views where the open exposed character could results in intervisibility between developments.

CENTRAL CLAYLANDS

A single turbine could relate to existing buildings e.g. large scale farm buildings/industrial structures in the landscape.

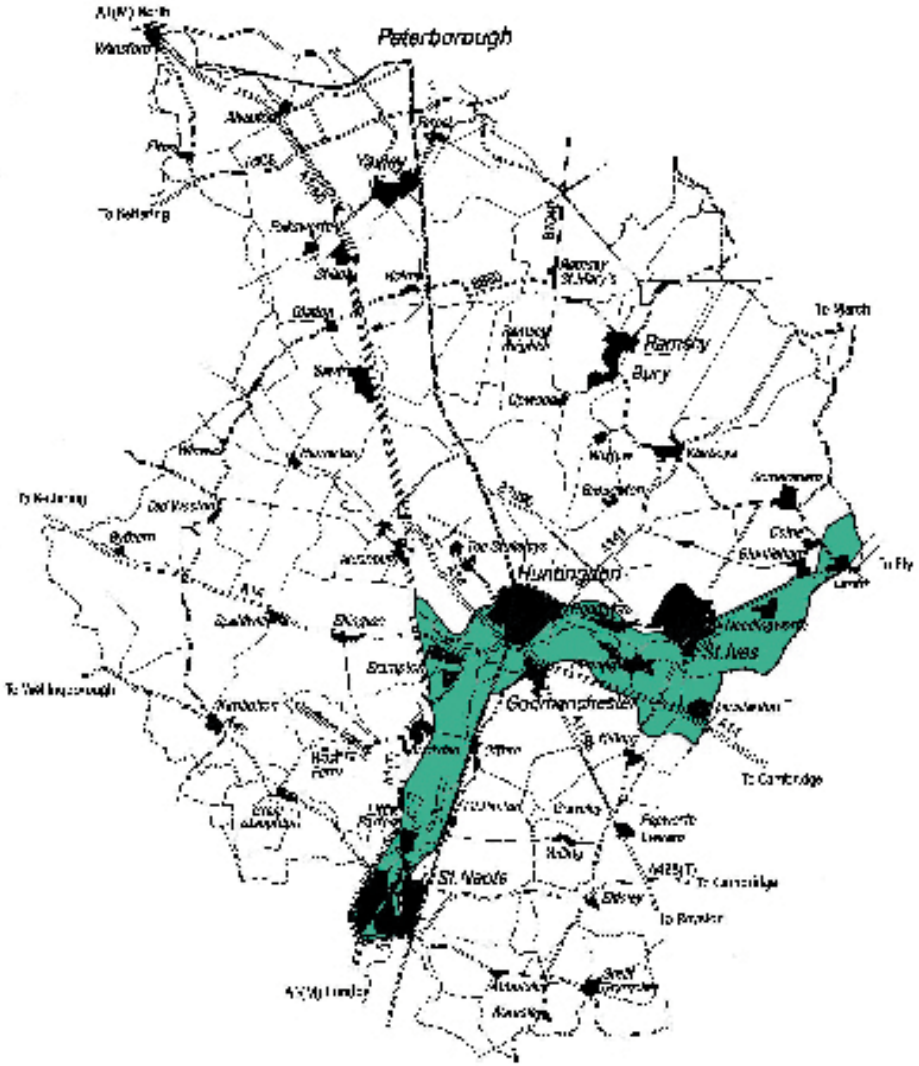


A small scale group could be related to infrastructure associated with the main road routes



A medium scale group of turbines could provide a positive new use on disused airfield sites.

Ouse Valley



A pattern of land uses united by the river and underlying topography.

Large villages with an attractive mix of building styles relate strongly to the river.

River Ouse and surrounding landscape of significant recreational and ecological value.

7. OUSE VALLEY

LOCATION AND BOUNDARIES

7.1. The broad, shallow valley of the River Great Ouse cuts a swathe through Huntingdonshire, flowing roughly south-north between St Neots and Huntingdon, then west-east from Huntingdon to the district boundary. Only the river and its valley bottom are included within the Ouse Valley Landscape character area as they together form a distinct entity.

Key Characteristics

- A mosaic of land uses, united by their topography and relationship to the river.
- The constant feature in the landscape is the River Great Ouse. Its meandering channel is approximately 10m wide, although it sometimes splits into smaller channels.
- Several significant towns and large villages contain attractive buildings and have a strong relationship with the river.
- Urbanising influences occur at road crossings and where the valley passes through towns. Otherwise, the valley floor feels tranquil and isolated.
- Wetlands, water meadows and unimproved grassland are of high ecological value.
- Willow and poplar trees flourish in the valley, and increase its sense of identity and enclosure.
- Existing gravel workings, and former workings which have been flooded to create significant areas of open water.
- Traditional structures of bridges and mill/industrial buildings are characteristic man-made elements.
- Many recreational activities, including the Ouse Valley Way, boating, fishing and camping.

SENSITIVITY TO WIND TURBINE DEVELOPMENT

7.2. The following table considers the key characteristics of the character area under each of the seven attributes identified as being potentially sensitive to turbine development. The sensitivity of each characteristic of the landscape has been evaluated in relation to four different scales of turbine development – single, small, medium and large scale. Considering each characteristic independently results in a comprehensive, integrated assessment and provides a detailed understanding of the sensitivity of the landscape and the

reasons why. Note that it is the *combination* of key characteristics that should be considered (i.e. each column) in forming a judgement about sensitivity to turbine development. The guidance contained in any single row of the table, should not be considered in isolation.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
Scale and Enclosure • Both open and intimate relating to the flat topography of the valley floor, the presence of water and the extensive tree cover.	**Low** A single turbine could be located in the more open parts of this landscape	**Moderate** The lower end of a small-scale group (2–3 turbines) could be located in the more open parts of this landscape.	**High** A medium scale group would be out of scale with the intimate qualities of the landscape	**High** A medium scale group would be out of scale with the intimate qualities of the landscape
Landform and Topography • Broad shallow valley - only the river and the flat valley floor are included in the character area.	**Low** The flat topography is suitable for location of a single turbine	**Low** The flat topography suitable for location of a small scale group of turbines	**Moderate** In theory, the flat topography may be appropriate for a medium scale group although there is limited land area to accommodate this scale of development.	**Moderate** In theory, the flat topography may be appropriate for a large scale group – although there is limited land area to accommodate this scale of development
Land Cover Pattern • The River Ouse is a constant feature in the landscape, approximately 10m wide it sometimes splits into smaller channels. • A mosaic of land uses and landscape types (grazed valley pasture, water meadow, arable farmland, urban park, industry, active gravel workings and flooded gravel pits and marinas) united by their topography and relation to the river. • Willow and poplar trees flourish, increasing its sense of identity and enclosure. • Distinctive vegetation, with wetland species, reeds, rushes and sedges in drainage channels, river banks	**Low** A single turbine could take on a functional role, linked to industrial or recreational areas such as the gravel workings or marinas. The areas of traditional grazed pasture and water meadow are highly sensitive to change.	**Moderate** The lower end of a small-scale group (2-3 turbines) could take on a functional role, linked to gravel workings/ marinas. However areas of traditional grazed pasture and water meadow are highly sensitive to change.	**High** A medium scale group would not relate well to the land cover mosaic that characterises the valley.	**High** A large scale group would not relate well to the land cover mosaic that characterises the valley.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
and lake edges. Water meadows are floristically rich.				
Settlement Pattern and Density • Settlements occur throughout the Ouse Valley ranging in size from small villages to the historic cores of market towns. The towns and large villages contain attractive buildings and have a strong association with the river. • Modern developments include marinas, industrial estates and residential areas. Residential areas have extended beyond the valley into adjacent character areas (as at Huntingdon, St. Ives, Godmanchester, St. Neots). • The A14 and A1 are locally dominant features.	**Low** A single turbine could be linked to modern development on the edges of existing larger settlements/market towns (although note that edges are often away from the valley in adjacent character areas). A small turbine could provide a functional role and visual link. There is also scope to site a single turbine away from settlements.	**Moderate** A small group of turbines could take on a functional role, visually linked to modern residential development. However, note that the edges of settlements generally extend beyond the valley setting.	**High** A medium scale group would be too dominant in relation to the settlement of the Ouse Valley.	**High** A large scale group would be too dominant in relation to the settlement of the Ouse Valley.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
Landmarks and Visible Built Structures • Existing gravel workings and former workings have been flooded to create significant areas of open water. • Traditional structures of bridges and mill/industrial buildings are characteristic built elements.	**Low** Care should be taken over siting turbines in relation to traditional structures.	**Moderate** Care should be taken over siting turbines in relation to traditional structures.	**High** A medium scale group could be too dominant in relation to the existing structures.	**High** A large scale group could be too dominant in relation to the existing structures.
Skyline • The valley landscape does not form a skyline.	N/A	N/A	N/A	N/A
Visual Connections with Adjacent Landscapes • Views from adjacent landscapes (South East Claylands, Southern Wolds and Central Claylands into the Ouse Valley).	**Low** Location of a single turbine would not affect the visual relationship with adjacent landscapes.	**Moderate** The lower end of the small-scale group would not affect the visual relationship with adjacent landscape.	**High** A medium scale group could be very dominant in the context of views into the valley landscape.	**High** A large scale group would be very dominant in the context of views into the valley landscape.
Landscape Sensitivity Overview: An assessment of the seven attributes likely to be sensitive to turbine development indicate that the Ouse Valley has a low sensitivity to a single turbine development. It has a moderate sensitivity to the lower end of a small-scale turbines group. The landscape has a high sensitivity to medium and large-scale developments.				

CONSIDERING LANDSCAPE VALUES

7.3. In addition, to considerations of sensitivity is the need for an understanding of special landscape values. The following section considers landscape values under four main headings. The information has been drawn from the landscape character assessment, including the human responses to the landscape. It incorporates stakeholder perceptions identified at the Huntingdonshire Landscape Character Assessment Workshop, 2001.

Landscape Values

Character and Condition

- The Ouse Valley is generally a landscape of high visual quality.

- A landscape of high quality and distinctive character.

Human Response

- The mosaic of land uses (pasture, arable, parkland, gravel workings, marinas etc) each evokes a different atmosphere.
- A landscape which is both open and intimate.
- Much of the area outside the towns feels exceptionally quiet and peaceful, and the quality of vernacular architecture adds to its air of prosperous tranquillity.
- Ouse Valley most frequently mentioned by local stakeholders as being valued for the combination of water, watermeadows, birdlife and distinctive buildings.
- Workshop participants consider the Ouse Valley has an important role in providing an 'escape' for people living in adjacent towns and is valued for its tranquillity and scenic quality.

Remoteness and Tranquillity

- On the whole the area feels tranquil and relatively isolated because of the screening effect of vegetation and calming quality of the slow-flowing water.

Other Values

Cultural: High quality vernacular architecture associated with the historic market towns and villages that have strong associations with the river. Many Conservation Areas. Historic land uses continue e.g. summer grazing pastures. Historic environment of the Ouse Valley highly valued by local stakeholders.

Natural: Distinctive wetland species. Rich biodiversity of traditional water meadows. High nature conservation interest associated with extensive areas of open water and reed beds (restored gravel workings). Large number of SSSI and County Wildlife sites throughout the valley floor.

Recreational: The Ouse Valley is highly valued for its recreational opportunities, including the Ouse Valley long distance way. The lakes and watercourses offer opportunities for boating, fishing and watching wildlife. There are several camping and caravan sites.

Landscape Value Overview

Single Turbine: Overall, it is considered that a single turbine development would not have an adverse effect on landscape values, provided it respects the site and setting of valued components, and its important function as a tranquil rural 'escape' for the towns and villages along the Ouse Valley. The importance of the valley for nature conservation and the large number of designated sites will be a key consideration in determining appropriate locations for a single turbine.

Small scale group: Overall, it is considered that the lower end of a small-scale turbine development would not have an adverse effect on landscape values,

provided it respects the site and setting of valued components, and its important function as a tranquil rural 'escape' for the towns and villages along the Ouse Valley. The importance of the valley for nature conservation and the large number of designated sites will be a key consideration in determining appropriate locations turbine development.

Medium scale group: It is considered that a medium scale group of turbines would be too dominant and have an effect on landscape values particularly the perception of parts of the area as tranquil and isolated, nature conservation interests and recreational value.

Large-scale group: It is considered that a medium scale group of turbines would be too dominant and have an effect on landscape values particularly the perception of parts of the area as tranquil and isolated, nature conservation interests and recreational value.

CAPACITY JUDGEMENT

The judgements on landscape sensitivity and landscape values indicate that within the Ouse Valley there is **high** capacity to accommodate a **single** turbine providing it can be located to avoid impacts on the highly valued nature conservation interest of the valley. There is **moderate** capacity for a **small-scale group** (lower end: 2 – 3 turbines), again providing it can be located with respect to valued elements particular the nature conservation interests and sense of tranquillity and relative isolation.

GUIDANCE

Single Turbine (1 turbine)

7.4. The landscape has a **high** capacity to accommodate a single turbine. A single turbine would fit well in relation to the more open areas of the flat valley floor and in conjunction with existing built features, for example relation to amenity/recreational use or communication corridors. Locations for a single turbine are relatively constrained, particularly with regard to potential effects on nature conservation values. The following guidance should be considered.

- *Respect the nature conservation interests associated with the wetlands along the valley floor.*
- *Retain the sense of tranquillity and relative isolation.*
- *Maintain the recreational value of the Ouse Valley landscape.*
- *Avoid areas which retain a distinctive valley landscape such as the summer grazing meadows. It is likely that only the more open arable or amenity areas will provide appropriate locations.*

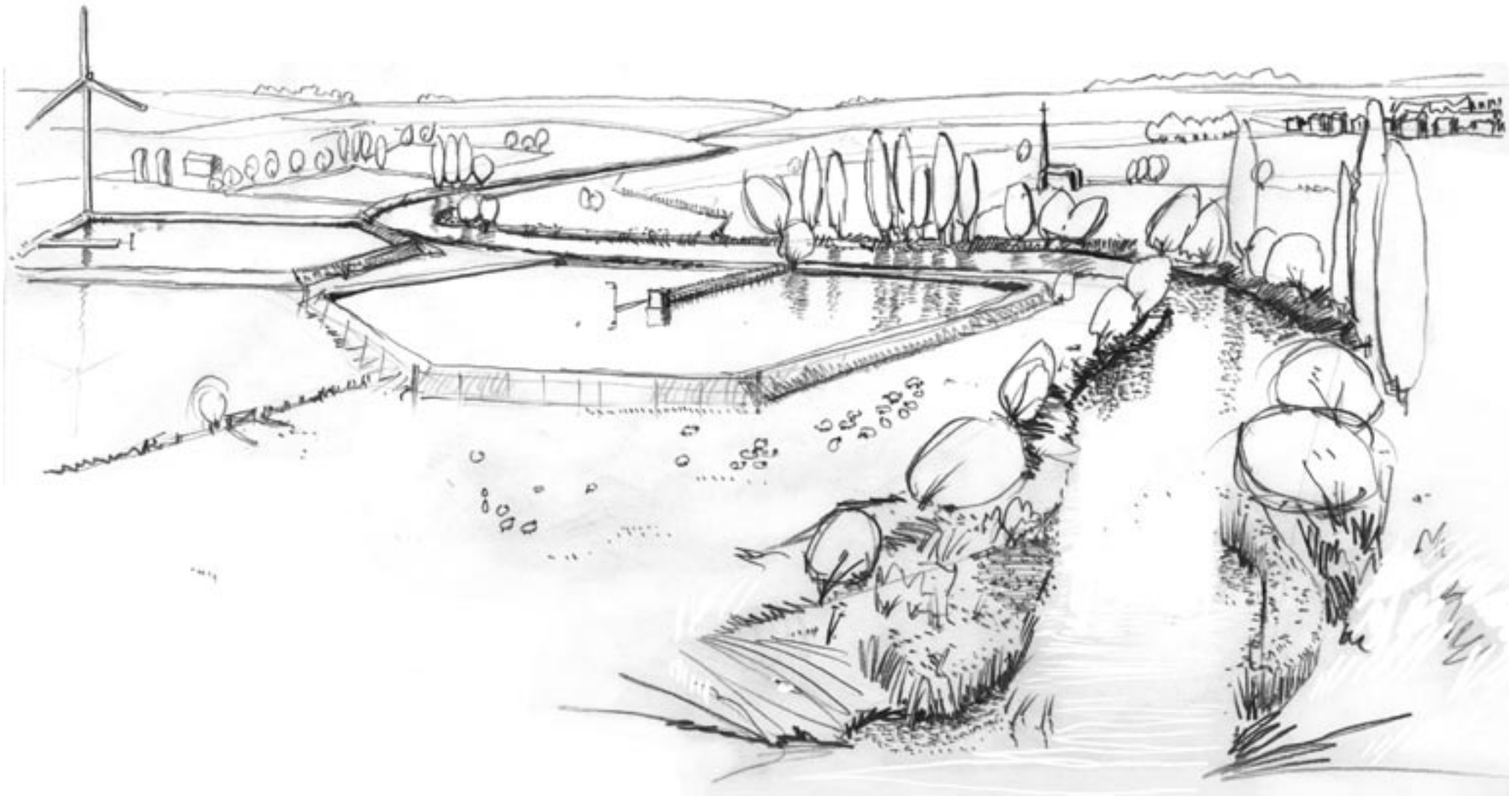
- *Consider opportunities for locating a turbine in association with existing infrastructure such as the railway or main roads (A1 and A14). There may be an opportunity for small turbine development in relation to existing recreational infrastructure such as a visitor centres or marina.*
- *Respect the setting of the small historic villages of the Ouse Valley e.g. Needingworth, the Hemingfords, Holywell.*
- *Consider opportunities to achieve landscape management objectives identified in the Huntingdonshire Landscape Character Assessment*
- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

Small Scale Group of Turbines (2 – 12 turbines)

7.5. The landscape has a **moderate** capacity to accommodate a small scale group of turbines. However, this capacity only relates to the lower end of the group i.e. 2 – 3 turbines. The guidance set out for a single turbine applies.

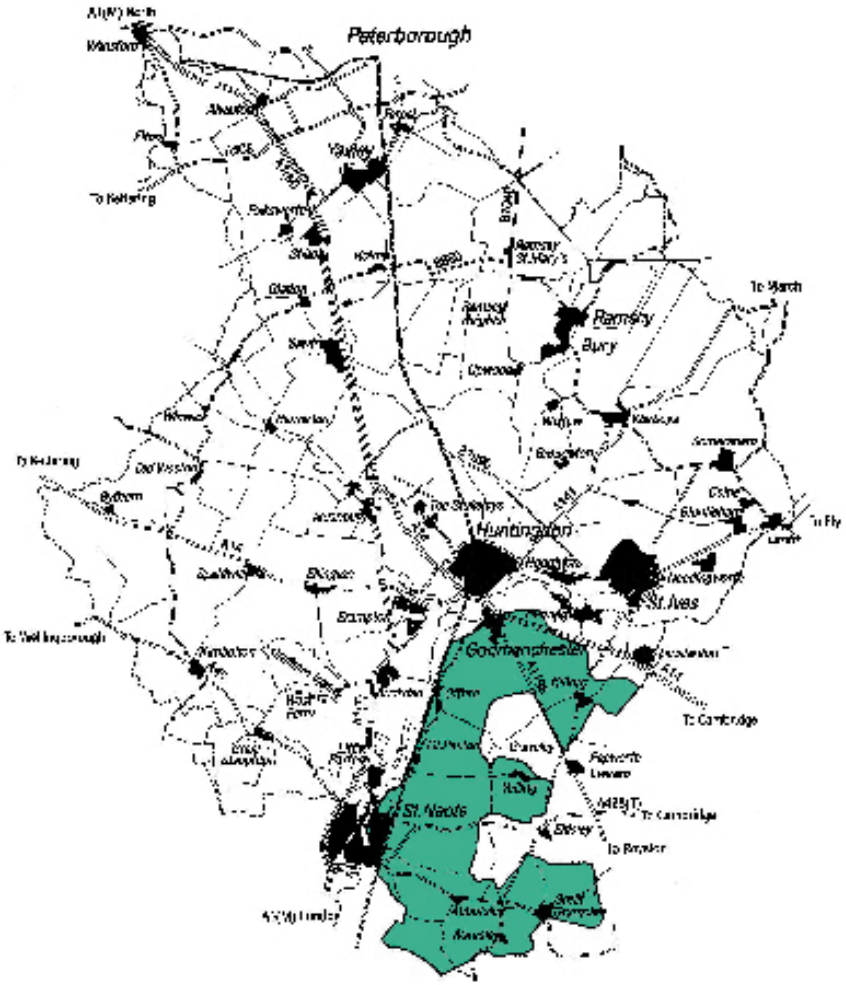
- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

OUSE VALLEY



A single turbine could be accommodated in relation to existing functional/amenity structures. The highly valued characteristics of the Ouse Valley must be conserved.

South East Claylands



Varied landscape in terms of landform but predominantly arable in use.

Vernacular Cottages in Great Gransden Village.

In the central and northern parts of this area agri-cultural change, including field boundary removal has increased the scale of the landscape and giving medium to long views.

8. SOUTH EAST CLAYLANDS

LOCATION AND BOUNDARIES

8.1. The South Eastern Claylands Landscape character area is situated in the south eastern corner of Huntingdonshire. It stretches from the district boundary in the east and south, to the Ouse valley in the north and west. The landscape is essentially a gently undulating open, arable landscape. To the south, around Great Grandsden – Waresley the landform is more undulating, with greater tree cover in the form of hedgerows, hedgerow trees, woodland blocks and belts.

Key Characteristics

- Subtle variations in topography, including valley sides, gently undulating landform and plateaux.
- Tall hedgerows with frequent hedgerow trees are a distinctive feature in the central part of the area. Woodland cover increases towards the south.
- Sparsely settled with few villages.
- Village forms may be nucleated around village greens or linear. Buildings reflect the traditional vernacular.
- Evidence of its past Medieval settlement includes green lanes, moated sites and deserted villages, indicating that the landscape was once more densely populated.
- Heavy clay soils support cereal crops and arable production.

SENSITIVITY TO WIND TURBINE DEVELOPMENT

8.2. The following table considers the key characteristics of the character area under each of the seven attributes identified as being potentially sensitive to turbine development. The sensitivity of each characteristic of the landscape has been evaluated in relation to four different scales of turbine development – single, small, medium and large scale. Considering each characteristic independently results in a comprehensive, integrated assessment and provides a detailed understanding of the sensitivity of the landscape and the reasons why. Note that it is the *combination* of key characteristics that should be considered (i.e. each column) in forming a judgement about sensitivity to turbine development. The guidance contained in any single row of the table, should not be considered in isolation.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
Scale and Enclosure • The landscape becomes more enclosed in the south of the area where landform is more undulating and tree cover much greater. • A predominantly open and spacious landscape with large fields. Over much of the central and northern parts of the area, agricultural change including field boundary loss/ removal has increased the scale of this landscape - giving medium to long views.	**Low** A single turbine would not appear out of scale in this open landscape. However note difference in scale and enclosure to the south.	**Low** A small scale group of turbines would not appear out of scale or dominate this open landscape. However note difference in scale and enclosure to the south	**Moderate** A medium scale group of turbines could begin to enclose and dominate this scale of landscape.	**High** A large group of turbines could enclose and dominate this landscape.
Landform and Topography • Generally, an open simple landscape with subtle variations of topography in this area created by water erosion. In the north and west the River Great Ouse has eroded a wide, shallow valley. In the central part of the area, where smaller tributary streams flow from the high land towards the Great Ouse, the land is gently undulating with gentle slopes between valleys and plateaux. The southern part of the character area is more undulating.	**Low** A single turbine could be accommodated within the simple gently undulating landform.	**Low** A small group of turbines could be arranged to sit comfortably on the gently undulating landform.	**Moderate** A medium scale development of turbines could sit awkwardly in relation to the subtle variations in topography, particularly to the south where the land is more undulating.	**High** A simple, ordered image would not be formed. Discrepancy in height of turbines would occur owing to the subtle changes in landform.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
Land Cover Pattern • A large rectilinear field pattern with variable field boundaries - some completely open, some with closely trimmed hedges, some with tall hedgerows and frequent hedgerow trees. The heavy clay soils support cereal crops and arable production. • Woodland cover increases and becomes much more dominant towards the south of the area. The shallow, even gradients of the Ouse Valley sides are the least wooded part of this area, although there are some plantations of non-native conifers. • Many verges are wide and contain a variety of wild flowers and grasses. Ditches run alongside roads in places.	**Low** A single turbine could form a junction between fields and complement the linear nature of field boundaries and vertical structure of wooded areas.	**Low** A small group of turbines turbine could form a junction between fields and could be arranged to complement the linear nature of field boundaries and vertical structure of wooded areas.	**Moderate** A medium scale group of turbines could relate to the regularity of the field pattern. However in the wooded south of this character area this scale of development would not be appropriate.	**Moderate** The large, open field pattern could accommodate a large-scale group of turbines. However in the wooded south of this character area this scale of group would not be appropriate.
Settlement Pattern and Density • Relatively sparsely settled with few small – medium sized villages. Most villages contain Conservation Areas and are nucleated around greens or linear in form. • Parts of larger settlements such as St Neots and Godmanchester are also contained within this area. The expansion of these settlements from the Ouse up the valley sides is predominantly in the form of post-war housing and industrial estates. • Farm buildings generally within settlements	**Low** A single turbine would be out of scale with the size and traditional character of villages. However because the landscape is sparsely settled it would be possible to site turbines at sufficient distance from villages, without impinging on them. A single turbine could also take on a functional role if linked with the urban expansion on the edge of larger	**Low** A small scale group would appear dominant in relation to the scale of settlements. However there is sufficient space to locate development away from villages. A small group of turbines could also be linked to the urban edge of the larger settlement associated with the Ouse Valley.	**Moderate** A medium scale development is likely to appear out of place in relation to the scale of settlements.	**High** A large scale development is likely to dominate and overwhelm the scale of existing settlement and development within the character area.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
	settlements such as St Neots or Godmanchester.			
Landmarks and Visible Built Structures • Evidence of past medieval settlement includes green lanes, moated sites and deserted villages. • Vertical structures occur frequently with a large number of pylons and communication masts. • Church towers and spires form landmarks in views.	**Low** A single turbine could be placed with sensitivity to existing landmarks and vertical structures.	**Low** A small group of turbines could be accommodated if placed with sensitivity to existing landmarks and vertical structures.	**Moderate** The area already has a large number of existing vertical structures and location of a medium group of turbines could create visual clutter and confusion. Sensitive siting will be critical.	**High** The area already has a large number of existing vertical structures and location of a large group of turbines would create visual clutter and confusion.
Skyline • Generally medium to long range views with open horizons with trees, occasional farm buildings and church spires forming prominent features (plus now presence of pylons). • The south of the area has a more wooded horizon	**Low** A single turbine would not adversely interrupt the simple skyline.	**Low** A small group of turbines would not have an adverse affect on the character of the skyline.	**Moderate** A medium group could begin to dominate and change the open views and character of the skyline. However, the skyline does not form an important or critical feature in this character area.	**Moderate** A large group could dominate and change the open views and character of the skyline. However, the skyline does not form an important or critical feature in this character area.
Visual Connections with Adjacent Landscapes • Views into the Ouse Valley including urban developments plus views up from the Ouse Valley.	**Low** A single turbine would not effect any important visual connections with the Ouse Valley.	**Low** A small group of turbines could be sited within the South East Claylands without adversely affecting views into and views from the Ouse Valley.	**Moderate** A medium group of turbines may not be appropriate in views from the smaller more intimate, settled landscapes of the Ouse Valley.	**High** A large group of turbines would not be appropriate in views from the smaller more intimate, settled landscapes of the Ouse Valley.

Landscape Sensitivity Overview: An assessment of the seven attributes likely to be sensitive to turbine development indicate that the South East Clayland landscape generally has a low sensitivity to a single turbine or a small scale turbines group, i.e. these developments could be accommodated without and adverse effect on overall landscape character. The landscape has a moderate sensitivity to medium scale groups, and these could be accommodated in some areas with particular requirement in relation to siting and design. The landscape has a high sensitivity to large scale developments and it is therefore recommended that this scale of development would not be appropriate within the South East Claylands.

CONSIDERING LANDSCAPE VALUES

8.3. In addition, to considerations of sensitivity is the need for an understanding of special landscape values. The following section considers landscape values under four main headings. The information has been drawn from the landscape character assessment, including the human responses to the landscape. It incorporates stakeholder perceptions identified at the Huntingdonshire Landscape Character Assessment Workshop, 2001.

Landscape Values

Character and Condition

- Extensive areas of high quality landscape through the combination of landform, woodland hedgerows, managed farmland and attractive villages (this relates particularly to the southern part of the area south of the B1046)).

Human Response

- Smaller villages contribute to the areas serenity, with their village greens and 'chocolate box' cottages.
- The landscape becomes much larger in scale where vegetation has been lost due to agricultural change and where development is visually intrusive. Here the sense of intimacy and tranquillity is lost.

Remoteness and Tranquillity

- This is not a remote landscape, although it is rural with serene, tranquil aspects.

Other Values

Cultural: Visible historic features – include Roman Road, medieval green lanes, tracks and settlement (several now abandoned), 18th century parkland, 18th and early 19th century enclosure etc. Attractive historic villages - most villages contain Conservation Areas.

Natural: Good woodland cover, particularly in the south including three large woodland SSSI.

Landscape Value Overview

Single Turbine: A single turbine could be accommodated providing it does not impinge on the site or setting of any valued landscape components (the intact villages, woodland belts, important remnant historic features). A single turbine would not affect the serene, tranquil character of parts of the landscape. Overall, it is considered that a single turbine development would not have an adverse effect landscape values.

Small scale group: A small scale group of turbines could be accommodated with the South East Claylands landscape without affecting any key landscape values, providing it does not impinge on the site or setting of valued landscape components (the intact villages, woodlands, important remnant historic features). A small scale turbine group could affect the serene tranquil character of parts of the landscape.

Medium scale group: A medium scale group of turbines could be dominant and have an effect on landscape values particularly the perception of parts of the area as rural with serene and tranquil aspects. A medium scale group could also have an adverse effect on those parts of the landscape where visually intrusive development is already dominant.

Large scale group: A large scale group of turbines could be dominant and have an effect on landscape values particularly the perception of parts of the area as rural with serene and tranquil aspects. A large scale group could further degrade part of the landscape where visually intrusive development is already dominant.

CAPACITY JUDGEMENT

The judgements on landscape sensitivity and landscape values indicate that there is high capacity for a **single** or a **small scale** turbine group to be accommodated within the South East Clayland landscape. There is some (moderate) capacity for a medium scale group with particular care needed to ensure that landscape values, particular the rural, tranquil aspects are not compromised. There is low capacity for a large scale group, which it is judged would have adverse impacts on landscape character and landscape values.

GUIDANCE

Single Turbine (1 turbine)

8.4. The landscape has a **high** capacity to accommodate a single turbine. The simple, open landform and medium to large scale views means that a single turbine has the potential to form a focal point and appear balanced within the landscape. It would not intimidate or dominate within the landscape and would not affect any key values. However, care will need to be taken in siting turbines, particularly in the more undulating wooded area in the south, and to avoid creating visual confusion and clutter where existing vertical elements are already dominant. The guidance set out below should be followed in considering an appropriate location for a single turbine.

- *Provide a positive contribution providing a focal point within medium- long range open views, mirroring the landmark function of church towers and spires.*
- *Avoid those areas where there are already a large number of vertical elements (e.g. pylons and communication structures) to ensure that the development does not result in visual confusion and clutter.*
- *Relate to existing building clusters in the landscape for example the occasional large farm buildings.*
- *Relate to the geometric field pattern with the turbine sited at junctions of two or more boundaries.*
- *Respect the sites and settings of key valued landscape features notably remnant historic features.*
- *Respect the scale and setting of the small, intact villages and views to church towers and spires.*
- *Consider the visual relationship with the Ouse Valley and the 'hidden' tributary valleys that cross the landscape.*
- *Avoid introducing solid built structures (e.g. transmission stations) into rural areas, which are generally characterised by the absence of buildings. Additional structures would be better accommodated in relation to existing farm/utility buildings.*
- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

8.5. ***Cumulative Development:*** There is scope for the South East Claylands to accommodate a number of single turbines, however care will need to be taken in their location and relationship to each other. Single turbines within this landscape will act as a point of focus or landmark. In this open landscape medium and long range views are often possible and views of more than one turbine development could dilute the perceived landmark function of a turbine and create a potentially confusing viewing experience.

Small Scale Group (2 – 12 turbines)

8.6. The landscape has a **high** capacity to accommodate a small scale group. Although a more obvious and dominant in the landscape, the generally open character of the South East Claylands means that a small scale group of turbines would not dominate views and could respond well to the landscape structure and pattern. Providing it was appropriately sited, such a development would not have an adverse impact on key landscape values. The following guidance notes should be considered:

- *Avoid the more undulating, intact and enclosed landscape to the south (around Waresley).*
- *Avoid those areas where there are already a large number of vertical elements (e.g. pylons and communication structures) to ensure that the development does not result in visual confusion and clutter.*
- *Relate to existing building clusters in the landscape for example the occasional large farm buildings.*
- *Respond to the geometric field pattern with turbines sited in a simple linear arrangement with consistent and repetitive spacing between individual turbines.*
- *Relate to the landform with turbines located along contour lines as opposed to across them.*
- *Respect the sites and settings of key valued landscape features notably remnant historic features.*
- *Respect the scale and setting of the small, intact villages and views to church towers and spires.*
- *Consider the visual relationship with the Ouse Valley and the 'hidden' tributary valleys that cross the landscape.*
- *Avoid introducing solid built structures (transmission stations etc) into rural areas, which are generally characterised by the absence of buildings. Additional structures would be better accommodated in relation to existing farm/utility buildings.*

- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

8.7. ***Cumulative Development:*** The simple landform and landcover pattern provides scope for more than one small scale turbine group within this landscape. It is essential that there is consistency in form and siting of developments respecting the consistent character of the landscape**.** In this open landscape medium and long range views are often possible and views of more than one type of turbine development could create a potentially confusing viewing experience.

Medium Scale Group (13 – 25 turbines)

8.8. The landscape has a **moderate** capacity to accommodate a medium scale group of turbines. This scale of development could fit within the open, medium to large scale landscape. However particular care will be need in relation to siting and design and to ensure that such a development respects key landscape values, particularly the perception of parts of the area as rural with serene and tranquil aspects as well as the high quality rural settlements. The introduction of transmission lines and additional built structures often associated with this type of development will generally not be appropriate within this open landscape which is characterised by an absence of buildings outside the villages. In considering the location for a medium scale group of turbines the following guidance should be taken into account.

- *Respect the small scale and historic character of the intact villages.*
- *Avoid areas where there are already a large number of existing vertical structures.*
- *Avoid the more wooded and undulating part of the character area to the south.*
- *Consider impact on views from adjacent landscapes, particularly the more sensitive landscapes of the Ouse Valley.*
- *Respect the subtle variations in topography – appropriate locations generally being on summits or along contours and relate to the regularity of the field pattern.*
- *Respect the sites and setting of valued landscape components.*

- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

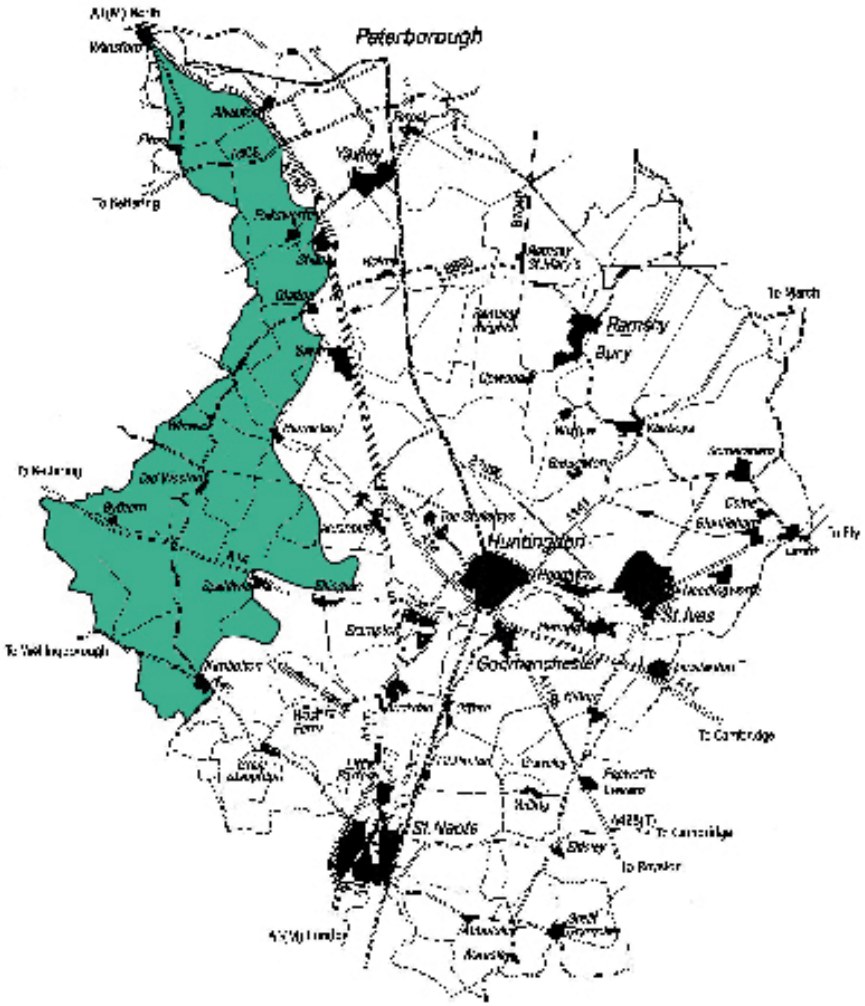
8.9. ***Cumulative Development:*** More than one development of this scale could change the perception of landscape character and could start to create a landscape, which is perceived to be dominated by turbines.

SOUTH EAST CLAYLANDS

Single turbines should not affect the setting of the small scale intact villages which are a highly valued characteristics of the area.

Small scale groups of turbines should avoid the more undulating & wooded landscape in the southern part of the South East Claylands.

Northern Wolds



The Northern Wolds includes well vegetated, intimate valleys and more open ridges.

Church towers topped with spires are a distinctive feature in the landscape and in long distance views.

9. NORTHERN WOLDS

LOCATION AND BOUNDARIES

9.1. The Northern Wolds character area is the most elevated landscape in the district forming a broad north-south strip to the western side of Huntingdonshire, extending from the Nene Valley in the north to the Southern Wolds to the south east. To the east are the Central Claylands.

Key Characteristics

- A strong topography of ridges bisected by pronounced valleys.
- Valleys are well vegetated and intimate in scale, while ridges/plateaux feel more open.
- An historic landscape, containing many medieval features.
- Dispersed pattern of historic villages, with little modern development.
- Distinctive square church towers topped with spires form characteristic landmarks.

SENSITIVITY TO WIND TURBINE DEVELOPMENT

9.2. The following table considers the key characteristics of the character area under each of the seven attributes identified as being potentially sensitive to turbine development. The sensitivity of each characteristic of the landscape has been evaluated in relation to four different scales of turbine development – single, small, medium and large scale. Considering each characteristic independently results in a comprehensive, integrated assessment and provides a detailed understanding of the sensitivity of the landscape and the reasons why. Note that it is the *combination* of key characteristics that should be considered (i.e. each column) in forming a judgement about sensitivity to turbine development. The guidance contained in any single row of the table, should not be considered in isolation.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (12-24 turbines)	Large Scale Group (25+ turbines)
Scale and Enclosure • A landscape of varied scale relating to the transition between valleys and plateaux. • The scale of the landscape is smaller in the valleys due to greater vegetation cover and smaller field sizes. In contrast there is a strong sense of elevation and openness on the broad plateaux.	**Low** A single turbine could be accommodated on the plateaux and ridges but sensitivity increases in the valleys where the scale is more intimate.	**Low** A small scale group could be located on the more open plateau and ridges but sensitivity is greater in the more intimate valleys.	**High** A medium group could dominate the open plateau and ridges.	**High** A large group of turbines would overwhelm the scale of the landscape.
Landform and Topography • This area contains the highest land in Huntingdonshire with a strong topography of ridges bisected by distinct valleys. • Streams flowing down from the higher land towards the Fens and Central Claylands have eroded pronounced valleys, which differ in character from the higher ridges. • In the northern part of the Wolds the topography is less pronounced.	**Low** A single turbine could be accommodated on the plateaux and ridges but sensitivity increases in the valleys.	**Moderate** A small scale group (<5 turbines) aligned along a ridge rather than across contours could be appropriate in this landscape. The introduction of pylon lines running across the strong topography would be less easy to accommodate.	**High** The variations in topography may make it difficult to accommodate a medium scale group of turbines – only the less pronounced topography in the northern part of the area could be appropriate.	**High** A large group of turbines would not fit in relation to the pronounced ridge and valley topography and would be too dominating if confined to one ridge/plateau.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (12-24 turbines)	Large Scale Group (25+ turbines)
Land Cover Pattern • Ridges are generally arable in production whereas valleys have a higher proportion of land in pastoral use. Ridge and furrow is usually visible on the land currently used as pasture. • Valleys are more vegetated with large mixed hedgerows containing ancient and young oaks. Although there are some examples of ridge-top oak and ash woodlands which form discrete blocks, this character area is less wooded than the Southern Wolds. • In the northern part of this character area, where topography is less pronounced large rectilinear fields, hedged with hawthorn are typical of 'enclosure fields, planned in the early 19th Century. • Streams in the valley bottom are narrow with routes of watercourses often discerned by a line of trees along the bank.	**Low** Location of a single turbine could be linked to the field junctions and repeating patterns which occur in this landscape. However consideration should be given to the historic importance of remaining areas of pasture and ridge and furrow.	**Low** A small group of turbines could be linked to existing field patterns on the plateaux. However remaining areas of pasture are inherently sensitive and turbine development should avoid these areas.	**Moderate** Large open arable areas on the ridges and plateaux, particularly in the northern part of the character area could absorb medium scale turbine development. However the more intimate land cover of the valleys and valley edges plus remaining areas of pasture should be respected.	**Moderate** Large open arable areas on the ridges and plateaux, particularly in the northern part of the character area could absorb large scale turbine development. However the more intimate land cover of the valleys, valley edges plus remaining areas of pasture should be respected.
Settlement Pattern and Density • There is a dispersed pattern of regularly spaced historic villages; most situated at the top of the valley sides with distinctive church spires standing out on the horizon. • Medieval settlement pattern – many mentioned in the Domesday Book. • Some villages are clustered around village greens whereas others are more linear in form. The villages are contained with little sprawl or modern development.	**Moderate** A single turbine would dominate the scale and historic character of the villages if sited in close proximity. However there is sufficient space between villages to avoid impacts.	**Moderate** A small group of turbines would dominate the scale and historic character of the villages if sited in close proximity. However there is sufficient space between villages to avoid impacts.	**High** A medium group of turbines could overwhelm the scale and historic character of the villages. Only the more sparsely populated northern plateau could be appropriate.	**High** A large group of turbines would overwhelm the scale and historic character of the villages.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (12-24 turbines)	Large Scale Group (25+ turbines)
Landmarks and Visible Built Structures • An historic landscape containing many medieval features and a high number of Scheduled Ancient Monuments. • Distinctive square church towers topped with spires form characteristic landmarks and are a significant feature in this landscape. • This area has fewer disruptive features than the Southern Wolds, making it more readable with a stronger sense of place.	**Moderate** Important views to distinctive church spires should be maintained, although there is sufficient space to place a single turbine with respect to this sensitivity.	**Moderate** Important views to distinctive church spires should be maintained, however there is sufficient space to place a small group of turbines with respect to this sensitivity. The absence of existing disruptive vertical features means visual clutter would be avoided. Although the essentially open 'remote' character is sensitive.	**Moderate** A medium group of turbines may begin to impinge on the important views to distinctive church spires. The lack of existing disruptive vertical features means visual clutter would be avoided, however this makes the landscape more sensitive to the introduction of new pylon lines.	**High** A large group of turbines would be inappropriate, disrupting views to the church spires and diluting the distinctive sense of place.
Skyline • Church spires stand out on the horizon. • The skyline is variable, in parts open and in parts wooded. Villages generally contain many trees and therefore have a wooded appearance in distant views. • Long views are afforded from the ridges whereas views from the valleys are more limited. • Parts of the area form a strong skyline form the Fens.	**Low** A single turbine could form a landmark feature on the skyline if placed sensitively with regard to church spires.	**Low** A small group of turbines could form a feature on the skyline if placed sensitively with regard to church spires. The absence of existing disruptive vertical features means visual clutter would be avoided. However this makes the landscape more sensitive to the introduction of new pylon lines.	**Moderate** A development of this scale could be dominant in relation to the skyline views.	**High** A development of this scale could be too dominant in relation to the skyline.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (12-24 turbines)	Large Scale Group (25+ turbines)
Visual Connections with Adjacent Landscapes • To the north, west there are views out across the Fen Margins to the low-lying Fens. • To the east the area forms 'uplands' on the horizon in views from the Central Claylands.	**Low** A single turbine development would not affect views to/from the Wolds and the Fens, Fen Margins and Central Claylands.	**Low** A small scale turbine development would not affect views to/from the Wolds and the Fens, Fen Margins and Central Claylands.	**Moderate** A medium scale turbine development could form a very visible and dominant feature on the skyline from the Fen Margins, Fens and Central Claylands.	**High** A medium scale turbine development could form a very visible and dominant feature on the skyline from the Fen Margins, Fens and Central Claylands.
Landscape Sensitivity Overview: An assessment of the seven attributes likely to be sensitive to turbine development indicate that the Northern Wolds landscape generally has a low sensitivity to a single turbine or small scale group of up to 5 turbines i.e. these turbine groups could be accommodated without adverse effects on landscape character. The Northern Wolds is judged to have high sensitivity to a medium or large scale turbine development.				

CONSIDERING LANDSCAPE VALUES

9.3. In addition, to considerations of sensitivity is the need for an understanding of special landscape values. The following section considers landscape values under four main headings. The information has been drawn from the landscape character assessment, including the human responses to the landscape. It incorporates stakeholder perceptions, from the August 2001 workshop.

Landscape Values

Character and Condition

- An attractive and relatively unspoilt area of countryside with a strong historical character.
- Intact, rural landscape.
- Strong visual identity.

Human Response (including information from LCA stakeholder workshops)

- The Northern Wolds Character Area generates a very positive response and is regarded by many as being amongst the most attractive countryside in the district.
- Valued elements include the varied and interesting topography and attractive villages (stakeholder workshop)

- Repeating patterns of topography and changes in scale between the ridges and valleys creates a strong rhythm when travelling north south through the area

Remoteness and Tranquillity

- Harmonious character and relative tranquillity are valued attributes.

Other Values

Cultural: High number of Scheduled Ancient Monuments and medieval features in this historic landscape. Much of the settlement in the area is mentioned in the Domesday Book – most settlement cores designated as Conservation Areas. Distinctive ecclesiastical architecture. Important remnant (non-scheduled) areas of ridge and furrow. Kimbolton valued settlement of good character and condition.

Natural: Ridge top woodlands of oak and ash – some designated as SSSI.

Landscape Value Overview

Single Turbine: A single turbine could be accommodated providing it does not impinge on the site or setting of any valued landscape components such as historic villages, church spires, areas of pasture and ridge and furrow, and ridge top woodlands. It is considered that a single turbine would not affect the tranquil character of the landscape. However, in this highly valued 'unspoilt' landscape, cumulative development of several single turbines across the area could be detrimental.

Small-scale group: A small-scale group of turbines could be accommodated without affecting any key landscape values, providing it does not impinge on the site or setting of valued landscape components such as the villages, church spires, areas of pasture and ridge and furrow. A small scale turbine group could be sited so that it does not affect the tranquil character of the Northern Wolds. However, in this highly valued 'unspoilt' landscape cumulative development of several turbine groups across the area could be detrimental.

Medium scale group: A medium scale group of turbines could be dominant and have an effect on landscape values, particularly the perception of parts of the area as tranquil and harmonious. A medium scale group could also disrupt effect on the distinctive ridge and valley rhythm, which is experienced, across the Northern Wolds.

Large-scale group: A large-scale group of turbines could be dominant and have an effect on landscape values particularly the perception of parts of the area as tranquil and harmonious. . A medium scale group could also disrupt effect on the distinctive ridge and valley rhythm, which is experienced, across the Northern Wolds.

CAPACITY JUDGEMENT

The judgements on landscape sensitivity and landscape values indicate that overall there is a **high** capacity for **single turbine** development and a **small-scale** turbine group (lower end of the scale i.e. up to 5 turbines) within the Northern Wolds landscape. These judgements should be considered in relation to the guidance on siting and design set out below. It is judged that there is low capacity for medium and large scale turbine schemes and further guidance is therefore not provided for these scales of development.

GUIDANCE

Single Turbine (1 turbine)

9.4. The landscape has a **high** capacity to accommodate a single turbine. A single turbine would fit well with the scale of the landscape and land cover patterns on the arable land of the open plateau and ridges. Key sensitivities relate to the more intimate valleys, historic villages and valued elements, particularly with respect to historic features and the distinctive church spires. The location of a single turbine should consider the following guidance:

- *Respect the landform and relate turbines to the strong ridges and plateau, avoid locating turbines within the more intimate scale landscape of the valleys and valley crests where they will be out of scale with the more intimate valley landscape and valley settlements such as at Kimbolton.*
- *Avoid siting turbines on areas of pasture with ridge and furrow.*
- *Respect the site and setting of the historic villages, which characterise the Northern Wolds.*
- *Consider the views to and setting of the distinctive church spires which form a landmark feature and ensure turbine development does not result in visual clutter in relation to these key views. A single turbine could form a separate focal point in its own right.*
- *Consider opportunities to site a single turbine in relation to existing farm/utility or industrial buildings (e.g. disused airfields) creating a functional image.*

- *Avoid the introduction of new pylon lines into the Northern Wolds. The area is currently characterised by the absence of disruptive features and pylon lines would be difficult to accommodate in relation to the distinctive ridge and valley topography.*

- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

9.5. ***Cumulative Development:*** While, there is scope for the Northern Wolds to accommodate a number of single turbines, care will need to be taken in their location and relationship to each other. This is a landscape highly valued in the district for its 'unspoilt' quality and harmonious character; turbine development should not affect these special perceptual characteristics. Decisions will need to be taken on a case-by -case basis.

Small Scale Group (2-12 turbines)

9.6. The landscape has a **high** capacity to accommodate a small-scale group of up to 4 or 5 turbines. Although a more obvious and dominant feature in the landscape a small-scale development could respond well to the landscape structure and land cover pattern. Key sensitivities relate to the more intimate valleys, historic villages and valued elements, particularly with respect to historic features and the distinctive church spires. The following guidance notes apply to the siting of a small scale turbine development in the Northern Wolds.

- *Respect existing landmark features such as key views to church spires.*

- *Respect the landform and relate turbines to the strong ridges and plateau, avoid locating turbines within the small-scale landscape of the valleys and valley crests where they will be out of scale with the more intimate valley landscape and valley settlements such as at Kimbolton.*

- *Avoid siting turbines on areas of pasture with ridge and furrow.*

- *Respect the site and setting of the historic villages, which characterise the Northern Wolds.*

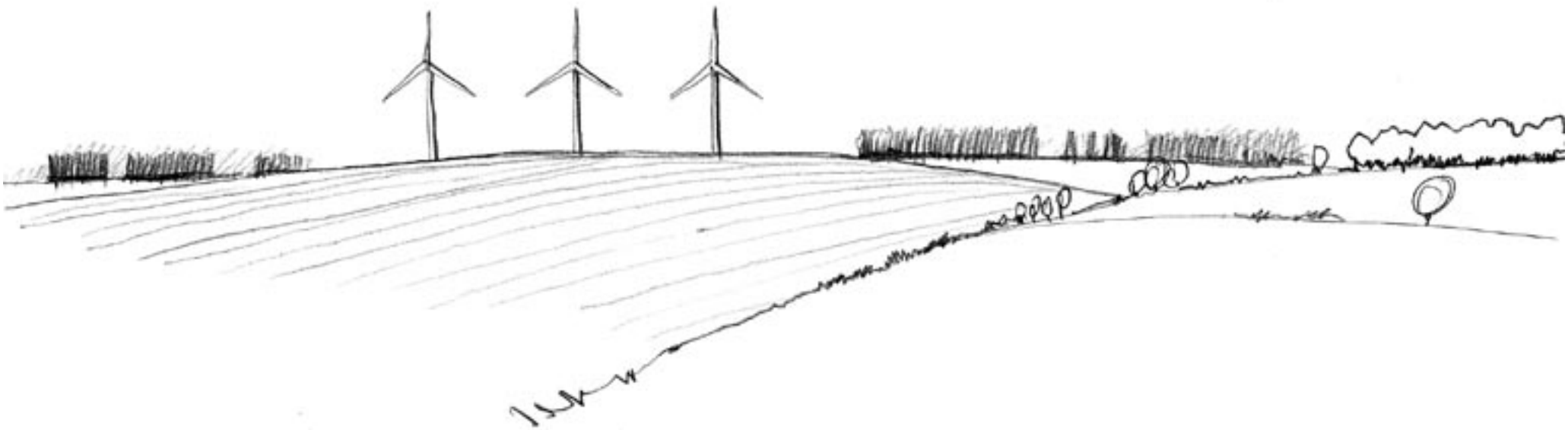
- *Relate to existing building clusters in the landscape for example the occasional large farm buildings, utility buildings or industrial areas (such as disused airfields).*

- *Relate to the land cover pattern in particular the woodland edges and field patterns with a consistent and repetitive spacing between turbines.*

- *Consider impact on the horizon views from the Central Claylands, Fen Margins and Fens.*
- *Consider a linear arrangement along contours as opposed to crossing contours.*
- *Avoid introduction of new pylon lines into the Northern Wolds. The area is currently characterised by the absence of disruptive features and pylon lines would be difficult to accommodate in relation to the distinctive ridge and valley topography.*
- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

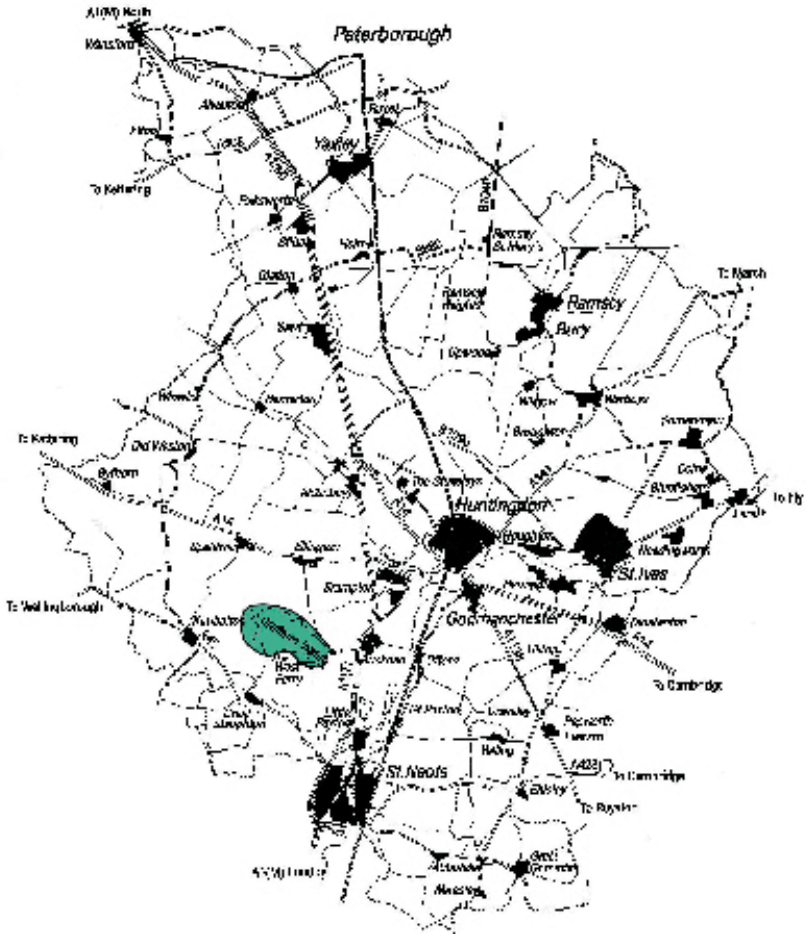
9.7. ***Cumulative Development:*** There is very little scope for the Northern Wolds to accommodate more than one small scale group. This is a landscape highly valued in the district for its 'unspoilt' quality and harmonious character; turbine development should not affect these special perceptual characteristics. Decisions will need to be taken on a case-by-case basis.

NORTHERN WOLDS



A small group of turbines could respond well to the ridge and plateau topography and open arable land cover.

Grafham Water



Landscape dominated by open water of Grafham Water Reservoir (SSSI)

An inward looking landscape not visible from the surrounding landscape.

Recreation is a key activity in the area, with a range of facilities, e.g. for sailing.

10. GRAFHAM WATER

LOCATION AND BOUNDARIES

10.1. Grafham Water is a small landscape character area, defined and dominated by the wide expanse of open water at Grafham Water and its associated landscape setting. The Southern Wolds Landscape character area surrounds the area.

Key Characteristics

- Landscape dominated by the open water of Grafham Water reservoir, which is designated as a Site of Special Scientific Interest (SSSI) for its large and varied bird populations.
- Woodlands and fields give the landscape around the reservoir a rural quality.
- Basin topography creates an inward looking landscape. The open expanse of the reservoir is not visible from the surrounding landscape.
- Recreation is a key activity, with facilities for sailing, fishing, walking and cycling.
- Contains buildings associated with the reservoir, e.g. water treatment works, pumping stations.

SENSITIVITY TO WIND TURBINE DEVELOPMENT

10.2. The following table considers the key characteristics of the character area under each of the seven attributes identified as being potentially sensitive to turbine development. The sensitivity of each characteristic of the landscape has been evaluated in relation to four different scales of turbine development – single, small, medium and large scale. Considering each characteristic independently results in a comprehensive, integrated assessment and provides a detailed understanding of the sensitivity of the landscape and the reasons why. Note that it is the *combination* of key characteristics that should be considered (i.e. each column) in forming a judgement about sensitivity to turbine development. The guidance contained in any single row of the table, should not be considered in isolation.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
Scale and Enclosure • Dominated by the open expanse of the reservoir. • The shallow ridge that surrounds the reservoir encloses views of the water and gives the whole area an introverted character. Overall the landscape lacks a sense of enclosure. • Discrepancy in scale between the low ridge of land surrounding the reservoir and extent of the waterbody.	**Low** A single turbine would relate well to the vast scale of the waterbody and could provide a feature/focal point within the setting.	**Moderate** Although a small-scale group of turbines may fit with the scale of the landscape, there is in limited land area to accommodate such a group. It is suggested that a group of no more than 2-turbines would be appropriate.	**High** A medium scale group of turbines could create a very dramatic feature ringing the reservoir, although on balance and considering other features would be out of scale with the landscape.	**High** A large-scale group of turbines would be out of scale with the landscape.
Landform and Topography • Reservoir constructed in the 1960's forming a flat open expanse of water, in a basin within a clay plateau at an elevated position of 50m AOD. • The reservoir is surrounded by a shallow ridge which provides a backdrop.	**Low** A single turbine would fit well in relation to the landform and topography.	**Moderate** The gentle ridge surrounding the reservoir could accommodate a small group of turbines, although it is likely that the limited land area would preclude more than 2 turbines.	**High** A medium scale group of turbines could be too dominant in relation to the subtle landform surrounding the waterbody.	**High** A large-scale group of turbines could be too dominant in relation to the subtle landform surrounding the waterbody.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
Land Cover Pattern • The open water of the reservoir dominates surrounded by woodland and fields. • Tree planting on the most accessible shores, other areas of shoreline more are abrupt and unvegetated. • This is a landscape largely influenced by recreational activities with expanses of amenity grassland and car parks, a visitor's centre and facilities for sailing, fishing, walking and cycling.	**Low** A single turbine could be accommodated and fit well in relation to the simple land cover pattern, particularly the amenity and functional landscape adjacent to recreation facilities.	**Moderate** A small group of turbines (2) could be accommodated in the more open areas, but a larger group would too dominant in relation to the landcover pattern, particularly the presence of woodland.	**High** A medium scale group of turbines would fit poorly in relation to the land cover pattern.	**High** A large-scale group of turbines would fit poorly in relation to the land cover pattern.
Settlement Pattern and Density • The area is characterised by the absence of settlement. Buildings are associated with water management and recreational functions including water treatment works, pumping station and visitor facilities.	**Low** A single turbine could be accommodated and relate well to existing amenity and functional buildings.	**Moderate** The lower end (2/3 turbines) of a small-scale group could be accommodated and relate well to existing amenity and functional buildings. It is considered that more than 2 would be out of scale in relation to the existing built structures.	**High** A medium scale group of turbines would be over dominant in relation to existing buildings.	**High** A large-scale group of turbines would be over dominant in relation to existing buildings.
Landmarks and Visible Built Structures • Landmarks include a prominent line of pylons, masts a water tower, and the tower of Grafham church spire in the distance. The sailing club is a distinctive building.	**Low** A single turbine could be accommodated without creating visual clutter in the context of existing tall structures such as rows of pylons. There is a positive	**Moderate** The lower end of a small-scale group of turbines could be accommodated in the landscape without creating visual clutter in the context of existing	**High** A medium scale group of turbines could be over dominant in views and create a cluttered landscape in relation to existing features such as pylons.	**High** A large scale group of turbines could be over dominant in views and create a cluttered landscape in relation to existing features such as pylons.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
	opportunity for a single turbine to form a landmark or focal point and relate well to the vast horizontal expanse of water.	vertical features and could form a landmark or feature in its own right.		
Skyline • The skyline is formed by the low enclosing ridge of (wooded and farmed) land, although it is not high enough to create a memorable setting. • Pylons, masts and the tower of Grafham Village church are visible on the horizon.	**Low** A single turbine could work well in relation to the skyline providing a focal point in the landscape.	**Moderate** The lower end of a small-scale group of turbines (2) could be accommodated landscape.	**High** A medium scale group of turbines would dominate the skyline and views across the water.	**High** A large scale group of turbines dominate the skyline and views across the water
Visual Connections with Adjacent Landscapes • Although surrounded by the Southern Wolds, the area has an inward looking character and the reservoir not visible from outside the area. However, the wooded ridge on which the reservoir lies is in itself and important feature of the Southern Wolds landscape.	**Low** A single turbine would not affect the visual relationship with the Southern Wolds. However, consideration should be given to the importance of the wooded ridge in creating the divide between the valleys of the Kym and Ellington Brook (Southern Wolds).	**Moderate** Consideration should be given to the potential impact of a small-scale turbine development on the sensitive ridge skyline between the Kym and Ellington Brook (Southern Wolds).	**High** This scale of development could be very dominant on the skyline view from the Southern Wolds.	**High** This scale of development could be very dominant on the skyline view from the Southern Wolds.
Landscape Sensitivity Overview: An assessment of the seven attributes likely to be sensitive to turbine development indicate that the Grafham Water landscape generally has a low sensitivity to a single turbine and a moderate sensitivity to a small scale turbine group of 2 turbines, i.e. these developments could be accommodated without/with minor adverse effects on the overall landscape character of the area. The landscape has a high sensitivity to medium and large scale developments.				

CONSIDERING LANDSCAPE VALUES

10.3. In addition, to considerations of sensitivity is the need for an understanding of special landscape values. The following section considers landscape values under four main headings. The information has been drawn from the landscape character assessment, including the human responses to the landscape. It incorporates stakeholder perceptions, from the August 2001 workshop.

Landscape Values

Character and Condition

- A landscape with a strong 'sense of place' unique within Huntingdonshire.

A bland landscape composition with opportunities to improve condition to create a more natural appearance.

Human Response

- As any water dominated landscape Grafham Water can provoke a wider variety of responses.
- The water changes in appearance and character depending on the weather – tranquil and sparkling; grey and moody; or windswept and exhilarating.
- The elevated position of the reservoir can create unfamiliar viewers by surprise and create an uncomfortable feeling.
- The stakeholder workshop recorded that Grafham Water is highly valued for its wildlife interest and recreational facilities.

Remoteness and Tranquillity

- Inward looking 'secret' landscape with rural quality. Tranquil water juxtaposed with dynamism of sailing craft.

Other Values

Cultural: Recreation is the key activity in these areas with facilities for sailing, fishing, walking and cycling. Car parking, amenity grassland and a visitor's centre reflect this recreational function.

Natural: Designated as a SSSI for its large and varied bird population.

Landscape Value Overview

Single Turbine: A single turbine could be accommodated without affecting landscape values, however the designation of the area as a SSSI with its varied bird population is a key consideration. A single turbine would not affect the unique nature of this landscape and could become a focal point and feature in the landscape.

Small-scale group: A small-scale group of turbines could be accommodated in the Grafham Water landscape, although the lower end of a group (2-3 turbines) would be more appropriate in this highly valued recreational landscape. The SSSI designation with its varied bird population will be a key consideration.

Medium scale group: A medium scale group of turbines would be too dominant within this highly valued recreational landscape.

Large-scale group: A large-scale group of turbines would be too dominant within this highly valued recreational landscape.

CAPACITY JUDGEMENT

The judgements on landscape sensitivity and landscape values indicate that a **single** or the lower end of a **small-scale (2-3)** turbine group is the type of development, which could be most easily accommodated within the Grafham Water landscape. It is considered that this scale of development, providing it is appropriately sited and designed, would not have an adverse impact on overall landscape character or key landscape values and could provide a strong focal point in the landscape. However, it is likely that the impact on bird populations associated with the SSSI will be a key determinant of capacity.

GUIDANCE

Single Turbine (1 turbine)

10.4. The landscape has a **high** capacity to accommodate a single turbine. The open character and large scale of the landscape would allow a single turbine to be successfully accommodated in the area. The recreational value of this landscape also means that there is scope for a single turbine to become a focal point and educational feature in conjunction with the visitor's centre or other amenity/functional buildings. In creating a single turbine consider the following guidance:

- *Provide a positive contribution providing a focal point in views and signalling the presence of Grafham Water, from beyond the site.*

- *Avoid those areas where there are already a large number of vertical elements (e.g. pylons and communication structures) to ensure that the development does not result in visual confusion and clutter.*
- *Relate to existing building structures in the area, e.g. the visitors centre/amenity buildings and consider opportunities for education/interpretation.*
- *Consider potential impacts on the SSSI (bird population).*
- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

10.5. ***Cumulative Development:*** There is unlikely to be scope for accommodating more than one single turbine within Grafham Water. In such a small character area more than one single turbine would obviously be perceived as a small-scale group.

Small Scale Group (2-12 turbines)

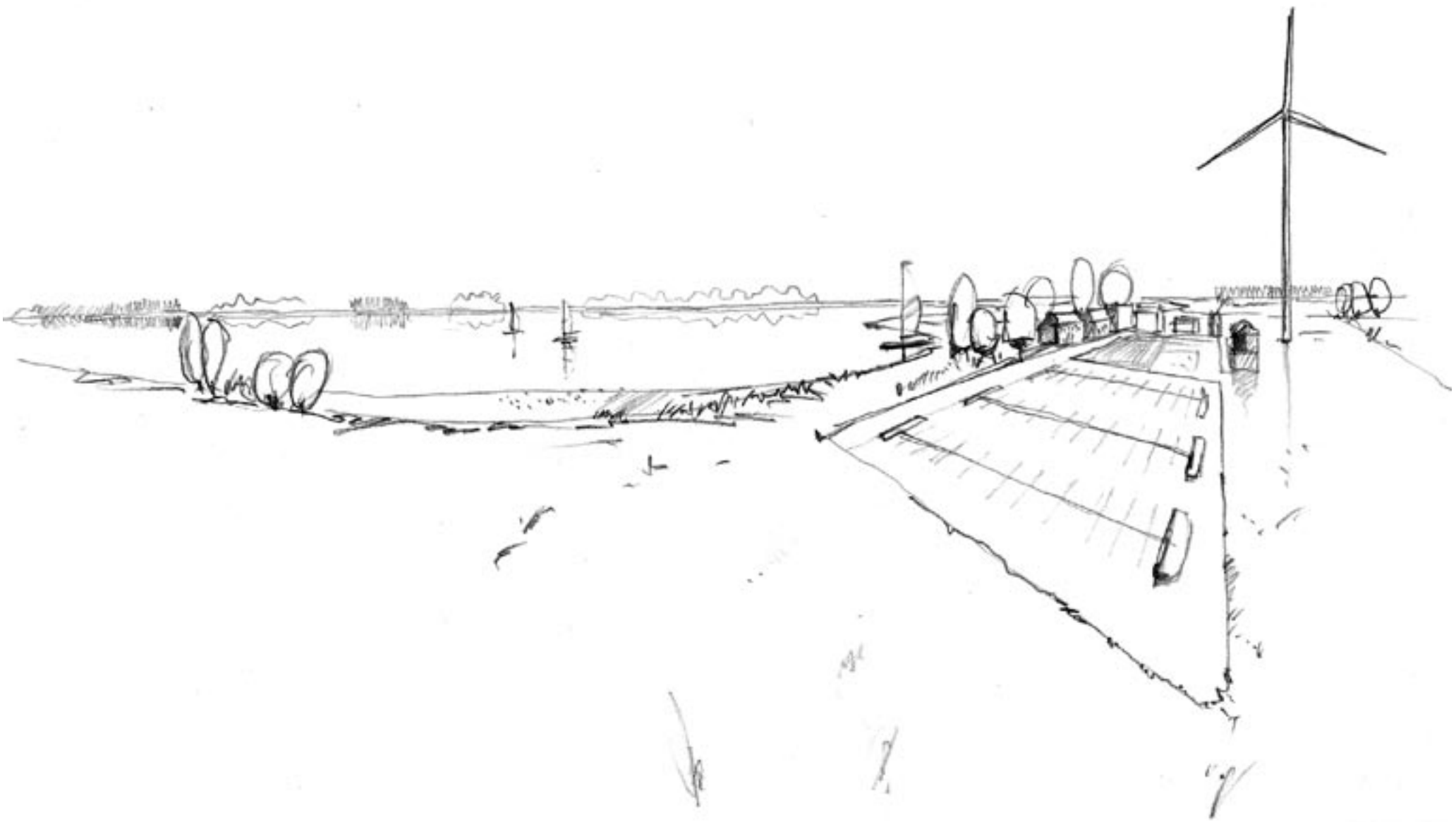
10.6. The landscape has a **moderate** capacity to accommodate a small-scale group of turbines. Although a more obvious and dominant feature in the landscape a small scale development could respond well to the landscape scale. However, the available land area is small and there are a number of key sensitive elements that will need to be respected. It is therefore judged that 2-3 turbines would be the maximum number of turbines that could be accommodated. Proposals for a small-scale group of turbines should consider the following guidance:

- *Consider potential impacts on the SSSI (bird population).*
- *Avoid those areas where there are already a large number of vertical elements (e.g. pylons and communication structures) to ensure that the development does not result in visual confusion and clutter.*
- *Respect existing landmark vertical features such as key views to Grafham church spire and towers.*
- *Consider opportunities for siting turbines adjacent to existing structures such as the visitors centre or in amenity areas rather than the wider farmed landscape.*

- *Consider a linear arrangement along contours as opposed to crossing contours.*
- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

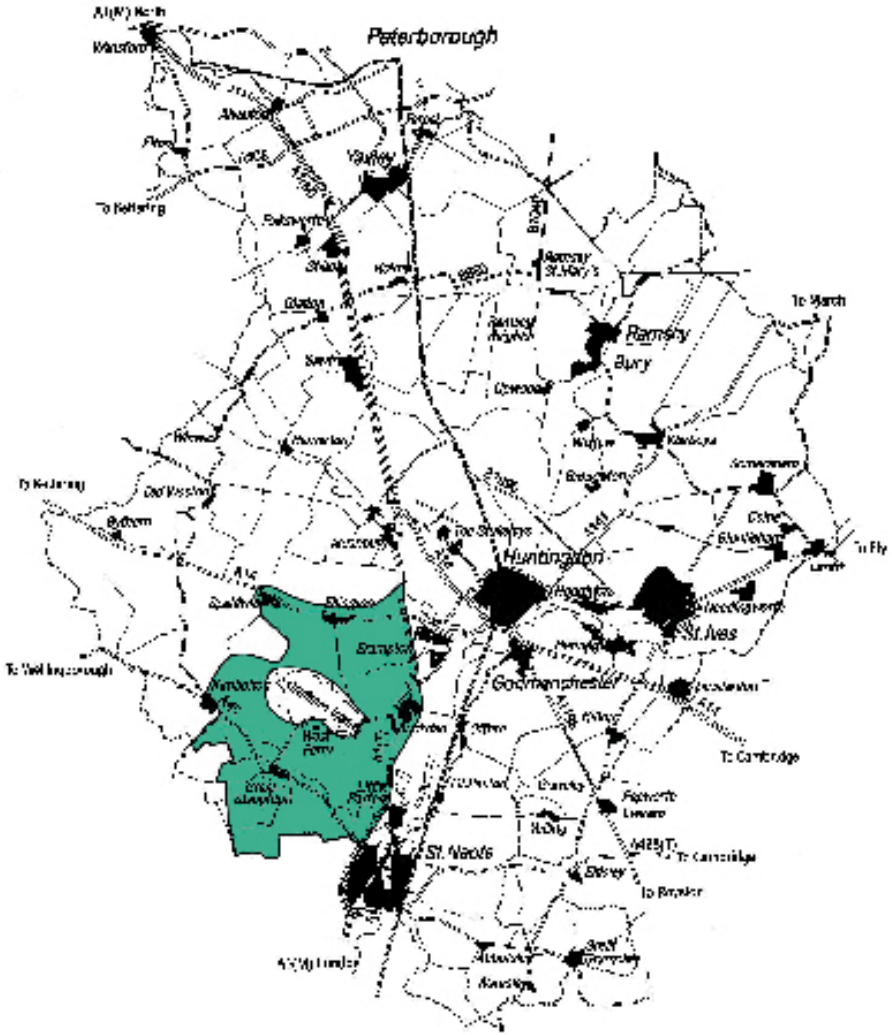
10.7. ***Cumulative Development:*** The small area of Grafham Water could not accommodate more than one small-scale (2-3 turbines) development.

GRAFHAM WATER



There is scope for a single turbine to create a focal point/educational feature in association with existing amenity buildings. Impacts on the bird population will be critical in determining capacity

Southern Wolds



A gentle, well-wooded landscape.

Significant modern influences exist in the landscape, including conifer plantations and power lines.

This medium scale landscape supports some long open views whilst in other areas extensive woodland blocks and belts create a strong sense of enclosure.

11. SOUTHERN WOLDS

LOCATION AND BOUNDARIES

11.1. The Southern Wolds landscape character area incorporates the lower valleys of the river Kym and the main tributary of the Alconbury Brook. Grafham Water lies within this Character Area and the Southern Wolds can be described as a transition area between the Northern Wolds, which lie to the north west, and the Ouse Valley, which lies to the east. The landscape of the Central Claylands lies to the north.

Key Characteristics

- Relatively gentle topography, including the broad valleys of the river Kym and the Ellington Brook.
- A well-wooded landscape, with hedged fields, and some more recent plantations.
- Scattered villages and few isolated farms.
- Significant modern influences on the landscape, including conifer plantations, power lines, housing estates, industrial areas, airfield, prison and the Anglian Water buildings around Grafham Water.

SENSITIVITY TO WIND TURBINE DEVELOPMENT

11.2. The following table considers the key characteristics of the character area under each of the seven attributes identified as being potentially sensitive to turbine development. The sensitivity of each characteristic of the landscape has been evaluated in relation to four different scales of turbine development – single, small, medium and large scale. Considering each characteristic independently results in a comprehensive, integrated assessment and provides a detailed understanding of the sensitivity of the landscape and the reasons why. Note that it is the *combination* of key characteristics that should be considered (i.e. each column) in forming a judgement about sensitivity to turbine development. The guidance contained in any single row of the table, should not be considered in isolation.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
Scale and Enclosure • This is a medium scale landscape supporting some long open views whilst in other areas extensive woodland blocks and belts create a strong sense of enclosure.	**Low** A single turbine could be accommodated in this landscape owing to its generally large and open scale. It could relate to the ridges or the broad valley sides.	**Low** A small-scale turbine development could be accommodated in areas where the landscape is less enclosed. It could relate to the broad valley sides.	**High** A medium scale group of turbines could clutter the landscape and disrupt the open views and would not fit well within the strong sense of enclosure created by woodland.	**High** A large-scale group of wind turbines could interrupt the long open views in some areas and in other areas would not fit well within the strong sense of enclosure created by woodland.
Landform and Topography • The topography of the area is relatively gentle, with two broad river valleys of gently undulating ground. • A steep ridge that contains Grafham Water divides the undulating broad valleys of the River Kym and the Ellington Brook.	**Low** The gentle topography and simple landform of this area would allow a single turbine to fit easily in the landscape, relating well to the ridges or the broad valley sides.	**Low** A small group of turbines could be accommodated within the gentle topography, relating well to the broad valley sides.	**High** A medium scale group of turbines may sit awkwardly in relation to the topography and the woodland enclosures, which mark the valley edges.	**High** A simple ordered image would not be formed. Discrepancy in the height of turbines would occur owing to the gentle variations in landform. A development of this scale could appear over dominant in the landscape on the ridges and the broad valley sides.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
Land Cover Pattern • This is a well wooded landscape with hedgerows and lines of mature hedgerow oaks notable along the roadsides as well as a number of small poplar plantations and copses. The ridge between the valleys is characterised by extensive woodland blocks (SSSI), and conifer plantations. • Agriculture comprises a mosaic of medium and large scale arable fields with areas of pasture more prevalent in the valley bottoms. • The area has a number of distinct ditches that drain the valley floors flowing into the Ellington Brook and Kym.	**Low** The large areas of arable land could accommodate a single turbine. Its vertical form would complement the land cover and the linear field boundaries.	**Low** There are opportunities for small-scale groupings of turbines to correspond to land cover patterns, particularly related to the blocks of arable land. Remaining areas of pasture and woodland blocks are more sensitive.	**Moderate** The land cover pattern and presence of woodland blocks in particular, could make it difficult to relate a medium scale group of turbines to the land cover pattern.	**High** It would be difficult to relate a large-scale group of turbines to the land cover patterns in the area.
Settlement Pattern and Density • The villages in this area are larger than in adjacent areas and scattered with a few isolated farm buildings. • Villages with historic cores plus modern extensions, which have created a less unified appearance. The villages in the area all have differing characters. • Includes part of the former historic coaching town Kimbolton and Buckden. • Includes extensions of settlements in the Ouse valley (on the eastern edge of the character area.	**Low** The wider landscape remains sparsely settled and there is sufficient scope to site a turbine away from settled areas. A single turbine may also become a functional feature if linked with the larger settlements with modern extensions.	**Low** The wider landscape remains sparsely settled there is sufficient scope to site a small cluster of turbines away from settled areas. A small scale group (e.g. 2 – 3 turbines) could also become a functional feature if linked with modern extensions on the edge of larger settlements, associated with the Ouse Valley.	**Moderate** A medium group of turbines could be out of scale with the size, nature and setting of the villages beginning to dominate the areas between settlements.	**High** A large-scale group of turbines could be out of scale with the size, nature and setting of the villages even if located away from the settled areas.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
Landmarks and Visible Built Structures • Large limestone churches, often with towers and spires are a distinctive landmark feature in this area. • Significant modern influences on the landscape include power lines, industrial areas, airfield, housing estates, airfield and Anglian Water buildings around Grafham Water. • The A14 dominates the valley of the Ellington Brook.	**Low** Landmarks in the landscape are quite isolated therefore there is scope for a single turbine to relate to or be sited away from vertical features already in the landscape.	**Low** Landmarks in the landscape are quite isolated therefore there is scope for a small scale turbine group to relate to or be sited away from vertical features already in the landscape. Nevertheless a cluttering effect of vertical forms should be avoided and views to existing landmarks, e.g. church spires maintained as well as their predominantly open setting.	**High** A medium scale group of turbines may disrupt key views, e.g. towards church spires and their open setting. The grouping of vertical forms may form a cluttering effect and disrupt the sense of continuity.	**High** A large-scale group is likely to be too dominant in this landscape cluttering the open setting and key views towards landmarks, such as church spires in the distance.
Skyline • The skyline is largely open, rural and undeveloped, marked by woodland blocks, occasional pylon lines and church spires. Views range from large-scale open on the ridges to more contained within the broad valleys. The central ridge dividing the two broad valleys provides a notable wooded skyline and backdrop.	**Low** A single turbine could relate to the existing isolated landmarks in the landscape. Consideration needs to be given to areas where the skyline is more sensitive forming an enclosing feature in relation to the river valleys (Ouse, Kym and Ellington Brook) particularly in relation	**Low** A small cluster of turbines could be accommodated in the landscape without adversely affecting the skyline. Consideration must be given to areas where the skyline is more sensitive forming an enclosing feature in relation to the river valleys (Ouse, Kym and Ellington Brook),	**Moderate** A medium scale group of turbines could begin to dominate and change the views of the skyline.	**Moderate** A large scale group of turbines could dominate and change views of the open skyline.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group (25+ turbines)
	to settlements in these valleys.	particularly in relation to settlements in these valleys.		
Visual Connections with Adjacent Landscapes • This area provides a link between the Northern Wolds and the Ouse Valley with villages located on the edge of the area sharing common features with both these adjacent areas.	**Low** A single turbine could be sited without affecting the visual relationship with the Ouse Valley.	**Low** A small group of turbines could be situated in the landscape owing to the long open views across the area but consideration should be given to the sensitivity of views into and out from the Ouse Valley.	**Moderate** A medium scale group could be situated in this area but the long views across the area and links with the Northern Wolds and Ouse Valley may be disrupted.	**Moderate** A large scale group could be situated in this area but the long views across the area and links with the Northern Wolds and Ouse Valley may be disrupted.
Landscape Sensitivity Overview: An assessment of the seven attributes likely to be sensitive to turbine development indicate that the Southern Wolds landscape generally has a low sensitivity to a single turbine or a small scale turbine group, i.e. these developments could be accommodated without and adverse effect on overall landscape character. The landscape has a moderate- high sensitivity to medium scale developments and a high sensitivity to large scale turbine developments appropriate within the Southern Wolds.				

CONSIDERING LANDSCAPE VALUES

11.3. In addition, to considerations of sensitivity is the need for an understanding of special landscape values. The following section considers landscape values under four main headings. The information has been drawn from the landscape character assessment, including the human responses to the landscape. It incorporates stakeholder perceptions identified at the Huntingdonshire Landscape Character Assessment Workshop, 2001.

Landscape Values

Character and Condition

- Distinctive character – the strongest visual characteristic being the extent of woodland cover.

Human Response

- Away from the main roads and settlements, the Southern Wolds feel tranquil and secluded (due to lack of settlement and presence of enclosing vegetation).
- Former coaching towns of Kimbolton and Buckden are highly valued by local stakeholders.

Remoteness and Tranquillity

- Parts of the area feel quiet and peaceful, however, it does not have the timeless quality of the Northern Wolds because of the various modern influences that are visible in the landscape.

Other Values

Cultural: A less dense pattern of historic settlements compared to other areas. Most villages have historic cores designated as Conservation Areas. Several moats plus other medieval features in the area plus sites of Roman buildings.

Natural: Good woodland cover, particularly on the ridge between the two valleys including numerous woodland SSSI.

Landscape Value Overview

Single Turbine: A single turbine could be accommodated providing it does not impinge on the site or setting of any valued landscape components (the historic village cores, views to or setting of landmark features and the important woodland belts). A single turbine would not affect the tranquil and secluded character of parts of the landscape. Overall, it is considered that a single turbine development would not have an adverse effect landscape values.

Small scale group: A small scale group of turbines could be accommodated with the Southern Wolds landscape without affecting any key landscape values, providing it does not impinge on the site or setting of valued landscape components (the historic village cores, views to landmark features and the important woodland belts. A small scale turbine group could be sited so that it does not affect the tranquil secluded character, however given the presence of considerable incongruous modern development – care would need to be taken to ensure that turbine developments do not result in visual clutter and degradation of the landscape. An appropriately sited small scale turbine development would not have an adverse affect on landscape values.

Medium scale group: A medium scale group of turbines could be dominant and have an effect on landscape values particularly the perception of parts of the

area as tranquil and secluded. A medium scale group could also have an adverse effect on those parts of the landscape where visually intrusive development is already dominant.

Large scale group: A large scale group of turbines could be dominant and have an effect on landscape values particularly the perception of parts of the area as tranquil and secluded. A large scale group could further degrade the rural landscape where visually intrusive development is already dominant.

CAPACITY JUDGEMENT

The judgements on landscape sensitivity and landscape values indicate that a **single** or a **small scale** turbine group is the type of development that could be most easily accommodated within the Southern Wolds landscape. It is considered that this scale of development, providing it is appropriately sited and designed, would not have an adverse impact on overall landscape character or key landscape values. The landscape has a low capacity for a medium scale or large scale group of turbines..

GUIDANCE

Single Turbine (1 turbine)

11.4. The landscape has a **high** capacity to accommodate a single turbine. The medium scale of the landscape, gentle topography and land cover patterns would allow a single turbine to fit well and it could correspond to land cover and settlement patterns forming a landmark feature or focal point. However, care will need to be taken in siting turbines and to avoid creating visual confusion and clutter where existing vertical elements are already dominant. The location of a single turbine should consider the following guidance:

- *Provide a positive contribution providing a focal point within medium - long-range open views, mirroring the landmark function of church towers and spires.*
- *Avoid those areas where there are already a large number of vertical elements (e.g. pylons and communication structures) to ensure that the development does not result in visual confusion and clutter.*
- *Relate to existing building clusters in the landscape for example the occasional large farm buildings, utility buildings or industrial areas. There may also be an opportunity for a single turbine to relate to infrastructure associated with the main road routes (A1, A14).*
- *Consider opportunities for siting in relation extended urban areas on the edge of the larger settlements. In this way a single turbine could function as a landmark or gateway.*

- *Relate to the land cover pattern in particular the woodland edges and geometric field patterns.*
- *Respect the sites and settings of key valued landscape features notably the extensive areas of woodland (SSSI).*
- *Respect the more sensitive ridge which divides the valleys of the Kym and Ellington Brook – this ridge should remain a predominantly rural, wooded feature.*
- *Consider the visual relationship of a single turbine with the Ouse Valley.*
- *Avoid introducing additional solid built structures such as sub stations into rural areas, which are generally characterised by the absence of buildings. Additional structures would be better accommodated in relation to existing farm/utility buildings.*
- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

11.5. ***Cumulative Development:*** There is scope for the Southern Wolds to accommodate a number of single turbines, however care will need to be taken in their location and relationship to each other. Single turbines within this landscape will act as a point of focus or landmark. Views of more than one turbine development could dilute the perceived landmark function of a turbine and create a potentially confusing viewing experience. In particular the central ridge that divides the valleys of the Kym and Ellington Brook should remain a predominantly rural wooded skyline and should not be cluttered with numerous tall vertical structures.

Small Scale Group (2 – 12 turbines)

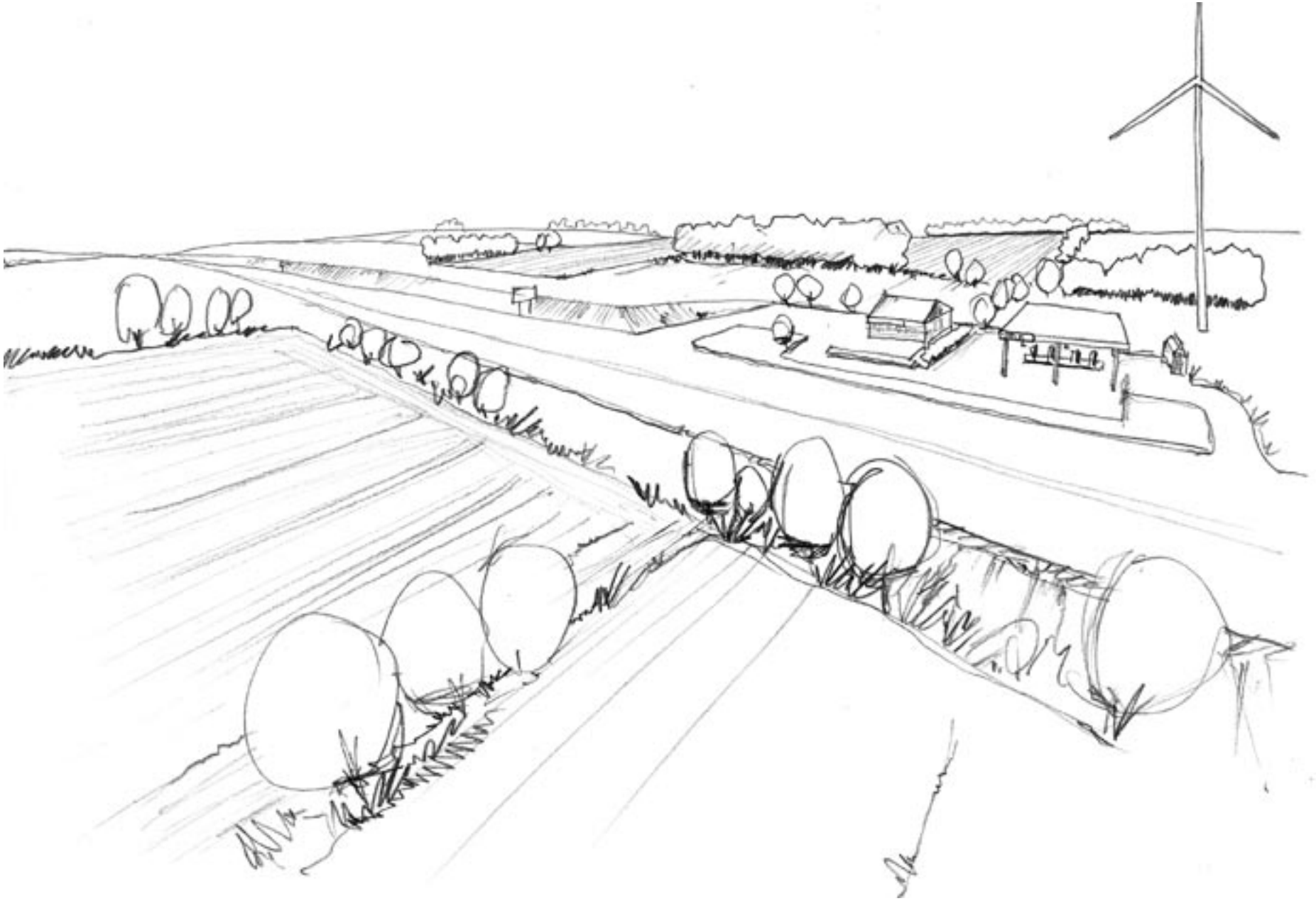
11.6. The landscape has a **high** capacity to accommodate a small scale group. Although a more obvious and dominant feature in the landscape a small scale development could respond well to the landscape structure and pattern. However, there are a number of key sensitive elements that will need to be respected, notably the need to retain the strong wooded skyline afforded by the central ridge between the two valleys. . Particular care will need to be taken in siting turbines and to avoid creating visual confusion and clutter where existing vertical elements are already dominant. The following guidance notes should be considered:

- *Avoid those areas where there are already a large number of vertical elements (e.g. pylons and communication structures) to ensure that the development does not result in visual confusion and clutter.*

- *Respect existing landmark vertical features such as key views to church spires and towers.*
- *Relate to existing building clusters in the landscape for example the occasional large farm buildings, utility buildings or industrial areas. There may also be an opportunity for a small scale turbine development to relate to infrastructure associated with the main road routes (A1, A14).*
- *Consider opportunities for siting in relation extended urban areas on the edge of the larger settlements. In this way a small turbine group (e.g. 2 – 3 turbines) could function as a landmark or gateway.*
- *Relate to the land cover pattern in particular the woodland edges and geometric field patterns with a consistent and repetitive spacing between turbines.*
- *Consider a linear arrangement along contours as opposed to crossing contours.*
- *Respect the sites and settings of key valued landscape features notably the extensive areas of woodland (SSSI).*
- *Avoid the more sensitive ridge, which divides the valleys of the Kym and Ellington Brook – this ridge should remain a predominantly rural, wooded feature.*
- *Consider the visual relationship of a single turbine with the Ouse Valley.*
- *Avoid introducing additional solid built structures, such as transmission stations, into rural areas, which are generally characterised by the absence of buildings. Additional structures would be better accommodated in relation to existing farm/utility buildings.*
- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

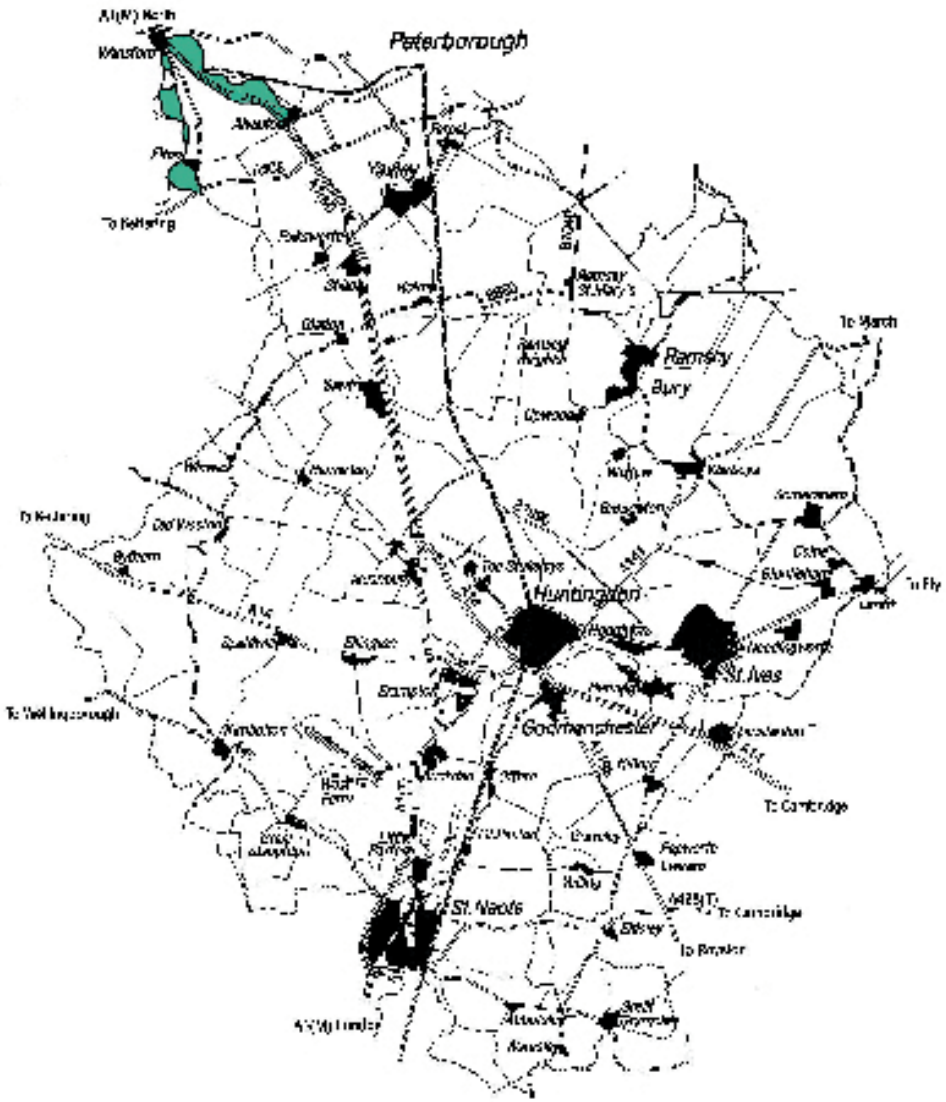
11.7. ***Cumulative Development:*** The landform and land cover pattern provides scope for more than one small scale turbine group within this landscape. It is essential that there is consistency in form and siting of developments respecting the consistent character of the landscape. In this landscape some long-range views are often possible and views of more than one type of turbine development could create a potentially confusing viewing experience.

SOUTHERN WOLDS



A turbine could relate to the infrastructure associated with the main road (A1/A14 routes).

Nene Valley



Small scale landscape covers the valley floor of the River Nene.

Distinctive limestone villages reflecting the local geology.

Arable and pastoral land use dominate. Also the existence of Parkland, e.g. at Elton Hall Estate.

12. NENE VALLEY

LOCATION AND BOUNDARIES

12.1. The Nene Valley landscape character area comprises landscape associated with the river Nene. Whilst it is only a small area within Huntingdonshire (the north-west tip), it forms part of a larger distinctive valley landscape stretching beyond the district boundaries into Northamptonshire.

Key Characteristics

- Valley floor of River Nene.
- Arable and pastoral land use (some traditional water meadows remain).
- Distinctive limestone villages reflecting local geology.
- A1 is a predominant feature in the area.
- Nene Valley steam railway provides a recreational function, and distinctive landscape feature.
- Archaeology includes Dubroviae Roman town.
- Parkland around Elton Hall.

SENSITIVITY TO WIND TURBINE DEVELOPMENT

12.2. The following table considers the key characteristics of the character area under each of the seven attributes identified as being potentially sensitive to turbine development. The sensitivity of each characteristic of the landscape has been evaluated in relation to four different scales of turbine development – single, small, medium and large scale. Considering each characteristic independently results in a comprehensive, integrated assessment and provides a detailed understanding of the sensitivity of the landscape and the reasons why. Note that it is the *combination* of key characteristics that should be considered (i.e. each column) in forming a judgement about sensitivity to turbine development. The guidance contained in any single row of the table, should not be considered in isolation.

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group 25+ turbines)
Scale and Enclosure • Intimate and small scale. • Strong sense of enclosure provided by vegetation and landform (views across valley to north to backdrop of wooded hills).	**Low** With careful siting, a single turbine could be accommodated in this character area.	**Moderate** The lower end of a small scale group (2 – 3 turbines) could be accommodated with care in siting and arrangement.	**High** The limited land within this character area in Huntingdonshire suggests that a medium scale turbine group would not be appropriate.	**High** The limited land within this character area in Huntingdonshire suggests that a medium scale turbine group would not be appropriate.
Landform and Topography • Flat floodplain with gravel terraces on river sides.	**Low** A single turbine could be accommodated in relation to the flat floodplain or river terrace landform.	**Moderate** The lower end of a small scale group (2 – 3 turbines) could be accommodated in relation to the flat floodplain or river terrace landform.	**High** There is limited land area to accommodate a medium scale group.	**High** There is limited land area to accommodate a medium scale group.
Land Cover Pattern • Well-vegetated valley floor of the River Nene. The River itself varies between 5-10m in width, meandering within the flood plain. • The arable and pastoral fields are mostly small in size and contribute to the small scale of the landscape. There is some remaining traditional water meadow and unimproved grassland meadow and a significant area of parkland around Elton. • Adjacent to the river trees include poplar, willow and alder, whilst oak, ash and horse chestnut predominate in hedges and copses on the drier ground. • A1 is a predominant feature in the landscape.	**Moderate** A single turbine could be accommodated, although land cover features such as the river corridor, pastoral valley floor, traditional water meadows, unimproved grassland and parkland are particularly sensitive. A single turbine could relate to infrastructure along the A1 corridor.	**Moderate** The lower end of a small scale group (2 – 3 turbines) could be accommodated, although land cover features such as the river corridor, pastoral valley floor, traditional water meadows, unimproved grassland and parkland are particularly sensitive. A small scale group (2 – 3 turbines) could relate to existing infrastructure associated with the A1	**High** As above	**High** As above

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group 25+ turbines)
		corridor.		
Settlement Pattern and Density • Distinctive historic limestone villages reflect the local geology. • Large country estates have influenced the landscape and architecture of the valley. • The attractive limestone villages have a timeless quality, particularly as there is little modern development.	**Moderate** A single turbine would dominate the distinctive small villages. Any turbine would need careful siting to ensure it did not impact on the setting of the villages.	**High** A small group of turbines would dominate and appear out of place in relation to the villages. There is relatively limited land area to site a small scale group in a way that does not impact on the setting of the villages.	**High** As above	**High** As above
Landmarks and Visible Built Structures • There are many examples of limestone structures such as walls, bridges, churches and water mills. • The A1 road corridor and associated infrastructure. • The Nene valley steam railway provides a recreational function and a distinctive landscape feature.	**Moderate** There is an opportunity to locate a single turbine in relation to existing infrastructure along the A1 corridor. Elsewhere, a turbine could interrupt the rural/recreational landscape.	**Moderate** A small scale group of turbines would interrupt the rural/recreational landscape. There may be an opportunity to locate the lower end of the group (2 – 3 turbines) in relation to existing infrastructure of the road corridor.	**High** As above	**High** As above
Skyline • Mature vegetation creates a strong sense of enclosure – valley sides do not form a distinctive skyline. • Some views across valley to north to backdrop of wooded hills – beyond the district boundary.	**Low** The area does not form a skyline in views.	**Low** The area does not form a skyline in views.	**N/A**	**N/A**

Key Characteristics of the Landscape	Single Turbine (1 turbine)	Small Scale Group (2-12 turbines)	Medium Scale Group (13-24 turbines)	Large Scale Group 25+ turbines)
Visual Connections with Adjacent Landscapes • Only a small area within Huntingdonshire but stretches beyond the district boundaries into Northamptonshire. • Views northwards across the Nene Valley have the backdrop of the wooded hills of the Oolitic limestone belt.	**Moderate** A single turbine located in this character area would be visible from land outside the district boundary and would need to be considered in relation to applications in Northamptonshire.	**Moderate** A small group of turbine located in this character area would be visible from land outside the district boundary and would need to be considered in relation to turbine applications in Northamptonshire.	**High** As above	**High** As above

Landscape Sensitivity Overview: An assessment of the seven attributes likely to be sensitive to turbine development indicate that overall, the Nene Valley landscape has a moderate sensitivity to a single turbine. This largely relates to the small scale and constrained area of landscape – a different sensitivity rating may have been given if the entire area of the Nene Valley had been considered (i.e. beyond the district boundary). A moderate sensitivity also applies to the lower end of a small scale group (i.e. 2 – 3 turbines), a group any larger would not be appropriate with adverse impacts on many attributes of the valley landscape. Given the very small extent of the Nene Valley Character Area in Huntingdonshire, medium and large scale groups of turbines are judged to be inappropriate.

CONSIDERING LANDSCAPE VALUES

12.3. In addition, to considerations of sensitivity is the need for an understanding of special landscape values. The following section considers landscape values under four main headings. The information has been drawn from the landscape character assessment, including the human responses to the landscape. It incorporates stakeholder perceptions identified at the Huntingdonshire Landscape Character Assessment Workshop, 2001.

Landscape Values

Character and Condition

- Character relatively undisturbed by recent development (away from A1).
- Strong sense of place – river valley landscape.
- Attractive, distinctive limestone villages with a timeless quality.

Human Response

- An intimate and small scale landscape.
- Valued for the recreational function – the Nene Way and Nene Valley Steam Railway. People take pleasure in being in this landscape.

Remoteness and Tranquillity

- Perceived as a tranquil area with a sense of peaceful isolation, although traffic movement and noise is more intrusive towards the A1.

Other Values

Cultural: Distinctive limestone villages – with vernacular architecture, historic buildings and designated as Conservation Areas. Areas, Historic Parkland at Elton. Numerous Scheduled Ancient Monuments. Dubroviae Roman Town provides an insight into the archaeology of the area.

Natural: Extensive areas of the valley floor designated as SSSI.

Recreational: Valued recreational function including the Nene Valley Way and Steam Railway, plus use of waterway for boating.

Landscape Value Overview

Single Turbine: A single turbine could be accommodated providing it does not impinge on the site or setting of any valued landscape components. A key consideration for siting a single turbine will be the extensive areas of nature conservation interest associated with the valley floor and need to respect the setting of the distinctive villages. It is considered that a single turbine would not affect the tranquil and peaceful isolated character of the Nene Valley.

Small-scale group: There is potential for a small-scale group of turbines to have significant adverse effects on landscape values particularly the peaceful character, recreational values, nature conservation interest and the setting of the villages. There may be some limited opportunities for the lower end of a small scale group (no more than 2 – 3 turbines) in association with the road corridor.

Medium scale group: A medium scale group would have a major affect on the valued attributes of the Nene Valley landscape.

Large-scale group: A large scale group would have a major affect on the valued attributes of the Nene valley landscape.

CAPACITY JUDGEMENT

The judgements on landscape sensitivity and landscape values indicate that opportunities to accommodate a **single** within the Nene Valley landscape are highly constrained.

GUIDANCE

Single Turbine (1 turbine)

12.4. The landscape has a **moderate** capacity to accommodate a single turbine. The intimate and small scale of the landscape and presence of a large number of highly valued landscape features, notably the distinctive limestone villages, historic landscapes and important nature conservation interests suggests that locations for siting a single turbine will be limited to the few open arable areas or in association with existing infrastructure along the A1 corridor.

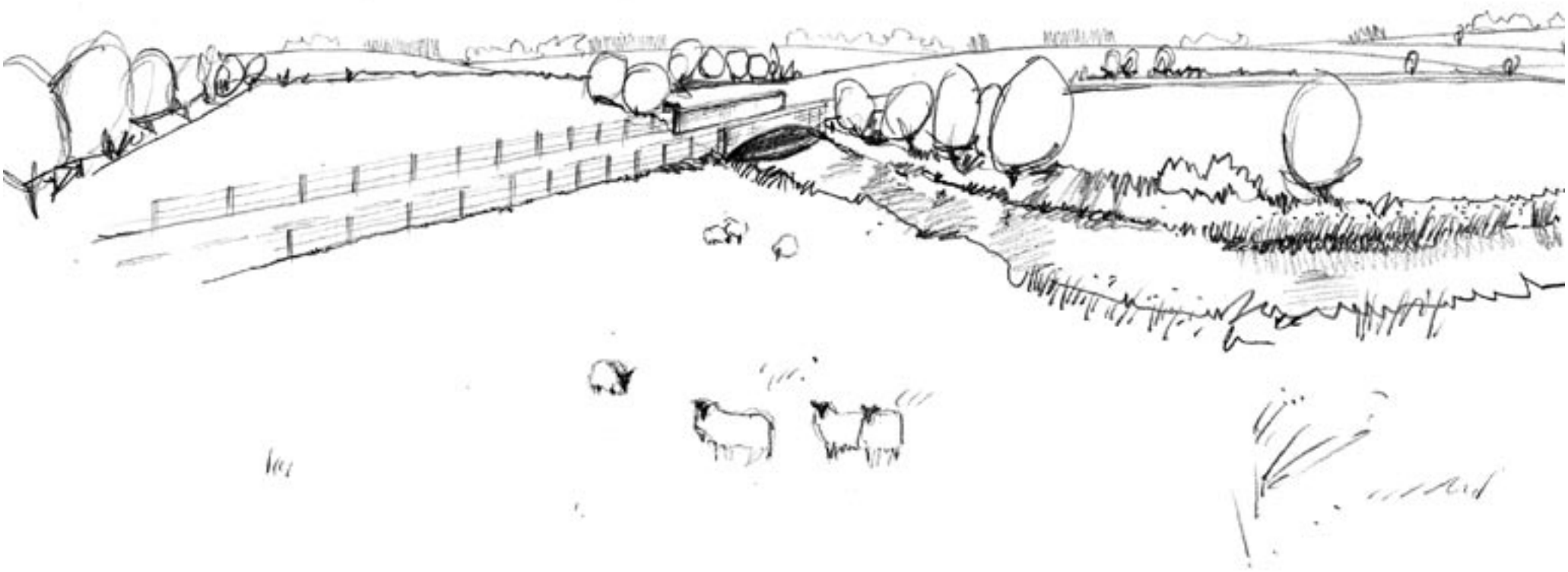
- *Respect the nature conservation interests associated with the wetlands along the valley floor;*
- *Respect the site and setting of historic landscape features including the historic parkland and Scheduled Ancient Monuments.*
- *Retain the sense of tranquillity and relative isolation.*
- *Maintain the recreational value of the Nene Valley landscape;*
- *Avoid areas which retain a distinctive valley landscape such as the watermeadows. It is likely that only the more open arable will provide an appropriate location.*
- *Consider opportunities for locating a turbine in association with existing infrastructure along the A1 corridor.*
- *Respect the setting of the distinctive limestone villages of the Nene Valley e.g. Stibbington, Water Newton, Elton*
- *Seek opportunities to achieve wider landscape management objectives identified in the Huntingdonshire Landscape Character Assessment in association with any proposed development.*

12.5. ***Cumulative Development:*** There very small geographical extent of the Nene Valley in Huntingdonshire suggests that there would not be scope to accommodate more than one turbine development.

Small Scale Group of Turbines (2 – 12 turbines)

12.6. The landscape has a **low** capacity to accommodate a small scale group of turbines for the reasons noted above. However, there maybe an opportunity to locate a development (of e.g. 2 turbines) in association with infrastructure along the A1 corridor. There is no capacity for cumulative development. The guidance in relation to a single turbine applies.

NENE VALLEY



The location for turbine development are highly constricted and must respect the historical features, parkland, water meadows, recreational landscapes and the distinctive limestone villages.

Part 3: Wind Turbines and Urban Extensions

13. WIND TURBINES AND URBAN EXTENSIONS

INTRODUCTION

13.1. The brief for the Huntingdonshire Wind Turbine Capacity study requires the project to include a 'generic' assessment of potential landscape capacity and mitigation requirements in relation to wind turbine opportunities associated with urban extensions. The scope of the work in relation to urban extensions was amplified at the first steering group meeting as:

- short, generic guidelines, include visual representation/graphics;
- to follow Cambridgeshire Landscape Guidelines example;
- most settlements in Huntingdonshire are within the Ouse Valley (although have expanded up over valley sides into adjacent landscape types);
- use one settlement as a model e.g. St. Neots east of the rail line;
- need to consider appropriate scales of turbine development in relation to a settlement;
- will need to consider views in (townscape) and views out (landscape).

13.2. This paper provides generic guidance on siting wind turbines in relation to urban areas as well as a checklist of criteria which should be addressed in assessing potential developments on the edge of urban areas.

13.3. Annex A, in this section, contains a checklist of criteria and questions that could be applied to assess the sensitivity of a site, located on an urban edge, to wind turbine development.

13.4. Annex B, in this section, contains the two case studies that were used to inform the generic guidance accompanied by photographs.

Methodology

13.5. Criteria were developed for assessing the suitability of urban sites for wind turbine development, based on the criteria used to judge landscape capacity for wind turbine capacity in rural areas. The initial criteria, presented in a short paper were field tested in two locations – on the eastern edge of St Neots and on the northern edge of Ramsey. The urban edge field survey sheet is presented as Appendix 2 of the main report. This resulted in the criteria being amended and refined as follows:

Character Criteria	Visual Criteria	Value Criteria
• Landscape setting • Character of the existing urban edge • Landform and scale • Size and form of settlement • Urban structure • Role and function	• Key landmarks • Settlement skyline • Key views (from townscape assessment) • Sensitive viewers	• Conservation Areas • Quality and condition of the urban edge • Natural and historic values • Special cultural associations • Intrinsic values

13.6. The detailed landscape and townscape assessment of Huntingdonshire District (July 2003) provides a valuable source of information on townscape characteristics/ morphology that can be used as a baseline of information from which to assess potential impacts of turbine development on settlements in Huntingdonshire.

GENERIC GUIDANCE FOR SITING WIND TURBINES ON URBAN EDGES

13.7. The landscape capacity assessment currently being undertaken by Land Use Consultants reveals which landscape types may be appropriate for wind turbine development. However, on the edges of urban areas other factors may limit the capacity of a site to accept development of this type and scale. This guidance aims to identify those 'other factors', which should be considered when siting wind turbines near urban areas.

General

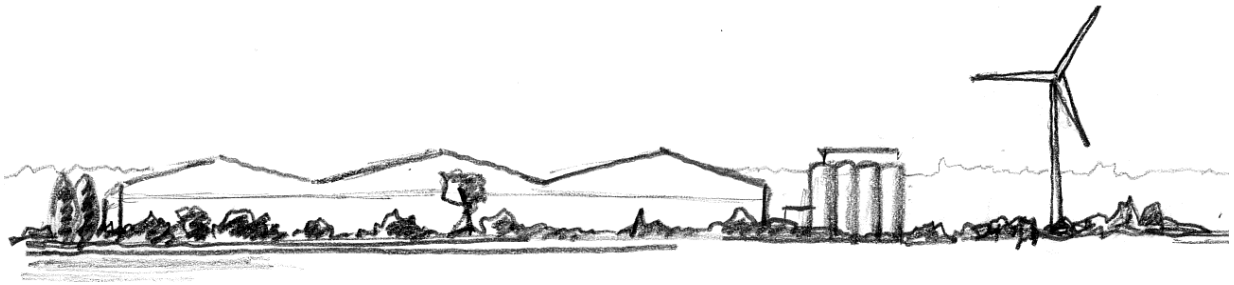
13.8. *Turbines should generally only be located in landscape character areas that have been identified as suitable for turbine development in the landscape capacity study.*

There may be opportunities for placing wind turbines in urban extensions of mixed use development, or existing or new industrial areas.

Simple, large scale landform is likely to be best suited to turbine development. Narrow valleys or areas of intimate landform are likely to be unsuitable.

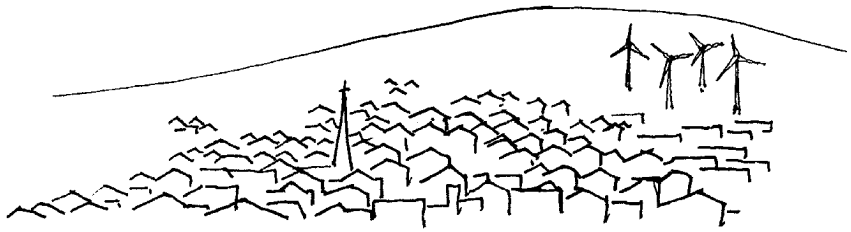
Relating to Townscape Character

13.9. *Wind energy developments should respond to the scale of the built form on the urban edge. For example, where the scale of built features on the urban edge is large, wind turbines may relate well the built form.*



The form of the urban edge (linear, organic etc.) may influence the layout of turbines. However, the landscape pattern will also be important. For example, in fenland areas the rigid field pattern may be a stronger determinate of turbine form than an organic settlement edge.

Ensure any boundary treatment (e.g. fencing) or infrastructure accompanying the wind turbine development relates to townscape character and respects local styles and materials.



The turbine/ group of turbines should not dominate or overwhelm the urban area – smaller areas are likely to be able to accommodate smaller scale, and fewer, structures.

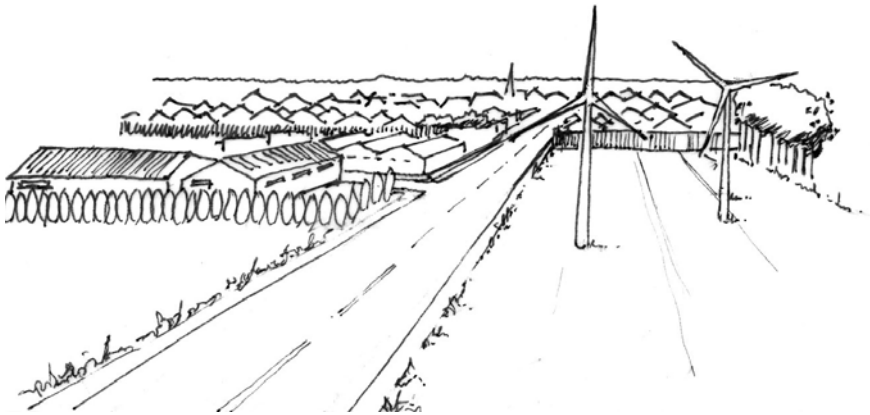
Where historic buildings form a settlement edge that edge is unlikely to be suitable for turbine development.

The turbine/ group of turbines should not adversely affect the visual or physical relationship of the urban area with the surrounding landform.

The turbine/ group of turbines should not have an adverse effect on function of 'nodes' as identified in the townscape assessment.

The turbine/ group of turbines should not have an adverse effect on the 'historic gateways' identified in the townscape assessment.

The turbine/ group of turbines should not have an adverse effect on 'memorable areas' as defined in the townscape assessment.



The turbine/ group of turbines should not have an adverse effect on 'buffers' as defined in the townscape assessment.

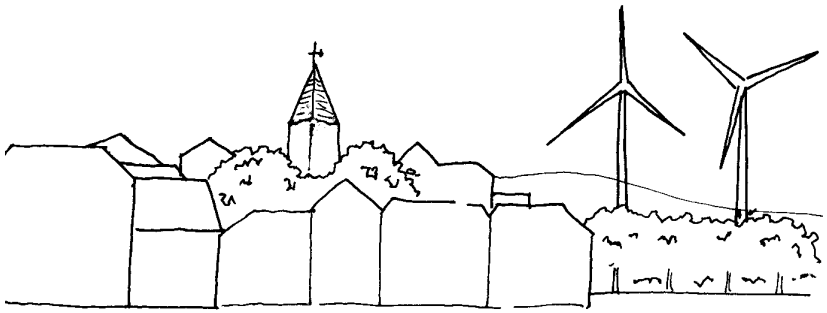
Consider opportunities for a turbine(s) to strengthen urban morphology, through creation of new nodes, gateways or landmarks.

Consider opportunities for a turbine(s) to create a new role for the urban edge.

Ensure development does not adversely affect the function of the area in relation to the town, for example in terms of its recreational function, nature conservation function or open space function.

Relating to Views and Visual Impact

13.10. *Ensure that wind turbines do not obstruct, intrude into, or detract from, existing positive landmarks e.g. spires, towers, mills (refer to key landmarks identified in the townscape assessment).*



Consider opportunities for wind turbines to create a new positive focus in views.

Ensure that wind turbines contribute positively to the settlement skyline, particularly as seen from popular viewpoints.

Pay particular attention to the 'key views' identified in the townscape assessment and ensure that the wind turbines do not cause significant detrimental impact to these views.

Consider views from sensitive visual receptors, such as residents, in siting wind turbines.

Only use screen planting where it is appropriate to landscape character. For example, in a large scale open landscape it may be inappropriate to provide screen planting.

Consider the use of off-site tree planting to filter views of turbines, where appropriate to landscape character.

Relating to Values

13.11. *Ensure the turbine development does not adversely affect historic settlement cores or the character of Conservation Areas.*

Seek opportunities to improve the condition/ quality of the landscape/ townscape in which the development will occur. Consider off-site as well as on-site improvements which are in accordance with the recommendations provided in the landscape and townscape character assessment for the District.

Ensure wind turbines do not adversely affect any areas known for their special cultural or literary associations.

Ensure wind turbines do not adversely affect any intrinsic values such as nature conservation, heritage or recreational interests.

Annex A:

Urban Extensions - Checklist of Criteria

URBAN EXTENSIONS - CRITERIA AND CHECKLIST FOR ASSESSING SENSITIVITY TO WIND TURBINES

Criteria	Key questions
Character Criteria	
Landscape setting	In which landscape character area does the urban edge fall? Is the urban edge typical of the wider landscape character area? Is the landscape character area suitable for turbine development? Is the guidance for the landscape character area relevant or is the urban fringe different?
Character of the existing urban edge	Nature of the existing urban edge (type and density e.g. residential/ industrial etc) – would turbines fit? Size and scale of built features – would turbines fit with the scale of existing built features? Form of the urban edge (linear, organic) – how would turbines best fit? Age and distinctiveness of the urban edge – would turbines be at odds with the character of the built form?
Landform and scale	Nature of landform (e.g. simple, flat, rolling, undulating) – would turbines fit with landform? Relationship of the urban area and with the surrounding landform – would turbines affect the relationship positively or negatively? Is topography limiting? E.g. settlement within a narrow valley
Size and form of settlement	How large is the settlement? [1] Will a tall vertical structure fit with, or dominate/overwhelm, the urban area?

[1] Settlement size is defined in relation to the size of settlements in Huntingdonshire District. The size of settlements is also referred to in the Huntingdonshire Landscape and Townscape Assessment produced for Huntingdonshire District Council by Landscape Design Associates.

	How many turbines could be accommodated? (single only, small groups etc.)
Urban structure	Will the turbines adversely affect the historic core of the settlement? Will any 'nodes' identified in the townscape assessment be affected? Will any of the 'historic gateways' identified in the townscape assessment be affected? Potential role of turbine(s) – as a gateway? Effect on 'memorable areas' as defined in the townscape assessment? Effect on setting of the urban area (does the turbine occur within a 'buffer[2]' as defined in the townscape assessment)?
Role and function	What is the role of the site in relation to the town? What effect would a turbine(s) have on the role of the site? What is the function of the area in relation to the town? e.g. recreation, nature conservation, open space buffer How would turbine development affect function?
Visual Criteria	
Key landmarks	What are the existing positive landmarks (refer to key landmarks in townscape assessment) and would turbines adversely affect these? What are the existing negative landmarks and would turbines provide the opportunity to draw attention away from negative landmarks? Would a turbine(s) provide a new positive landmark for the town?
Settlement skyline	What is the character of the settlement skyline as seen from the surrounding area?

[2] Defined as an area of vegetation or open space that provides visual and/or physical enclosure or creates a distinct break between two contrasting land uses.

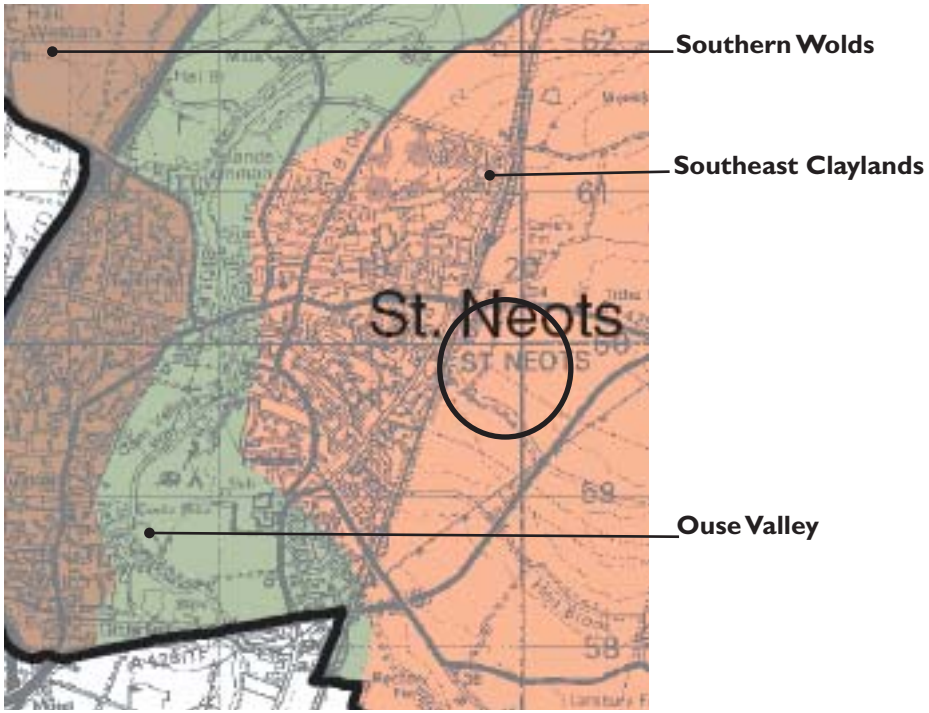
	How would turbines affect the settlement skyline from the surrounding area? Would a turbine(s) relate to existing vertical structures or confuse the image of the town?
Key views (from townscape assessment[3])	Do any 'key views' as identified in the townscape assessment fall within the area? Would a wind turbine(s) affect any key views? Would a wind turbine(s) affect the relationship of the town with its landscape setting?
Sensitive viewers	Distribution/ density of potentially sensitive viewers such as residents around the site? Where are the nearest residential receptors? Are there opportunities to mitigate visual impact on sensitive viewers?
Value Criteria	
Conservation Areas	Will the turbine fall within a designated area? If so, will it affect the reasons for which the landscape/ townscape is designated?
Quality and condition of the urban edge	What is the current quality/ condition of the urban edge? Would a turbine(s) affect the quality/ condition of the urban edge? Could development contribute to enhancement in line with guidance contained in the Huntingdonshire Landscape and Townscape Character Assessment?
Special cultural associations	Will the wind turbine affect any areas known for their special cultural or literary associations?

[3] Huntingdonshire District Council (2003) Supplementary Planning Guidance: Huntingdonshire Landscape and Townscape Assessment

Intrinsic values	Will the wind turbine affect any intrinsic values such as nature conservation, heritage or recreational interests?

Annex B:

Urban Extensions - Case Studies



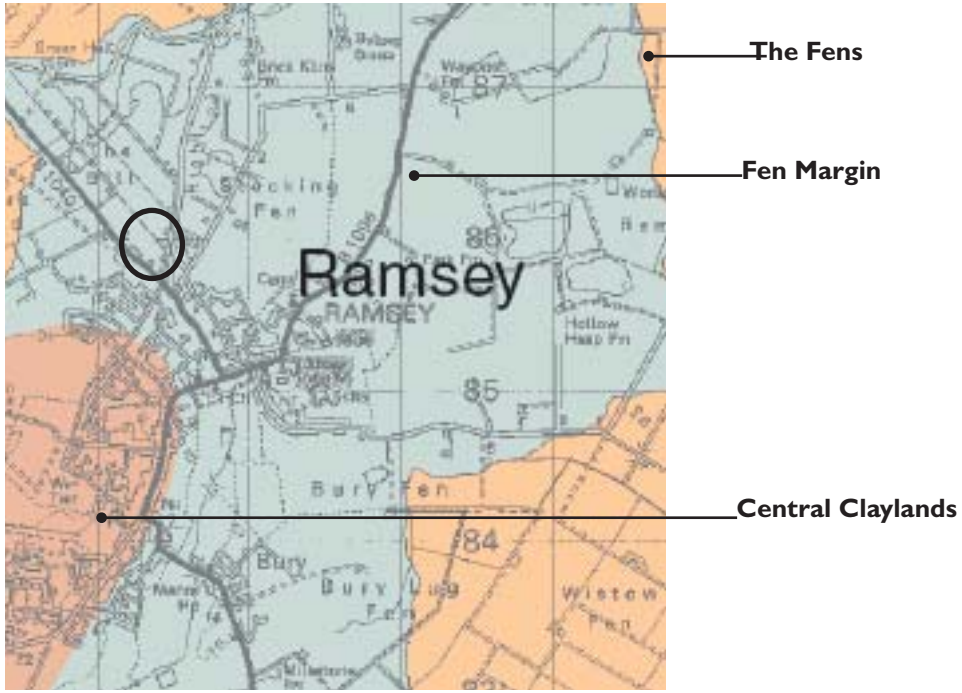


Figure 13.1: Case Study Areas

CASE STUDY 1: ST NEOTS EASTERN EDGE

This site is located on the eastern edge of St Neots, a large historic market town that has undergone rapid growth since the 1960s. St Neots developed within the Ouse valley and has in recent years developed up the valley sides and extended into the adjacent landscape type of the '*Southeast Claylands'* within which the site is located. A new residential extension (to include housing, open space, transport interchange and community facilities) is proposed at Love's Farm, immediately to the north of the case study site.

Criteria	**Description**	**Judgement**
Character Criteria		
Landscape setting	The case study area lies on the eastern edge of St Neots within the '*Southeast Claylands'* character area.	The *'Southeast Claylands'* have been judged to be suitable to accommodate small-scale wind turbine development in our Wind turbine Capacity study for Huntingdonshire. This judgement is equally applicable to the site on the edge of St Neots, since the site is representative of the wider character area.
Character of the existing urban edge	The existing urban edge is abrupt, linear and contained by the railway line. The edge is currently characterised by large-scale modern industrial buildings, although the residential extension proposed at Love's Farm would introduce smaller scale residential development.	Turbines could fit with the large-scale built form and modern industrial appearance of the urban edge. However, care would need to be taken in relating turbines to the new residential extension.
Landform and scale	The site has a simple, large-scale landform, forming a hilly ridge to the east of St Neots.	It is judged that wind turbines could fit with the scale and simplicity of the landform.

Size and form of settlement	St Neots is an historic market town with large-scale post 1960s estates and industrial areas. It is a large-scale settlement in relation to settlements in Huntingdonshire.	It is judged that wind turbines would not overwhelm the urban area. It is judged that a small-scale group[1] could be most suitable in this area.
Urban structure		
Nodes (identified in Townscape Assessment)	• Town Bridge River crossing and road to east. • Old village centres of Eaton Ford, Eaton Socon and Eynesbury.	There are no nodes in close proximity to the case study area. Wind turbine development would not affect the function of these nodes.
Memorable areas (identified in Townscape Assessment)	• Market Square; • St Neots Road Bridge; • Former Village Cores; • Riverside Park; • Priory Hill Park.	The case study site is located well away from the memorable areas. Wind turbine development would not affect the character of the memorable areas.
Historic gateways (identified in Townscape Assessment)	• St Neots Road Bridge	The case study site is located away from this historic gateway and wind turbine development would not affect it. Wind turbine development could form a new gateway feature on the eastern approach to the town.
Buffers (identified in Townscape Assessment)	• Buffer along eastern edge of A1 trunk road.	Wind turbine development in the case study site would have no effect on the buffer.

[1] A small group is defined as 2 – 12 turbines in the 'Wind Turbine Development in Huntingdonshire' report. However, in this case study it is judged that numbers at the lower end of this scale would be most appropriate.

Role and Function		
Role of the area in relation to the town	The site appears unmanaged and derelict – currently the role of the case study area is undefined.	Wind turbine development could give the area a new role and encourage more effective management.
Function of the area in relation to the town	The case study area appears to function as an open space at the urban edge, dissected by a large number of footpaths for recreational purposes.	Wind turbine development may interrupt the network of footpaths in the area, reducing the level of accessibility to open space for recreational purposes. Retention of access networks should form part of any development proposal.
Visual Criteria		
Key landmarks		
Positive landmarks	There are a few positive landmarks including: • St Mary's Church St Neots; • St Mary's Church Eynesbury; • St Mary's Church Socon; • Paine's Mill.	Wind turbines could interrupt some views of the church towers and spires looking towards the settlement. However many vertical elements already compete with these positive landmarks.

Negative landmarks	There are currently a large number of negative landmarks in the skyline of this urban edge including: • Streetlights; • Pylons; • Industrial Structures (storage containers and chimneys); • Communication masts.	Wind turbines may become a positive landmark focus.
Settlement skyline	As viewed from the A428 to the east of the site the settlement skyline is prominent and is dominated by a cluster of industrial buildings, pylons, streetlights and communication masts. The church towers are also visible from certain angles.	It is judged that wind turbines could dominate the skyline and form a new visual focus for the town. They could draw attention away from positive features, however they would also draw attention away from negative features.
Key views (from townscape assessment)	• To the river from St Neots Road Bridge; • From Priory Hill Park to the urban edge, and; • From Crosshall Road towards the Ouse Valley.	Wind turbine development could be visible on the skyline behind St Mary's Church Spire from Crosshall Road. The other two views would be unaffected.
Sensitive viewers	There are a large number of potential sensitive viewers in residential areas on the outskirts of St Neots, as well as a small number of receptors at surrounding farms. The nearest residents to the case study area are currently on the south-eastern edge of Priory Hill Park	The development of wind turbines in this location could affect the visual amenity of a number of residents on the western side of the town who have elevated views over the Ouse Valley to the '*Southeast Claylands'*. There would be few opportunities to mitigate these impacts.

	some 500m from the site. However, if the residential extension at Love's Farm goes ahead this would result in additional sensitive viewers adjacent to the site.	The valley topography means few receptors in the town centre or on the eastern valley side would experience visual impacts. However, if the residential extension at Love's Farm goes ahead, residents would experience close views of the turbines.
Value Criteria		
Conservation Areas	The case study area does not lie close to, or within, a Conservation Area.	Wind turbine development would not affect any Conservation Areas.
Quality and condition of the urban edge	This urban edge site is unmanaged and in poor condition, with horse grazing, industrial fencing and pylons. The proposed residential extension at Love's Farm may provide an opportunity to enhance the eastern urban edge.	Wind turbine development may provide the opportunity to improve the quality and condition of the urban edge in line with the aims outlined in the Supplementary Planning Guidance: Huntingdonshire Landscape and Townscape Character Assessment. Opportunities could include: • Planting to screen views of A1 and A428; • Replanting of hedgerows; • Tree planting along the edge of the roads approaching the town.
Special cultural associations	There are no areas of special cultural or literary associations recorded in the Townscape Character Assessment, although the town itself has a strong historical importance due to the 12th Century Market	Wind turbine development would have no effect on cultural associations or the historical importance of the town.

	Place and mix of building styles and ages.	
Intrinsic values	The site lies within an area with an abundance of footpaths.	Wind turbine development may affect the recreational interest in the area through the interruption/diversion of footpaths. However the development could also provide the opportunity for new access to open space.
Conclusions		
The large-scale nature and simple landform of this urban fringe area, combined with its industrial character, indicates that the site could accommodate wind turbine development. A small-scale group of turbines may help to create a less abrupt edge to the settlement and provide a new focus for the town, particularly given that the valley topography means wind turbines would not be visible from the historic town centre. The layout of turbines would need to be carefully considered so as not to compromise views of positive landmarks or the recreational function of the open space. Wind turbine development could provide a new focus, enhancing the gateway into the town from the east and providing a catalyst to improve landscape management in this part of the urban fringe.		

CASE STUDY 1: EASTERN EDGE OF ST NEOTS

The land on the eastern urban edge is largely unmanaged and of a poor quality.

The eastern edge of St neots is large scale and open, typical of the 'Southeast Claylands'

It is likely that wind turbines would be visible on the skyline behind St Mary's Church Spire in the key view from Crosshall Road.

Wind turbines in this location could affect the visual amenity of a number of residents on the western side of the town who have elevated views over the Ouse Valley to the south-east Claylands beyond.

Wind turbine development would not affect the character of memorable areas., such as Riverside Park due to tree cover.

The eastern urban edge is currently characterised by industry.

CASE STUDY 2: NORTHERN EDGE OF RAMSEY

This site is located on the northern edge of Ramsey; a small settlement which has experienced considerable recent growth and which, as a result of recent residential development to the south west of Ramsey, has merged with Bury. To the north Ramsey has developed into the '*Fen Margin*' landscape and it is this open landscape within which the site is located.

Criteria	**Description**	**Judgement**
Character Criteria		
Landscape setting	The site lies within the *'Fen Margin'* character area. The character of the site is typical of the wider landscape.	The *'Fen Margin'* character area has been judged suitable for single to medium scale groups of wind turbines in our Wind Turbine Capacity Study for Huntingdonshire.
Character of the existing urban edge	The urban edge is composed of low-density scattered industrial development of a mixture of ages. There is no clearly defined edge to the settlement.	Wind turbines would not be at odds with the character of the built form since it is a mix of modern and contemporary industry. However the scale of the built form will limit the height of turbines that could be accommodated here.
Landform and scale	The case study area lies within a large scale, open, flat landscape where the small fields create a more intimate scale.	Topography would not limit the siting of wind turbines in this area.

Size and form of settlement	Ramsey is a small town originally having developed around the Abbey to the east. There are a few medieval buildings but a diverse range of other building types and ages, including Georgian, Victorian and Edwardian houses as well as more recent development from the 19th and 20th Century.	A single turbine or small group[1] of turbines would be in scale with this small town. The small scale of the settlement indicates that turbines of a relatively low height (under 80m hub height) would be suitable.
Urban structure		
Nodes (identified in Townscape Assessment)	• The junction of the High Street and Great Whyte; • Junction of Upwood Road and the B1040.	Wind turbine development would have no effect on these nodes.
Memorable areas (identified in Townscape Assessment)	• The Abbey Greens and pond; • High Street; • Great Whyte.	Wind turbine development on this site would be visible from parts of Great Whyte, although the existing wind turbine to the north of Ramsey is already visible. The development would therefore not result in a significant change to the character of Great Whyte.
Historic gateways (identified in Townscape Assessment)	• Gatehouse by Hollow Lane; • Eastern approach to Abbey Greens; • Northern approach to Great Whyte.	Wind turbine development could create a new gateway to the town at the northern approach to Ramsey. The historic gateway at the northern end of Great Whyte could, however, be sensitive to new development of this nature.

[1] A small-scale group is defined as 2-12 turbines in the 'Wind Turbine Development in Huntingdonshire' report. However, in this case study site it is judged that numbers at the lower end of this scale would be most appropriate.

Buffers	There are no buffers identified in the *Townscape Assessment*.	No effect
Role and function		
Role of the area in relation to the town	The role of the case study site is at present undefined. The site is neglected and derelict with ramshackle farm buildings.	A wind turbine development on this site could give the site a new role.
Function of the area in relation to the town	The site does not currently have a function in relation to the town. In the past the site was agricultural land.	Turbine development could give the site a new function.
Visual criteria		
Key landmarks		
Positive landmarks	There area number of landmarks identified in the Townscape Character Assessment: • The Abbey School; • Church of St Thomas a Beckets; • Ramsey Abbey Gatehouse; • Salem Chapel; • Cemetery Chapel; • Holy Cross Church, Bury; • Rivermill apartments.	Wind turbines in this location would not conflict with any of the key landmarks defined in the townscape assessment since none of the landmarks are prominent in views of the town from the north.
Negative landmarks	None	None

Settlement skyline	As viewed from the B1040, the settlement skyline comprises small to medium scale buildings and trees with no one prominent element.	Wind turbine development could change the settlement skyline by creating a prominent and distinctive feature within it.
Key views (from townscape assessment)	Key views identified in the Townscape Assessment are: • Along High Street and Great Whyte; • Wood Lane at Church Green; • St Mary's Road to the North.	Wind turbines could be visible in the key view along Great Whyte. However, the single existing turbine is already visible along this street.
Sensitive viewers	Although there is a high density of residents within the heart of Ramsey, the density of potential sensitive viewers is much lower towards the north of the town where industry predominates. The nearest visual receptors are those residents in houses and industrial units along Stocking Fen Road and at the School Farm Estate and Great Whyte within about 200m of the case study site.	Wind turbine development would be viewed by a number of local residents and workers at industrial premises. There are some opportunities to mitigate visual impact through strategic planting, although opportunities are limited because of the open nature of the landscape.
Value Criteria		
Conservation Areas	The area around the Abbey is designated as a Conservation Area.	Wind turbine development would not be visible from the Conservation Area and so would have no affect on it.
Quality and condition of the urban edge	The urban edge is neglected and derelict.	It is judged that a wind turbine development may in fact improve the quality and condition of the urban edge through enhancing the

		landscape buffer along the northern edge of Ramsey, restoring areas of derelict land and providing screening of industrial premises, all of which would help to address the key issues raised in the Huntingdonshire *Landscape and Townscape Assessment*. Wind turbine development could provide a catalyst to improve landscape management in this part of the urban fringe.
Special cultural associations	There is no mention of special cultural or literary associations in the townscape assessment of Ramsey.	No effect.
Intrinsic values	The Fen margins are rich in archaeology, mostly from the medieval period, e.g. moats. There is also evidence of the development of the railway industry in the area with the presence of a dismantled railway and Railway Tavern. Historic field patterns are also present.	The development would not affect any medieval moats or industrial archaeology. Any development should respect the historic field patterns.
Conclusions Although the large scale, flat landscape scale is well suited to the medium-scale turbine development, the scale and character of the historic settlement imposes limitations on the ability of the site to accommodate large-scale turbines. A wind turbine development may help to give the northern edge of Ramsey a new role and improve its appearance. A wind turbine development would be in keeping with the industrial character of the northern urban edge. Provided that the turbines are of a relatively small scale, and would not overwhelm the settlement sky or views to and from the town. It is judged that a wind turbine development could perhaps become a landmark feature, acting as a new northern gateway into Ramsey; and contribute to an enhanced urban edge.		

CASE STUDY 2: NORTHERN EDGE OF RAMSEY

The quality and condition of the northern urban edge at present is neglected and derelict.

The northern urban edge of Ramsey is dominated by industrial buildings, scattered at a low density.

The site lies within the flat and open landscape of the 'Fen Margin' landscape character area.

Wind turbines could be visible in the 'key view' along Great Whyte.

Part 4: Capacity Summary

14. SUMMARY OF CAPACITY FOR WIND TURBINE DEVELOPMENT

14.1. This chapter provides a summary of overall capacity for wind turbine development in Huntingdonshire District. Note that this table refers to capacity for **one development** of each typology and separate guidance is given in relation to cumulative development. The following table consolidates capacity judgements for each of the landscape types. **The information in this table provides a 'quick guide' however it should not be used in isolation and must be read in conjunction with the judgements, guidance and information on cumulative development provided in the main body of this report.**

Table 14.1: Summary of Landscape Capacity for Wind Turbine Development

Landscape Character Area	Single Turbine (1 turbine)	Small Scale Group (2 - 3 turbines)	Small Scale Group (4 – 12 turbines)	Medium Scale Group (13 – 24 turbines)	Large Scale Group (25+ turbines)
1: The Fens	High	High	High	Moderate (lower end of scale e.g. 13 – 15 turbines)	Low
2: Fen Margin	High	High	High	Moderate (lower end of scale e.g. 13 – 15 turbines)	Low
3: Central Claylands	High	High	High	Moderate	Low
4: Ouse Valley	High	Moderate	Low	Low	Low
5: South East Claylands	High	High	High	Moderate	Low
6: Northern Wolds	High	High	Low	Low	Low
7: Grafham Water	High	Moderate	Low	Low	Low
8: Southern Wolds	High	High	High	Low	Low
9: Nene Valley	Moderate	Low	Low	Low	Low

Appendix 1:

Field Survey Sheet

HUNTINGDONSHIRE
Wind Turbine Capacity Study

DRAFT LANDSCAPE CHARACTER AREAS:

DATE: WEATHER:
SURVEYORS:
PHOTOGRAPH NUMBERS: LOCATION ON FIELD MAP:

KEY ISSUES / VISIBLE FORCES FOR CHANGE

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Scale and enclosure of landscape

		Description of scale and enclosure
Large scale	☐	
Medium scale	☐	
Small scale	☐	

Landform & Topography

		Description of landform
Simple landform	☐	
Varied landform	☐	
Complex landform	☐	

Land Cover pattern

Settlement Pattern & Density

		Description of settlement pattern
Unsettled		
Scattered dwellings		
Small scale settlement		
Medium scale settlement		
Large scale settlement		

Pattern……
Density……
Age, style and materials……..……..
Relationship to the landscape……..
Settlement edge character……
……
……

Landmarks and Visible Built Structures.

Skyline

		Description of skyline
Prominent / undeveloped / uninterrupted		
Prominent / developed / interrupted		
Not prominent		

Remoteness & Tranquillity

		Description of remoteness
Physically remote		
Perceptually remote		
Tranquil		
Physically not remote		
Perceptually not remote		
Not tranquil		

Views & Connections with the adjacent Landscape

Important Views

Landscape Values

……
……
……
……
……

Overview of Wind farm Capacity

	Single Turbine	Small cluster	Medium group	Large group
Scale/enclosure				
Landform and Topography				
Land Cover Pattern				
Settlement				
Landmarks				
Skyline				
Views & Connections				
Important Views				
Remoteness and Tranquillity				

Overview of Capacity/ Sensitivities

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Potential Capacity/ Sensitivities to CUMULATIVE effects

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Notes for Guidance……
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Appendix 2:

Urban Extension Field Survey Sheet

HUNTINGDONSHIRE Wind Turbine Capacity Study
Urban Extensions – Case Studies

Site:

DATE: WEATHER:
SURVEYORS: PHOTOGRAPHS:

CHARACTER CRITERIA

Landscape Setting
Landscape Character Area……

Is character area suitable for turbine development?.....

Is the guidance for the landscape character area relevant or is the urban fringe different?.....
……...

Character of the Existing Urban Edge
Nature of the existing urban edge (type and density e.g. residential/ industrial etc)……..
……...
Size and scale of built features – would turbines fit with the scale of existing built features?.....
……..
Form of the urban edge (linear, organic) – how would turbines best fit?.....

Age and distinctiveness of the urban edge – would turbines be at odds with the character of the built form?……
…….,……

Landform & Scale

		Description of landform and scale in relation to the town (e.g. settlement in a narrow valley, large scale hills forming a backdrop to the town etc.)
Simple landform		
Varied landform		
Complex landform		
Large scale		
Medium scale		
Small scale		

Would turbines fit with landform?.....

Is topography limiting? (e.g. settlement within a narrow valley)……..
.....

Size and Form of Settlement

	Description of settlement
Hamlet	
Small scale settlement	
Medium scale settlement	
Large scale settlement	

Will a tall vertical structure fit or dominate/overwhelm the urban area?.....

How many turbines could be accommodated?.....

Urban Structure

Settlement morphology:

	Description of urban structure
Nodes	
Memorable areas	
Historic Gateways	
Buffers	

Effect on 'nodes' as defined in the townscape assessment?.....

Could turbine contribute positively to a 'node'?.....

Effect on 'memorable areas' as defined in the townscape assessment?.....

Could a turbine(s) contribute to a 'memorable area'?.....

Effect on 'historic gateways' identified in the townscape assessment?.....

Potential role of turbine(s) – as a gateway?.....

Effect on setting of the urban area (does the turbine occur within a 'buffer' as defined in the townscape assessment?

Would turbines reinforce/ perpetuate distinct morphology or create new focus e.g. on hilltop?

Role and Function

What is the role of the area?.....

What would the affect of a turbine on the role of the area be?.....

What is the function of the area in relation to the town? e.g. recreation, nature conservation, open space buffer……

How would turbine development affect function?.....

VISUAL CRITERIA

Key Landmarks

Presence and distribution of existing positive landmarks (e.g. spires, towers, mills etc.) – including key landmarks identified in the townscape assessment?

Will a turbine relate to existing positive landmarks or confuse the image of the town?

Presence and distribution of existing negative landmarks?

Would turbines draw attention away from negative landmarks?

Would a turbine have potential to create a new focus as a landmark?

Settlement Skyline

		Description of settlement skyline – note from which vantage points
Prominent / undeveloped / uninterrupted		
Prominent / developed / interrupted		
Not prominent		

How would turbines affect the settlement skyline from various vantage points?

Key Views to and from the Town

Do any 'key views' as identified in the townscape assessment fall within the area?

Would a wind turbine(s) affect any key views?

Sensitive viewers

Distribution, density and sensitivity of potential viewers?

Nearest residential receptors?

Are there opportunities to mitigate visual impact?

LANDSCAPE/ TOWNSCAPE VALUES

Formal designation
Will the turbine fall within a designated area?

……
If so, will it affect the reasons for which the landscape/ townscape is designated?
……
……
……

Quality and condition of the urban egde
Will the turbine affect the quality of the urban edge?

……
……
……

Could development address key issues raised in the Huntingdonshire LCA/TCA?

……
……
……

Special cultural associations
Will the wind turbine affect any areas known for their special cultural or literary associations?

……
……
……

Intrinsic values
Will the wind turbine affect any intrinsic values such as nature conservation, heritage or recreational interests?

……
……
……

JUDGEMENT ON SUITABILITY OF SITE