4 Summary of results

4.1 This section presents a summary of the results of the landscape sensitivity assessment. The full landscape sensitivity assessments for each of the landscape character area groupings are presented in tabular format in Appendix 3. These full assessments should always be referred to when interpreting the maps and tables in the remainder of this section.

Results of the landscape sensitivity assessment

4.2 **Table 4.1** provides an overview of the overall landscape sensitivity to wind energy and solar PV development across the landscape character area groupings in the Broads. It summarises the overall sensitivity judgements set out in the matrices at **Appendix 3**. It should be noted that judgements in relation to wind turbines are also applicable to infrastructure of comparable for off shore schemes, such as pylons, and this is reflected in the matrices at **Appendix 3**. The mapped results are summarised in **Figures 4.1 to 4.10** (for wind energy development) and **Figures 4.11 to 4.15** (for solar PV development). These maps show the landscape sensitivity of the Broads character area groupings to renewable energy typologies as follows:

- Figure 4.1: Wind turbines – overall landscape sensitivity
- Figure 4.2: Sensitivity to small turbines (0-20m height)
- Figure 4.3: Sensitivity to medium turbines (20-50m height)
- Figure 4.4: Sensitivity to large turbines (50-70m height)
- Figure 4.5: Sensitivity to very large turbines (70m+ height)
- Figure 4.6: Sensitivity to single turbines
- Figure 4.7: Sensitivity to up to 5 turbines
- Figure 4.8: Sensitivity to 6-10 turbines
- Figure 4.9: Sensitivity to 11-25 turbines
- Figure 4.10: Sensitivity to more than 26 turbines
- Figure 4.11: Solar PV – overall landscape sensitivity
- Figure 4.12: Sensitivity to roof mounted solar PV requiring planning permission
- Figure 4.13: Sensitivity to roof mounted solar PV of up to 1 hectare area
- Figure 4.14: Sensitivity to small scale field mounted solar PV of up to 1 hectare area
- Figure 4.15: Sensitivity to medium scale field mounted solar PV of 1-5 hectares area

Observations on landscape sensitivity across the LCA groupings

4.3 Generally the landscapes of the Broads are of rural and largely undeveloped, often remote character, whether simple, expansive marshes or complex interplay of river, broads, reed and carr. The built features they contain are relatively small in scale (e.g. church towers, vernacular settlement and wind pumps). As such, the landscape's sensitivity to wind energy development and solar PV tends to be fairly high, both in terms of landscape character and representation of special qualities. Reflecting these attributes, the assessment has found that there are no landscapes in the Broads which score low or moderate-low to the development of wind energy or solar PV schemes.

4.4 LCA groupings often contain areas of higher and lower sensitivity within them – it is therefore important to note the context of the individual evaluations in **Appendix 3**. Variations may occur to urban fringes for example such as at Thorpe Island or Oulton Broad, or where there is a greater perception of influences affecting the special qualities. The highest sensitivity areas are generally those which display the broadest and most intact range of special qualities and historic/landscape patterns.

4.5 With regard to **Figures 4.2** (landscape sensitivity to small turbines of less than 20 m in height) and **4.6** (landscape sensitivity to single turbines), these should be read in conjunction with one another, since sensitivity judgements in relation to single, large scale turbines will be different.

A note on scale

4.6 All landscapes in the Broads would be highly sensitive to 'large'/very large scale wind turbines, as few of the Broads landscapes are truly large scale in the context of wider UK landscapes. In the case of the larger marshland landscapes, the undeveloped skyline character is intrinsic to their character and to representation of special qualities and as such they are often highly sensitive in these terms.

Table 4.1: Summary of landscape sensitivity to wind energy and solar PV across the LCA groupings

Landscape character area grouping	Landscape sensitivity to wind energy development				Landscape sensitivity for solar PV development	
LCAs 1 and 2 Note that for the sensitivity ratings for landscape character areas outside the Broads, the parameters to which their sensitivity ratings apply, are described in the relevant matrices at **Appendix 3**, which refer to relevant topographic, physical and visual features in these areas.	**Overall sensitivity: H** Overall the two areas have a high landscape sensitivity to wind turbine development. Particularly this refers to the special qualities such as the sense of tranquillity, the strong sense of enclosure provided by undulating landform, wooded ridges and steeper valley sides in the adjacent character areas (A5 and B4 in South Norfolk). In addition, the historic landscape features reflected in the area's commons, the 17th century grazing marsh enclosures and the historic settlement pattern increase sensitivity to wind turbine development. As a result, the areas when combined, demonstrate a high sensitivity to wind turbine development overall.				**Overall sensitivity: M-H** Overall the landscape sensitivity to solar PV development is moderate-high. This is primarily due to the representation of special qualities within the areas including the sense of tranquillity and the diversity of nature. These characteristics are highly sensitive to solar PV development due to the potential of development footprint to impact upon the diversity of habitats and to create a developed landscape in an otherwise remote and tranquil area, resulting in a perceptual change to landscape character. Also sensitive to solar PV development is the historic landscape and settlement pattern which is vulnerable to change as a result of development footprint. It is however noted that the structural screening provided by landform and tree cover indicates a lower sensitivity and therefore the landscape has an overall moderate-high sensitivity to solar PV development.	
	Turbine heights – land in the Broads	Turbine heights – land outside the Broads	Turbine clusters – land in the Broads	Turbine clusters – land outside the Broads	Solar PV – land in the Broads	Solar PV – land outside the Broads
	Small (0-20m) **M-H**	Small (0-20m) **M-H**	Single turbine **M-H**	Single turbine **M-H**	Roof mounted requiring planning permission **H**	Roof mounted requiring planning permission **M-H**
	Medium (20-50m) **H**	Medium (20-50m) **H**	<5 turbines **H**	<5 turbines **H**	Roof mounted - <1 hectare **H**	Roof mounted - <1 hectare **M-H**
	Large (50-70m) **H**	Large (50-70m) **H**	6-10 turbines **H**	6-10 turbines **H**	Field mounted: Small - < 1 hectare **M-H**	Field mounted: Small - < 1 hectare **M-H**
	Very large (70m+) **H**	Very large (70m+) **H**	11-25 turbines **H** >26 turbines **H**	11-25 turbines **H** >26 turbines **H**	Field mounted: Medium - 1 to 5 hectares **H**	Field mounted: Medium - 1 to 5 hectares **H**

Landscape character area grouping	Landscape sensitivity to wind energy development				Landscape sensitivity for solar PV development	
LCA 3 Note that for the sensitivity ratings for landscape character areas outside the Broads, the parameters to which their sensitivity ratings apply, are described in the relevant matrices at **Appendix 3**, which refer to relevant topographic, physical and visual features in these areas.	**Overall sensitivity: M-H** Overall landscape sensitivity of the Waveney Valley – Barsham, Gillingham and Beccles Marshes to wind turbine development is moderate-high. Whilst a number of scenic and special qualities sensitive to turbines are present in this area, such as vernacular settlements and areas of open skies, overall landscape sensitivity is slightly reduced by intrusions such as the A146 corridor and line of pylons in the valley floor. The erosion of aspects of historic landscape character, such as boundary loss, and associated impacts on scale, also influence this sensitivity judgement.				**Overall sensitivity: M** Overall landscape sensitivity of the Waveney Valley – Barsham, Gillingham and Beccles Marshes to solar PV development is moderate. Whilst a number of scenic and special qualities sensitive to solar PV are present in this area, such as vernacular settlements and areas of open skies, overall landscape sensitivity is slightly reduced by intrusions such as the A146 corridor and line of pylons in the valley floor. The erosion of aspects of historic landscape character, such as boundary loss also influence this sensitivity judgement, as do areas of filtered visual character, to a degree. However, areas of more open floodplain landscape would have higher sensitivity to solar PV, given increased intervisibility.	
	Turbine heights – land in the Broads	Turbine heights – land outside the Broads	Turbine clusters – land in the Broads	Turbine clusters – land outside the Broads	Solar PV – land in the Broads	Solar PV – land outside the Broads
	Small (0-20m) **M-H**	Small (0-20m) **M-H**	Single turbine **M-H**	Single turbine **M-H**	Roof mounted requiring planning permission **M-H**	Roof mounted requiring planning permission **M-H**
	Medium (20-50m) **H**	Medium (20-50m) **H**	<5 turbines **H**	<5 turbines **H**	Roof mounted - <1 hectare **M-H**	Roof mounted - <1 hectare **M-H**
	Large (50-70m) **H**	Large (50-70m) **H**	6-10 turbines **H**	6-10 turbines **H**	Field mounted: Small - < 1 hectare **M**	Field mounted: Small - < 1 hectare **M**
	Very large (70m+) **H**	Very large (70m+) **H**	11-25 turbines **H** >26 turbines	11-25 turbines **H** >26 turbines	Field mounted: Medium - 1 to 5 hectares **M-H**	Field mounted: Medium - 1 to 5 hectares **M-H**

Landscape character area grouping	Landscape sensitivity to wind energy development				Landscape sensitivity for solar PV development	
LCAs 4, 5 and 6 Note that for the sensitivity ratings for landscape character areas outside the Broads, the parameters to which their sensitivity ratings apply, are described in the relevant matrices at **Appendix 3**, which refer to relevant topographic, physical and visual features in these areas.	**Overall sensitivity: M-H** Overall the areas are considered to have a moderate - high sensitivity to wind turbine development in general. This is due to the representation of some of the Broads special qualities within these character areas. Specifically reference is made to the varied landscape pattern and scale, the historic landscape character associated with 16th and 17th century marshes, the winding river corridor and provision for boating, the sense of tranquillity across the marshes and the presence of Edwardian settlement surrounding Oulton Broad. Sensitivity is lowered as a result of localised intrusion at Lowestoft, the sand and gravel pits in South Norfolk District, and areas of large scale 20th century rectilinear field patterns which results in an overall judgement of moderate – high.				**Overall sensitivity: H** Areas 4, 5 and 6 have a high overall sensitivity to solar PV development in general. This is primarily due to the representation of the Broads special qualities (i.e. diversity of nature, sense of tranquillity and wide, open landscapes). The intricate land cover and mixed pattern of elements, the perceived sense of remoteness and the Edwardian settlement at Oulton Broad are also sensitive to solar PV development.	
	Turbine heights – land in the Broads	Turbine heights – land outside the Broads	Turbine clusters – land in the Broads	Turbine clusters – land outside the Broads	Solar PV – land in the Broads	Solar PV – land outside the Broads
	Small (0-20m) **M-H**	Small (0-20m) **M-H**	Single turbine **M-H**	Single turbine **M-H**	Roof mounted requiring planning permission **H**	Roof mounted requiring planning permission **M**
	Medium (20-50m) **H**	Medium (20-50m) **M-H**	<5 turbines **H**	<5 turbines **M-H**	Roof mounted - <1 hectare **H**	Roof mounted - <1 hectare **M**
	Large (50-70m) **H**	Large (50-70m) **H**	6-10 turbines **H**	6-10 turbines **H**	Field mounted: Small - < 1 hectare **H**	Field mounted: Small - < 1 hectare **M-H**
	Very large (70m+) **H**	Very large (70m+) **H**	11-25 turbines **H**	11-25 turbines **H**	Field mounted: Medium - 1 to 5 hectares **H**	Field mounted: Medium - 1 to 5 hectares **H**
			>26 turbines **H**	>26 turbines **H**		

Landscape character area grouping	Landscape sensitivity to wind energy development				Landscape sensitivity for solar PV development	
LCAs 7 and 16 Note that for the sensitivity ratings for landscape character areas outside the Broads, the parameters to which their sensitivity ratings apply, are described in the relevant matrices at **Appendix 3**, which refer to relevant topographic, physical and visual features in these areas.	**Overall sensitivity: M-H** The areas when combined have a moderate-high sensitivity to wind turbine development due to the special qualities of the Broads (wide, open landscape, sense of tranquillity and mostly undeveloped skylines) which are represented within these character areas. The remote character of the areas and the degree of intervisibility with adjacent areas also increase sensitivity to wind turbine development. However, there is a noticeable degree of intrusion and visual clutter which exists within these areas as a result of the pylon lines and the Cantley Factory complex which are a highly visible on skylines across the area. The large scale rectilinear field pattern, where there is strong evidence of field boundary loss also indicates a lower sensitivity to wind turbine development and although this is localised it would nevertheless reduce sensitivity.				**Overall sensitivity: H** Overall landscape sensitivity of this area cluster to solar PV development is high. This is due to the representation of special qualities sensitive to solar PV in these areas, specifically the sense of tranquillity wide open landscape, sense of space and big skies which characterise many parts of the areas. Other important characteristics of these landscapes which contribute to this sensitivity rating in relation to solar PV are the open visual character of the marshland landscapes in these areas and associated intervisibility with adjacent landscapes including with those in adjacent local authorities beyond the Executive Area. Also important in relation to this sensitivity judgements of the historic landscape pattern, such as small scale curvilinear dykes, and prominent historic assets such as wind pumps at Herringfleet, church tower at St Peter's Staithe and steam engine house at Burgh Marshes.	
	Turbine heights – land in the Broads	Turbine heights – land outside the Broads	Turbine clusters – land in the Broads	Turbine clusters – land outside the Broads	Solar PV – land in the Broads	Solar PV – land outside the Broads
	Small (0-20m) **M-H**	Small (0-20m) **M-H**	Single turbine **M-H**	Single turbine **M-H**	Roof mounted requiring planning permission **H**	Roof mounted requiring planning permission **M-H**
	Medium (20-50m) **H**	Medium (20-50m) **M-H**	<5 turbines **H**	<5 turbines **M-H**	Roof mounted - <1 hectare **H**	Roof mounted - <1 hectare **H**
	Large (50-70m) **H**	Large (50-70m) **H**	6-10 turbines **H**	6-10 turbines **H**	Field mounted: Small - < 1 hectare **H**	Field mounted: Small - < 1 hectare **M-H**
	Very large (70m+) **H**	Very large (70m+) **H**	11-25 turbines **H** >26 turbines **H**	11-25 turbines **H** >26 turbines **H**	Field mounted: Medium - 1 to 5 hectares **H**	Field mounted: Medium - 1 to 5 hectares **H**

Landscape character area grouping	Landscape sensitivity to wind energy development				Landscape sensitivity for solar PV development	
LCAs 8 and 9 Note that for the sensitivity ratings for landscape character areas outside the Broads, the parameters to which their sensitivity ratings apply, are described in the relevant matrices at **Appendix 3**, which refer to relevant topographic, physical and visual features in these areas.	**Overall sensitivity: H** This character area grouping has a high sensitivity to wind turbine development due to the special qualities of the Broads represented within these areas (wide, open landscape, sense of tranquillity and mostly undeveloped skylines) and all of these would be sensitive to wind turbine development. The remote character, the sense of rurality and the undeveloped nature of these areas create a landscape which is sensitive to wind turbine development. It is however recognised that there is a degree of intrusion from adjacent areas (particularly from G4 within Great Yarmouth) as a result of pylons, boatyards and caravan parks which reduce this sense of tranquillity, although this is localised. The degree of visual containment to adjacent character also reduces sensitivity, although the elevated ridges are highly sensitive to wind turbine development due to their prominence. Due to the combination of sensitive characteristics, these character areas are of a high sensitivity to wind turbine development overall.				**Overall sensitivity: M-H** These character areas combine to create a landscape of medium-high sensitivity to solar PV development. This is due to the representation of special qualities sensitive to solar PV, specifically the sense of tranquillity, wide open landscape, sense of space and big skies which characterise many parts of the areas. Other important characteristics of these landscapes which contribute to this sensitivity rating in relation to solar PV is the open character of the marshland landscapes and the associated intervisibility with prominent ridges in adjacent local authorities beyond the Executive Area. Also important in relation to this judgement is the sensitivity of the historic landscape pattern, such as small scale curvilinear dykes and 17th century enclosure marshes, and prominent historic assets such as drainage mills, Augustinian Priory of St Olaves and Burgh Castle.	
	Turbine heights – land in the Broads	Turbine heights – land outside the Broads	Turbine clusters – land in the Broads	Turbine clusters – land outside the Broads	Solar PV – land in the Broads	Solar PV – land outside the Broads
	Small (0-20m) **H**	Small (0-20m) **H**	Single turbine **H**	Single turbine **H**	Roof mounted requiring planning permission **M-H**	Roof mounted requiring planning permission **M-H**
	Medium (20-50m) **H**	Medium (20-50m) **H**	<5 turbines **H**	<5 turbines **H**	Roof mounted - <1 hectare **H**	Roof mounted - <1 hectare **H**
	Large (50-70m) **H**	Large (50-70m) **H**	6-10 turbines **H**	6-10 turbines **H**	Field mounted: Small - < 1 hectare **H**	Field mounted: Small - < 1 hectare **M-H**
	Very large (70m+) **H**	Very large (70m+) **H**	11-25 turbines **H** >26 turbines **H**	11-25 turbines **H** >26 turbines **H**	Field mounted: Medium - 1 to 5 hectares **H**	Field mounted: Medium - 1 to 5 hectares **H**

Landscape character area grouping	Landscape sensitivity to wind energy development				Landscape sensitivity for solar PV development	
LCAs 10 and 11 Note that for the sensitivity ratings for landscape character areas outside the Broads, the parameters to which their sensitivity ratings apply, are described in the relevant matrices at **Appendix 3**, which refer to relevant topographic, physical and visual features in these areas.	**Overall sensitivity: M** Overall landscape sensitivity of this area group to wind turbines is moderate. This is due to the disjointed landscape pattern and historic character (severances created by large scale settlement edges and by transport corridors such as the Norwich Bypass), the degree of visual containment created by valley sides and woodlands and the presence of large scale settlement edge influences to area 10 in particular. Against this are balanced sensitive features such as relict historic landscape patterns created by parkland as at Whitlingham and Trowse Newton, and the sense of tranquillity within Whitlingham Country Park and the Great Broad.				**Overall sensitivity: M** Overall landscape sensitivity of this character area grouping to solar PV development is judged to be moderate. This is in view of disjointed landscape pattern and historic character (severances created by large scale settlement edges and by transport corridors such as the Norwich Bypass), the degree of visual containment created by valley sides and woodlands and the presence of large scale settlement edge influences to area 10 in particular. Against this are balanced sensitive features such as relict historic landscape patterns created by parkland as at Whitlingham and Trowse Newton, the coherence of which would potentially be affected by solar PV development footprints, and the sense of tranquillity within Whitlingham Country Park and the Great Broad.	
	Turbine heights – land in the Broads	Turbine heights – land outside the Broads	Turbine clusters – land in the Broads	Turbine clusters – land outside the Broads	Solar PV – land in the Broads	Solar PV – land outside the Broads
	Small (0-20m) **M**	Small (0-20m) **M**	Single turbine **M**	Single turbine **M**	Roof mounted requiring planning permission **M**	Roof mounted requiring planning permission **M-H**
	Medium (20-50m) **M**	Medium (20-50m) **M-H**	<5 turbines **H**	<5 turbines **H**	Roof mounted - <1 hectare **M-H**	Roof mounted - <1 hectare **M-H**
	Large (50-70m) **M-H**	Large (50-70m) **H**	6-10 turbines **H**	6-10 turbines **H**	Field mounted: Small - < 1 hectare **M**	Field mounted: Small - < 1 hectare **M**
	Very large (70m+) **H**	Very large (70m+) **H**	11-25 turbines **H** >26 turbines **H**	11-25 turbines **H** >26 turbines **H**	Field mounted: Medium - 1 to 5 hectares **M-H**	Field mounted: Medium - 1 to 5 hectares **M-H**

Landscape character area grouping	Landscape sensitivity to wind energy development				Landscape sensitivity for solar PV development	
LCAs 12, 13, 14 and, 15 Note that for the sensitivity ratings for landscape character areas outside the Broads, the parameters to which their sensitivity ratings apply, are described in the relevant matrices at **Appendix 3**, which refer to relevant topographic, physical and visual features in these areas.	**Overall sensitivity: H** Overall landscape sensitivity of these areas to wind turbine development is judged to be high. This is due to the sensitive special qualities represented in the areas such as sense of tranquillity and the wide open landscape of big skies, together with related aspects such as areas of undeveloped skylines. Other factors important to this sensitivity judgement are the varied landscape and historic landscape patterns, the coherence of which would be vulnerable to turbines, as well as the areas of open landscape which provide greater intervisibility with adjacent areas and therefore potentially increase the influence of wind turbines. .				**Overall sensitivity: H** Overall landscape sensitivity of these areas to solar PV development is judged to be high. This is due to the sensitive special qualities represented in the areas such as sense of tranquillity and areas where a wide open landscape of big skies persists, together with related aspects such as areas of undeveloped skylines. Other factors important to this sensitivity judgement are the varied landscape and historic landscape patterns, the coherence of which would be vulnerable to solar PV development footprints, as well as the areas of open landscape which provide greater intervisibility with adjacent areas and therefore potentially increase the influence of solar PV.	
	Turbine heights – land in the Broads	Turbine heights – land outside the Broads	Turbine clusters – land in the Broads	Turbine clusters – land outside the Broads	Solar PV – land in the Broads	Solar PV – land outside the Broads
	Small (0-20m) **M-H**	Small (0-20m) **M-H**	Single turbine **M-H**	Single turbine **M-H**	Roof mounted requiring planning permission **H**	Roof mounted requiring planning permission **M-H**
	Medium (20-50m) **H**	Medium (20-50m) **H**	<5 turbines **H**	<5 turbines **H**	Roof mounted - <1 hectare **H**	Roof mounted - <1 hectare **H**
	Large (50-70m) **H**	Large (50-70m) **H**	6-10 turbines **H**	6-10 turbines **H**	Field mounted: Small - < 1 hectare **H**	Field mounted: Small - < 1 hectare **M-H**
	Very large (70m+) **H**	Very large (70m+) **H**	11-25 turbines **H** >26 turbines **H**	11-25 turbines **H** >26 turbines **H**	Field mounted: Medium - 1 to 5 hectares **H**	Field mounted: Medium - 1 to 5 hectares **H**

Landscape character area grouping	Landscape sensitivity to wind energy development				Landscape sensitivity for solar PV development	
LCA 17 Note that for the sensitivity ratings for landscape character areas outside the Broads, the parameters to which their sensitivity ratings apply, are described in the relevant matrices at **Appendix 3**, which refer to relevant topographic, physical and visual features in these areas.	**Overall sensitivity: H** Overall landscape sensitivity of these areas to wind turbine development is judged to be high. This is due to the sensitive special qualities represented in the area such as sense of tranquillity, the habitat mosaic and the large expanse of open water at Hardley Flood, together with the largely undeveloped skyline character. Other factors important to this sensitivity judgement are the varied landscape and historic landscape patterns, the coherence of which would be vulnerable to turbines.				**Overall sensitivity: H** Overall landscape sensitivity of this area to solar PV development is judged to be high. This is due to the sensitive special qualities represented in the areas such as sense of tranquillity, the habitat mosaic and areas where a wide open landscape of big skies persists (Hardley Flood), together with related aspects such as areas of undeveloped skylines. Other factors important to this sensitivity judgement are the varied landscape and historic landscape pattern, the coherence of which would be vulnerable to solar PV development footprints.	
	Turbine heights – land in the Broads	Turbine heights – land outside the Broads	Turbine clusters – land in the Broads	Turbine clusters – land outside the Broads	Solar PV – land in the Broads	Solar PV – land outside the Broads
	Small (0-20m) **M-H**	Small (0-20m) **M-H**	Single turbine **M-H**	Single turbine **M-H**	Roof mounted requiring planning permission **H**	Roof mounted requiring planning permission **M-H**
	Medium (20-50m) **H**	Medium (20-50m) **H**	<5 turbines **H**	<5 turbines **H**	Roof mounted - <1 hectare **H**	Roof mounted - <1 hectare **H**
	Large (50-70m) **H**	Large (50-70m) **H**	6-10 turbines H **H**	6-10 turbines H **H**	Field mounted: Small - < 1 hectare **H**	Field mounted: Small - < 1 hectare **M-H**
	Very large (70m+) **H**	Very large (70m+) **H**	11-25 turbines **H** >26 turbines **H**	11-25 turbines **H** >26 turbines **H**	Field mounted: Medium - 1 to 5 hectares **H**	Field mounted: Medium - 1 to 5 hectares **H**

Landscape character area grouping	Landscape sensitivity to wind energy development				Landscape sensitivity for solar PV development	
LCAs 18, 19, 20 and 21 Note that for the sensitivity ratings for landscape character areas outside the Broads, the parameters to which their sensitivity ratings apply, are described in the relevant matrices at **Appendix 3**, which refer to relevant topographic, physical and visual features in these areas.	Overall sensitivity **H** Overall landscape sensitivity of this area grouping to wind turbines is high. This is due to the representation of sensitive special qualities such as the sense of openness/wide open landscapes, simple skylines and big skies, the sense of which would be vulnerable to wind turbines. Other factors important to this sensitivity judgement are the open visual character and level of intervisibility with adjacent landscapes in the Broads, and the largely tranquil perceptual character, which would again be vulnerable to turbines.				Overall sensitivity **H** Overall landscape sensitivity of this area grouping to solar PV is high. This is due to the representation of sensitive special qualities such as the sense of openness/wide open landscapes, simple skylines and big skies, the sense of which would be vulnerable to solar PV development footprints. Other factors important to this sensitivity judgement are the open visual character and level of intervisibility with adjacent landscapes in the Broads, and the largely tranquil perceptual character, the perception of which would again be vulnerable to solar PV.	
	Turbine heights – land in the Broads	Turbine heights – land outside the Broads	Turbine clusters – land in the Broads	Turbine clusters – land outside the Broads	Solar PV – land in the Broads	Solar PV – land outside the Broads
	Small (0-20m) **M-H**	Small (0-20m) **M-H**	Single turbine **M-H**	Single turbine M-H	Roof mounted requiring planning permission **H**	Roof mounted requiring planning permission **M-H**
	Medium (20-50m) **H**	Medium (20-50m) **H**	<5 turbines **H**	<5 turbines **H**	Roof mounted - <1 hectare **H**	Roof mounted - <1 hectare **H**
	Large (50-70m) **H**	Large (50-70m) **H**	6-10 turbines **H**	6-10 turbines **H**	Field mounted: Small - < 1 hectare **H**	Field mounted: Small - < 1 hectare **H**
	Very large (70m+) **H**	Very large (70m+) **H**	11-25 turbines **H** >26 turbines **H**	11-25 turbines **H** >26 turbines **H**	Field mounted: Medium - 1 to 5 hectares **H**	Field mounted: Medium - 1 to 5 hectares **H**

Landscape character area grouping	Landscape sensitivity to wind energy development				Landscape sensitivity for solar PV development	
LCAs 22 and 23 Note that for the sensitivity ratings for landscape character areas outside the Broads, the parameters to which their sensitivity ratings apply, are described in the relevant matrices at **Appendix 3**, which refer to relevant topographic, physical and visual features in these areas.	**Overall sensitivity: H** Character areas 22 and 23 have a high sensitivity to wind turbine development in general. This is due to the representation of special qualities in the areas which would be sensitive to development such as the sense of tranquillity and wildness. Also, the landscape pattern and scale, historic character and integrity, the sense of remoteness and the presence of human scale indicators associated with traditional riverside vernacular are sensitive to wind turbine development.				**Overall sensitivity:H** This grouping of character areas has a high overall landscape sensitivity to solar PV development. This is due to the representation of special qualities (i.e. sense of tranquillity and diversity of habitats) in the areas which would be sensitive to such development. Also the landscape pattern and scale, historic character and integrity, the sense of remoteness, as well as areas of vernacular settlements. Sensitivity is reduced due to intrusion associated with Hoveton and Wroxham and the ability of this enclosed landscape to screen and filter views. Thus the overall sensitivity judgement is high	
	Turbine heights – land in the Broads	Turbine heights – land outside the Broads	Turbine clusters – land in the Broads	Turbine clusters – land outside the Broads	Solar PV – land in the Broads	Solar PV – land outside the Broads
	Small (0-20m) **M-H**	Small (0-20m) **M-H**	Single turbine **M-H**	Single turbine **M-H**	Roof mounted requiring planning permission **H**	Roof mounted requiring planning permission **M**
	Medium (20-50m) **H**	Medium (20-50m) **M-H**	<5 turbines **H**	<5 turbines **M-H**	Roof mounted - <1 hectare **H**	Roof mounted - <1 hectare **M-H**
	Large (50-70m) **H**	Large (50-70m) **H**	6-10 turbines **H**	6-10 turbines **H**	Field mounted: Small - < 1 hectare **H**	Field mounted: Small - < 1 hectare **H**
	Very large (70m+)	Very large (70m+)	11-25 turbines	11-25 turbines	Field mounted: Medium - 1 to 5 hectares	Field mounted: Medium - 1 to 5 hectares **H**
			>26 turbines	>26 turbines		

Landscape character area grouping	Landscape sensitivity to wind energy development				Landscape sensitivity for solar PV development	
LCAs 24, 29 and 31 Note that for the sensitivity ratings for landscape character areas outside the Broads, the parameters to which their sensitivity ratings apply, are described in the relevant matrices at **Appendix 3**, which refer to relevant topographic, physical and visual features in these areas.	**Overall sensitivity: H** Overall, this area cluster has a high landscape sensitivity to wind turbine development. This is due to the representation of sensitive special qualities such as the sense of tranquillity, the wide open landscape and big skies and the local character imparted by features such as drainage mills. Other elements which contribute to this sensitivity rating are directly linked to the special qualities such as the mostly undeveloped skylines which contribute to the simplicity of the landscape and 'big skies' character. Other factors influencing the judgement include the level of intervisibility which all three areas have with adjacent districts' landscapes beyond the Executive Area, and the cultural pattern. For example in area 29, features such as St Benet's Abbey ruins are significant, as are the wind pumps which locally punctuate the skylines of all three areas. Other aspects of cultural pattern relate to landscape pattern more generally and would also have a high sensitivity due to the potential effect of turbines on their coherence, for example small rectilinear dyke patterns and early enclosures or small wooded broads such as Upton Broad within area 24 or Womack Water and Horse Fen in area 29.				**Overall sensitivity: H** Overall landscape sensitivity of this area cluster to solar PV development is high. This is due to the representation of special qualities sensitive to solar PV in these areas, specifically the sense of tranquillity, the wide open landscape, sense of space and big skies which characterise many parts of all three areas. Also the diversity of habitat mosaics in areas 24 and 31, which would be vulnerable to solar PV development footprints. Other important characteristics of these landscapes which contribute to this sensitivity rating in relation to solar PV are the open visual character of the marshland landscapes in all three areas. Also important in relation to this sensitivity judgement are the historic landscape pattern, such as small scale rectilinear dykes, medieval broads and Womack Water (area 31) and wooded broads at Upton Broad (area 24), and prominent historic assets such as St Benet's Abbey and causeway within area 29.	
	Turbine heights – land in the Broads	Turbine heights – land outside the Broads	Turbine clusters – land in the Broads	Turbine clusters – land outside the Broads	Solar PV – land in the Broads	Solar PV – land outside the Broads
	Small (0-20m) **M-H**	Small (0-20m) **M-H**	Single turbine **M-H**	Single turbine **M-H**	Roof mounted requiring planning permission **H**	Roof mounted requiring planning permission **M-H**
	Medium (20-50m) **H**	Medium (20-50m) **M-H**	<5 turbines **H**	<5 turbines **M-H**	Roof mounted - <1 hectare **H**	Roof mounted - <1 hectare **H**
	Large (50-70m) **H**	Large (50-70m) **H**	6-10 turbines **H**	6-10 turbines **H**	Field mounted: Small - < 1 hectare **H**	Field mounted: Small - < 1 hectare **M-H**
	Very large (70m+) **H**	Very large (70m+) **H**	11-25 turbines **H**	11-25 turbines **H**	Field mounted: Medium - 1 to 5 hectares **H**	Field mounted: Medium - 1 to 5 hectares **H**

Landscape character area grouping	Landscape sensitivity to wind energy development				Landscape sensitivity for solar PV development	
			>26 turbines **H**	>26 turbines **H**		
LCA 25 Note that for the sensitivity ratings for landscape character areas outside the Broads, the parameters to which their sensitivity ratings apply, are described in the relevant matrices at **Appendix 3**, which refer to relevant topographic, physical and visual features in these areas.	**Overall sensitivity: H** Overall landscape sensitivity to wind turbine development and to related tall infrastructure such as pylons is judged to be high. This is in view of the representation of special qualities sensitive to wind turbine development, such as the sense of tranquillity and the wide open landscape of big skies. The predominantly open and undeveloped skyline character and the level of intervisibility with other remote landscapes such as the Halvergate Marshes are also important to this sensitivity judgement, as is the presence of occasional historic skyline features such as wind pumps and Caister Castle.				**Overall sensitivity: H** Overall landscape sensitivity to solar PV development is judged to be high. This is in view of the representation of special qualities sensitive to solar PV development, such as the sense of tranquillity, sense of space and the wide open landscape of big skies. The predominantly open and undeveloped skyline character and the level of intervisibility with other remote landscapes such as the Halvergate Marshes are also important to this sensitivity judgement.	
	Turbine heights – land in the Broads	Turbine heights – land outside the Broads	Turbine clusters – land in the Broads	Turbine clusters – land outside the Broads	Solar PV – land in the Broads	Solar PV – land outside the Broads
	Small (0-20m) **M-H**	Small (0-20m) **M-H**	Single turbine **M-H**	Single turbine **M-H**	Roof mounted requiring planning permission **H**	Roof mounted requiring planning permission **M-H**
	Medium (20-50m) **H**	Medium (20-50m) **M-H**	<5 turbines **H**	<5 turbines **M-H**	Roof mounted - <1 hectare **H**	Roof mounted - <1 hectare **H**
	Large (50-70m) **H**	Large (50-70m) **H**	6-10 turbines **H**	6-10 turbines H	Field mounted: Small - < 1 hectare **H**	Field mounted: Small - < 1 hectare **M-H**
	Very large (70m+) **H**	Very large (70m+) **H**	11-25 turbines **H** >26 turbines **H**	11-25 turbines **H** >26 turbines **H**	Field mounted: Medium - 1 to 5 hectares **H**	Field mounted: Medium - 1 to 5 hectares **H**

Landscape character area grouping	Landscape sensitivity to wind energy development				Landscape sensitivity for solar PV development	
LCA 26 Note that for the sensitivity ratings for landscape character areas outside the Broads, the parameters to which their sensitivity ratings apply, are described in the relevant matrices at **Appendix 3**, which refer to relevant topographic, physical and visual features in these areas.	**Overall sensitivity: H** Overall landscape sensitivity of this area to wind turbines and associated tall infrastructure such as pylons is high. This is due to the presence of sensitive special qualities, principally represented by the area's sense of tranquillity and undeveloped character, which would be sensitive to the introduction of turbines. Other factors which are essential to this sensitivity judgement are the undeveloped skyline character and the presence of fine grain historic and landscape elements which would be vulnerable to the introduction of large scale elements such as turbines.				**Overall sensitivity: H** Overall landscape sensitivity of this area to solar PV is high. This is in view of the sense of tranquillity and wildness (one of the special qualities of the Broads) of the area which would be sensitive to the introduction of such development. Other aspects important to this sensitivity judgement are the fine grain historic pattern and intricate landscape mosaic, as the coherence of both of these would potentially be affected by solar PV development	
	Turbine heights – land in the Broads	Turbine heights – land outside the Broads	Turbine clusters – land in the Broads	Turbine clusters – land outside the Broads	Solar PV – land in the Broads	Solar PV – land outside the Broads
	Small (0-20m) **H**	Small (0-20m) **M-H**	Single turbine **H**	Single turbine **M-H**	Roof mounted requiring planning permission **H**	Roof mounted requiring planning permission **M-H**
	Medium (20-50m) **H**	Medium (20-50m) **H**	<5 turbines **H**	<5 turbines **H**	Roof mounted - <1 hectare **H**	Roof mounted - <1 hectare **M-H**
	Large (50-70m) **H**	Large (50-70m) **H**	6-10 turbines **H**	6-10 turbines **H**	Field mounted: Small - < 1 hectare **H**	Field mounted: Small - < 1 hectare **M-H**
	Very large (70m+) **H**	Very large (70m+) **H**	11-25 turbines **H** >26 turbines **H**	11-25 turbines **H** >26 turbines **H**	Field mounted: Medium - 1 to 5 hectares **H**	Field mounted: Medium - 1 to 5 hectares **M-H**

<table>
<tr><th>Landscape character area grouping</th><th colspan="4">Landscape sensitivity to wind energy development</th><th colspan="2">Landscape sensitivity for solar PV development</th></tr>
<tr><td rowspan="6">LCAs 27 and 28

Note that for the sensitivity ratings for landscape character areas outside the Broads, the parameters to which their sensitivity ratings apply, are described in the relevant matrices at Appendix 3, which refer to relevant topographic, physical and visual features in these areas.</td><td colspan="4">Overall sensitivity: H

Areas 27 and 28 have a high overall landscape sensitivity to wind turbine development in general. This is due to the representation of special qualities in the areas which would be sensitive to such development. Also the landscape pattern and scale, historic character and integrity, the sense of remoteness and the presence of human scale indicators associated with traditional wind pumps and vernacular settlement within area 28 in particular.</td><td colspan="2">Overall sensitivity: H

Areas 27 and 28 have a high overall landscape sensitivity to solar PV development in general. This is due to the representation of special qualities in the areas which would be sensitive to such development. Also the landscape pattern and scale, historic character and integrity, the sense of remoteness, as well as areas of vernacular settlement in area 28 which would be sensitive to such modern development.</td></tr>
<tr><td>Turbine heights – land in the Broads</td><td>Turbine heights – land outside the Broads</td><td>Turbine clusters – land in the Broads</td><td>Turbine clusters – land outside the Broads</td><td>Solar PV – land in the Broads</td><td>Solar PV – land outside the Broads</td></tr>
<tr><td>Small (0-20m) M-H</td><td>Small (0-20m) M</td><td>Single turbine M-H</td><td>Single turbine M</td><td>Roof mounted requiring planning permission H</td><td>Roof mounted requiring planning permission M</td></tr>
<tr><td>Medium (20-50m) H</td><td>Medium (20-50m) M-H</td><td><5 turbines H</td><td><5 turbines M-H</td><td>Roof mounted - <1 hectare H</td><td>Roof mounted - <1 hectare M-H</td></tr>
<tr><td>Large (50-70m) H</td><td>Large (50-70m) H</td><td>6-10 turbines H</td><td>6-10 turbines H</td><td>Field mounted: Small - < 1 hectare H</td><td>Field mounted: Small - < 1 hectare H</td></tr>
<tr><td rowspan="2">Very large (70m+) H</td><td rowspan="2">Very large (70m+) H</td><td>11-25 turbines H</td><td>11-25 turbines H</td><td rowspan="2">Field mounted: Medium - 1 to 5 hectares H</td><td rowspan="2">Field mounted: Medium - 1 to 5 hectares H</td></tr>
<tr><td>>26 turbines H</td><td>>26 turbines H</td></tr>
<tr><td></td><td colspan="4"></td><td colspan="2"></td></tr>
</table>

Landscape character area grouping	Landscape sensitivity to wind energy development				Landscape sensitivity for solar PV development	
LCA 30 Note that for the sensitivity ratings for landscape character areas outside the Broads, the parameters to which their sensitivity ratings apply, are described in the relevant matrices at **Appendix 3**, which refer to relevant topographic, physical and visual features in these areas.	**Overall sensitivity: H** This character area has a high overall landscape sensitivity to wind turbines in general, including off shore development and associated on shore infrastructure such as pylons. This is due to the diversity of sensitive special qualities sensitive to wind energy development in the area, notably the sense of tranquillity and wildness created by grazing marsh, fen and coastal landscapes, and the wide, open character of the landscape. Other factors which are important in contributing to this sensitivity judgement are elements of historic landscape character such as freshwater fens and windmills, the coherence of which would potentially be vulnerable to introduction of wind turbines. Also the visual character and the extent of visibility across the area, and its intervisibility with adjacent landscape character areas within Great Yarmouth Borough and North Norfolk District				**Overall sensitivity: H** This character area has a high overall landscape sensitivity to solar PV development in general. This is due to the diversity of special qualities sensitive to solar PV in the area, notably the sense of tranquillity and wildness created by grazing marsh, fen and coastal landscapes, and the wide open character of the landscape and associated sense of space. Other factors which are important in contributing to this sensitivity judgement are elements of historic landscape character such as freshwater fens and windmills, the coherence of which would potentially be vulnerable to introduction of solar PV development footprints. These could also potentially affect elements of landscape pattern in general, such as the intricacy of the dyke pattern. Also the visual character and the extent of visibility across the area and intervisibility with adjacent landscape character areas within Great Yarmouth Borough and North Norfolk District	
	Turbine heights – land in the Broads	Turbine heights – land outside the Broads	Turbine clusters – land in the Broads	Turbine clusters – land outside the Broads	Solar PV – land in the Broads	Solar PV – land outside the Broads
	Small (0-20m) **M-H**	Small (0-20m) **M-H**	Single turbine **M-H**	Single turbine **M-H**	Roof mounted requiring planning permission **H**	Roof mounted requiring planning permission **M-H**
	Medium (20-50m) **H**	Medium (20-50m) **H**	<5 turbines **H**	<5 turbines **M-H**	Roof mounted - <1 hectare **H**	Roof mounted - <1 hectare **H**
	Large (50-70m) **H**	Large (50-70m) **H**	6-10 turbines **H**	6-10 turbines **H**	Field mounted: Small - < 1 hectare **H**	Field mounted: Small - < 1 hectare **M-H**
	Very large (70m+) **H**	Very large (70m+) **H**	11-25 turbines **H** >26 turbines **H**	11-25 turbines **H** >26 turbines **H**	Field mounted: Medium - 1 to 5 hectares **H**	Field mounted: Medium - 1 to 5 hectares **H**

Broads Landscape Study

Figure 4.1

Wind Turbine Overall Sensitivity

Merged_LCA_GROUPS

The Broads Authority Boundary

Broads Authority LCA

High

Moderate - High

Moderate

Low - Moderate*

Low*

Merged_LCA_GROUPS

0. Arable areas - outside "Broads" Character refers to Adjacent district Landscape Character Assesment

1. Outney Common and Bath Hills
2. Bungay/Ditchingham to Shipmeadow/Geldeston
3. Barsham, Gillingham and Beccles Marshes
4. Aldeby to Burgh St Peter
5. Worlingham Wall to Boundary Dyke Barnby
6. Boundary Dyke Barnby to the Fleet, Oulton
7. Burgh St Peter to Haddiscoe Marshes
8. Flixton to Herringfleet Marshes
9. St Olaves to Burgh Castle
10. Whitlingham Lane and Country Park
11. Thope to Cary's Meadow, Thope Island and marshes, Postwick Grove and Whitlingham Marshes
12. Kirby/Postwick to Rockland/Strumpshaw
13. Claxton to Hardley Marshes
14. Buckenham and Cantley Marshes and Carrs
15. Cantley to Reedham
16. Norton Marshes to Haddiscoe dismantled railway
17. Chet Valley
18. Haddiscoe Island
19. Halvergate Marshes (exc Bure Loop and west of Tunstall Dyke)
20. Breydon Water
21. Church Farm, Burgh Castle, Fisher's and Humberstone Marshes
22. Upstream Wroxham to Horstead
23. Wroxham to Fleet Dyke, South Walsham
24. South Walsham to Acle Marshes and Fens
25. Lower Bure Arable Marshlands
26. Muck Fleet valley and the Trinity Broads
27. Upstream of Wayford Bridge
28. Downstream of Wayford Bridge
29. Ludham, Horning and Neatishead Grazing Marshes
30. Upper Thurne Open Marsh, Broads and Fens
31. Martham Ferry to Oby

*No LCAs fall within this category.

Map Scale @ A3:1:160,000

LUC

Source:

Broads Landscape Study

Figure 4.2

Wind Turbine Sensitivity;
Small Turbines (0 - 20m)

- The Broads Authority Boundary
- Broads Authority LCA
- High
- Moderate - High
- Moderate
- Low - Moderate*
- Low*

0. Arable areas - outside "Broads" Character refers to Adjacent district Landscape Character Assesment

1. Outney Common and Bath Hills
2. Bungay/Ditchingham to Shipmeadow/Geldeston
3. Barsham, Gillingham and Beccles Marshes
4. Aldeby to Burgh St Peter
5. Worlingham Wall to Boundary Dyke Barnby
6. Boundary Dyke Barnby to the Fleet, Oulton
7. Burgh St Peter to Haddiscoe Marshes
8. Flixton to Herringfleet Marshes
9. St Olaves to Burgh Castle
10. Whitlingham Lane and Country Park
11. Thope to Cary's Meadow, Thope Island and marshes, Postwick Grove and Whitlingham Marshes
12. Kirby/Postwick to Rockland/Strumpshaw
13. Claxton to Hardley Marshes
14. Buckenham and Cantley Marshes and Carrs
15. Cantley to Reedham
16. Norton Marshes to Haddiscoe dismantled railway
17. Chet Valley
18. Haddiscoe Island
19. Halvergate Marshes (exc Bure Loop and west of Tunstall Dyke)
20. Breydon Water
21. Church Farm, Burgh Castle, Fisher's and Humberstone Marshes
22. Upstream Wroxham to Horstead
23. Wroxham to Fleet Dyke, South Walsham
24. South Walsham to Acle Marshes and Fens
25. Lower Bure Arable Marshlands
26. Muck Fleet valley and the Trinity Broads
27. Upstream of Wayford Bridge
28. Downstream of Wayford Bridge
29. Ludham, Horning and Neatishead Grazing Marshes
30. Upper Thurne Open Marsh, Broads and Fens
31. Martham Ferry to Oby

*No LCAs fall within this category.

Map Scale @ A3:1:160,000

LUC

Source:

Broads Landscape Study

Figure 4.3

Wind Turbine Sensitivity;
Medium Turbines (20 - 50m)

- The Broads Authority Boundary
- Broads Authority LCA
- High
- Moderate - High*
- Moderate
- Low - Moderate*
- Low*

0. Arable areas - outside "Broads" Character refers to Adjacent district Landscape Character Assesment

1. Outney Common and Bath Hills
2. Bungay/Ditchingham to Shipmeadow/Geldeston
3. Barsham, Gillingham and Beccles Marshes
4. Aldeby to Burgh St Peter
5. Worlingham Wall to Boundary Dyke Barnby
6. Boundary Dyke Barnby to the Fleet, Oulton
7. Burgh St Peter to Haddiscoe Marshes
8. Flixton to Herringfleet Marshes
9. St Olaves to Burgh Castle
10. Whitlingham Lane and Country Park
11. Thope to Cary's Meadow, Thope Island and marshes, Postwick Grove and Whitlingham Marshes
12. Kirby/Postwick to Rockland/Strumpshaw
13. Claxton to Hardley Marshes
14. Buckenham and Cantley Marshes and Carrs
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16. Norton Marshes to Haddiscoe dismantled railway
17. Chet Valley
18. Haddiscoe Island
19. Halvergate Marshes (exc Bure Loop and west of Tunstall Dyke)
20. Breydon Water
21. Church Farm, Burgh Castle, Fisher's and Humberstone Marshes
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23. Wroxham to Fleet Dyke, South Walsham
24. South Walsham to Acle Marshes and Fens
25. Lower Bure Arable Marshlands
26. Muck Fleet valley and the Trinity Broads
27. Upstream of Wayford Bridge
28. Downstream of Wayford Bridge
29. Ludham, Horning and Neatishead Grazing Marshes
30. Upper Thurne Open Marsh, Broads and Fens
31. Martham Ferry to Oby

*No LCAs fall within this category.

Map Scale @ A3:1:160,000

LUC

Source:

Broads Landscape Study

Figure 4.4

Wind Turbine Sensitivity;
Large Turbines (50 - 70m)

- The Broads Authority Boundary
- Broads Authority LCA
- High
- Moderate - High
- Moderate*
- Low - Moderate*
- Low*

0. Arable areas - outside "Broads" Character refers to Adjacent district Landscape Character Assesment

1. Outney Common and Bath Hills
2. Bungay/Ditchingham to Shipmeadow/Geldeston
3. Barsham, Gillingham and Beccles Marshes
4. Aldeby to Burgh St Peter
5. Worlingham Wall to Boundary Dyke Barnby
6. Boundary Dyke Barnby to the Fleet, Oulton
7. Burgh St Peter to Haddiscoe Marshes
8. Flixton to Herringfleet Marshes
9. St Olaves to Burgh Castle
10. Whitlingham Lane and Country Park
11. Thope to Cary's Meadow, Thope Island and marshes, Postwick Grove and Whitlingham Marshes
12. Kirby/Postwick to Rockland/Strumpshaw
13. Claxton to Hardley Marshes
14. Buckenham and Cantley Marshes and Carrs
15. Cantley to Reedham
16. Norton Marshes to Haddiscoe dismantled railway
17. Chet Valley
18. Haddiscoe Island
19. Halvergate Marshes (exc Bure Loop and west of Tunstall Dyke)
20. Breydon Water
21. Church Farm, Burgh Castle, Fisher's and Humberstone Marshes
22. Upstream Wroxham to Horstead
23. Wroxham to Fleet Dyke, South Walsham
24. South Walsham to Acle Marshes and Fens
25. Lower Bure Arable Marshlands
26. Muck Fleet valley and the Trinity Broads
27. Upstream of Wayford Bridge
28. Downstream of Wayford Bridge
29. Ludham, Horning and Neatishead Grazing Marshes
30. Upper Thurne Open Marsh, Broads and Fens
31. Martham Ferry to Oby

*No LCAs fall within this category.

Map Scale @ A3:1:160,000

LUC

Source:

Broads Landscape Study

Figure 4.5

Wind Turbine Sensitivity;
Very Large Turbines (70m+)

- The Broads Authority Boundary
- Broads Authority LCA
- High
- Moderate - High*
- Moderate*
- Low - Moderate*
- Low*

0. Arable areas - outside "Broads" Character refers to Adjacent district Landscape Character Assesment

1. Outney Common and Bath Hills
2. Bungay/Ditchingham to Shipmeadow/Geldeston
3. Barsham, Gillingham and Beccles Marshes
4. Aldeby to Burgh St Peter
5. Worlingham Wall to Boundary Dyke Barnby
6. Boundary Dyke Barnby to the Fleet, Oulton
7. Burgh St Peter to Haddiscoe Marshes
8. Flixton to Herringfleet Marshes
9. St Olaves to Burgh Castle
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12. Kirby/Postwick to Rockland/Strumpshaw
13. Claxton to Hardley Marshes
14. Buckenham and Cantley Marshes and Carrs
15. Cantley to Reedham
16. Norton Marshes to Haddiscoe dismantled railway
17. Chet Valley
18. Haddiscoe Island
19. Halvergate Marshes (exc Bure Loop and west of Tunstall Dyke)
20. Breydon Water
21. Church Farm, Burgh Castle, Fisher's and Humberstone Marshes
22. Upstream Wroxham to Horstead
23. Wroxham to Fleet Dyke, South Walsham
24. South Walsham to Acle Marshes and Fens
25. Lower Bure Arable Marshlands
26. Muck Fleet valley and the Trinity Broads
27. Upstream of Wayford Bridge
28. Downstream of Wayford Bridge
29. Ludham, Horning and Neatishead Grazing Marshes
30. Upper Thurne Open Marsh, Broads and Fens
31. Martham Ferry to Oby

*No LCAs fall within this category.

Map Scale @ A3:1:160,000

LUC

Source:

Broads Landscape Study

Figure 4.6

Wind Turbine Sensitivity; Single Turbine

- The Broads Authority Boundary
- Broads Authority LCA
- High
- Moderate - High
- Moderate
- Low - Moderate*
- Low*

0. Arable areas - outside "Broads" Character refers to Adjacent district Landscape Character Assesment

1. Outney Common and Bath Hills
2. Bungay/Ditchingham to Shipmeadow/Geldeston
3. Barsham, Gillingham and Beccles Marshes
4. Aldeby to Burgh St Peter
5. Worlingham Wall to Boundary Dyke Barnby
6. Boundary Dyke Barnby to the Fleet, Oulton
7. Burgh St Peter to Haddiscoe Marshes
8. Flixton to Herringfleet Marshes
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15. Cantley to Reedham
16. Norton Marshes to Haddiscoe dismantled railway
17. Chet Valley
18. Haddiscoe Island
19. Halvergate Marshes (exc Bure Loop and west of Tunstall Dyke)
20. Breydon Water
21. Church Farm, Burgh Castle, Fisher's and Humberstone Marshes
22. Upstream Wroxham to Horstead
23. Wroxham to Fleet Dyke, South Walsham
24. South Walsham to Acle Marshes and Fens
25. Lower Bure Arable Marshlands
26. Muck Fleet valley and the Trinity Broads
27. Upstream of Wayford Bridge
28. Downstream of Wayford Bridge
29. Ludham, Horning and Neatishead Grazing Marshes
30. Upper Thurne Open Marsh, Broads and Fens
31. Martham Ferry to Oby

*No LCAs fall within this category.

Map Scale @ A3:1:160,000

LUC

Source:

Broads Landscape Study

Figure 4.7

Wind Turbine Sensitivity;
<5 Turbines

- The Broads Authority Boundary
- Broads Authority LCA
- High
- Moderate - High*
- Moderate*
- Low - Moderate*
- Low*

0. Arable areas - outside "Broads" Character refers to Adjacent district Landscape Character Assesment

1. Outney Common and Bath Hills
2. Bungay/Ditchingham to Shipmeadow/Geldeston
3. Barsham, Gillingham and Beccles Marshes
4. Aldeby to Burgh St Peter
5. Worlingham Wall to Boundary Dyke Barnby
6. Boundary Dyke Barnby to the Fleet, Oulton
7. Burgh St Peter to Haddiscoe Marshes
8. Flixton to Herringfleet Marshes
9. St Olaves to Burgh Castle
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15. Cantley to Reedham
16. Norton Marshes to Haddiscoe dismantled railway
17. Chet Valley
18. Haddiscoe Island
19. Halvergate Marshes (exc Bure Loop and west of Tunstall Dyke)
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23. Wroxham to Fleet Dyke, South Walsham
24. South Walsham to Acle Marshes and Fens
25. Lower Bure Arable Marshlands
26. Muck Fleet valley and the Trinity Broads
27. Upstream of Wayford Bridge
28. Downstream of Wayford Bridge
29. Ludham, Horning and Neatishead Grazing Marshes
30. Upper Thurne Open Marsh, Broads and Fens
31. Martham Ferry to Oby

*No LCAs fall within this category.

Map Scale @ A3:1:160,000

LUC

Source:

Broads Landscape Study

Figure 4.8

Wind Turbine Sensitivity;
6 - 10 Turbines

- The Broads Authority Boundary
- Broads Authority LCA
- High
- Moderate - High*
- Moderate*
- Low - Moderate*
- Low*

0. Arable areas - outside "Broads" Character refers to Adjacent district Landscape Character Assesment

1. Outney Common and Bath Hills
2. Bungay/Ditchingham to Shipmeadow/Geldeston
3. Barsham, Gillingham and Beccles Marshes
4. Aldeby to Burgh St Peter
5. Worlingham Wall to Boundary Dyke Barnby
6. Boundary Dyke Barnby to the Fleet, Oulton
7. Burgh St Peter to Haddiscoe Marshes
8. Flixton to Herringfleet Marshes
9. St Olaves to Burgh Castle
10. Whitlingham Lane and Country Park
11. Thope to Cary's Meadow, Thope Island and marshes, Postwick Grove and Whitlingham Marshes
12. Kirby/Postwick to Rockland/Strumpshaw
13. Claxton to Hardley Marshes
14. Buckenham and Cantley Marshes and Carrs
15. Cantley to Reedham
16. Norton Marshes to Haddiscoe dismantled railway
17. Chet Valley
18. Haddiscoe Island
19. Halvergate Marshes (exc Bure Loop and west of Tunstall Dyke)
20. Breydon Water
21. Church Farm, Burgh Castle, Fisher's and Humberstone Marshes
22. Upstream Wroxham to Horstead
23. Wroxham to Fleet Dyke, South Walsham
24. South Walsham to Acle Marshes and Fens
25. Lower Bure Arable Marshlands
26. Muck Fleet valley and the Trinity Broads
27. Upstream of Wayford Bridge
28. Downstream of Wayford Bridge
29. Ludham, Horning and Neatishead Grazing Marshes
30. Upper Thurne Open Marsh, Broads and Fens
31. Martham Ferry to Oby

*No LCAs fall within this category.

Map Scale @ A3:1:160,000

LUC

Source:

Broads Landscape Study

Figure 4.9

Wind Turbine Sensitivity;
11 - 25 Turbines

- The Broads Authority Boundary
- Broads Authority LCA
- High
- Moderate - High*
- Moderate*
- Low - Moderate*
- Low*

0. Arable areas - outside "Broads" Character refers to Adjacent district Landscape Character Assesment

1. Outney Common and Bath Hills
2. Bungay/Ditchingham to Shipmeadow/Geldeston
3. Barsham, Gillingham and Beccles Marshes
4. Aldeby to Burgh St Peter
5. Worlingham Wall to Boundary Dyke Barnby
6. Boundary Dyke Barnby to the Fleet, Oulton
7. Burgh St Peter to Haddiscoe Marshes
8. Flixton to Herringfleet Marshes
9. St Olaves to Burgh Castle
10. Whitlingham Lane and Country Park
11. Thope to Cary's Meadow, Thope Island and marshes, Postwick Grove and Whitlingham Marshes
12. Kirby/Postwick to Rockland/Strumpshaw
13. Claxton to Hardley Marshes
14. Buckenham and Cantley Marshes and Carrs
15. Cantley to Reedham
16. Norton Marshes to Haddiscoe dismantled railway
17. Chet Valley
18. Haddiscoe Island
19. Halvergate Marshes (exc Bure Loop and west of Tunstall Dyke)
20. Breydon Water
21. Church Farm, Burgh Castle, Fisher's and Humberstone Marshes
22. Upstream Wroxham to Horstead
23. Wroxham to Fleet Dyke, South Walsham
24. South Walsham to Acle Marshes and Fens
25. Lower Bure Arable Marshlands
26. Muck Fleet valley and the Trinity Broads
27. Upstream of Wayford Bridge
28. Downstream of Wayford Bridge
29. Ludham, Horning and Neatishead Grazing Marshes
30. Upper Thurne Open Marsh, Broads and Fens
31. Martham Ferry to Oby

*No LCAs fall within this category.

Map Scale @ A3:1:160,000

LUC

Source:

Broads Landscape Study

Figure 4.10

Wind Turbine Sensitivity;
>26 Turbines

- The Broads Authority Boundary
- Broads Authority LCA
- High
- Moderate - High*
- Moderate*
- Low - Moderate*
- Low*

0. Arable areas - outside "Broads" Character refers to Adjacent district Landscape Character Assesment

1. Outney Common and Bath Hills
2. Bungay/Ditchingham to Shipmeadow/Geldeston
3. Barsham, Gillingham and Beccles Marshes
4. Aldeby to Burgh St Peter
5. Worlingham Wall to Boundary Dyke Barnby
6. Boundary Dyke Barnby to the Fleet, Oulton
7. Burgh St Peter to Haddiscoe Marshes
8. Flixton to Herringfleet Marshes
9. St Olaves to Burgh Castle
10. Whitlingham Lane and Country Park
11. Thope to Cary's Meadow, Thope Island and marshes, Postwick Grove and Whitlingham Marshes
12. Kirby/Postwick to Rockland/Strumpshaw
13. Claxton to Hardley Marshes
14. Buckenham and Cantley Marshes and Carrs
15. Cantley to Reedham
16. Norton Marshes to Haddiscoe dismantled railway
17. Chet Valley
18. Haddiscoe Island
19. Halvergate Marshes (exc Bure Loop and west of Tunstall Dyke)
20. Breydon Water
21. Church Farm, Burgh Castle, Fisher's and Humberstone Marshes
22. Upstream Wroxham to Horstead
23. Wroxham to Fleet Dyke, South Walsham
24. South Walsham to Acle Marshes and Fens
25. Lower Bure Arable Marshlands
26. Muck Fleet valley and the Trinity Broads
27. Upstream of Wayford Bridge
28. Downstream of Wayford Bridge
29. Ludham, Horning and Neatishead Grazing Marshes
30. Upper Thurne Open Marsh, Broads and Fens
31. Martham Ferry to Oby

*No LCAs fall within this category.

Map Scale @ A3:1:160,000

LUC

Source:

Broads Landscape Study

Figure 4.11

Overall PV Sensitivity

- The Broads Authority Boundary
- Broads Authority LCA
- High
- Moderate - High
- Moderate
- Low - Moderate*
- Low*

0. Arable areas - outside "Broads" Character refers to Adjacent district Landscape Character Assesment

1. Outney Common and Bath Hills
2. Bungay/Ditchingham to Shipmeadow/Geldeston
3. Barsham, Gillingham and Beccles Marshes
4. Aldeby to Burgh St Peter
5. Worlingham Wall to Boundary Dyke Barnby
6. Boundary Dyke Barnby to the Fleet, Oulton
7. Burgh St Peter to Haddiscoe Marshes
8. Flixton to Herringfleet Marshes
9. St Olaves to Burgh Castle
10. Whitlingham Lane and Country Park
11. Thope to Cary's Meadow, Thope Island and marshes, Postwick Grove and Whitlingham Marshes
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14. Buckenham and Cantley Marshes and Carrs
15. Cantley to Reedham
16. Norton Marshes to Haddiscoe dismantled railway
17. Chet Valley
18. Haddiscoe Island
19. Halvergate Marshes (exc Bure Loop and west of Tunstall Dyke)
20. Breydon Water
21. Church Farm, Burgh Castle, Fisher's and Humberstone Marshes
22. Upstream Wroxham to Horstead
23. Wroxham to Fleet Dyke, South Walsham
24. South Walsham to Acle Marshes and Fens
25. Lower Bure Arable Marshlands
26. Muck Fleet valley and the Trinity Broads
27. Upstream of Wayford Bridge
28. Downstream of Wayford Bridge
29. Ludham, Horning and Neatishead Grazing Marshes
30. Upper Thurne Open Marsh, Broads and Fens
31. Martham Ferry to Oby

*No LCAs fall within this category.

Map Scale @ A3:1:160,000

LUC

Source:

Broads Landscape Study

Figure 4.12

PV Sensitivity;
Roof Mounted Requiring
Planning Permission

- The Broads Authority Boundary
- Broads Authority LCA
- High
- Moderate - High
- Moderate
- Low - Moderate*
- Low*

0. Arable areas - outside "Broads" Character refers to Adjacent district Landscape Character Assesment

1. Outney Common and Bath Hills
2. Bungay/Ditchingham to Shipmeadow/Geldeston
3. Barsham, Gillingham and Beccles Marshes
4. Aldeby to Burgh St Peter
5. Worlingham Wall to Boundary Dyke Barnby
6. Boundary Dyke Barnby to the Fleet, Oulton
7. Burgh St Peter to Haddiscoe Marshes
8. Flixton to Herringfleet Marshes
9. St Olaves to Burgh Castle
10. Whitlingham Lane and Country Park
11. Thope to Cary's Meadow, Thope Island and marshes, Postwick Grove and Whitlingham Marshes
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13. Claxton to Hardley Marshes
14. Buckenham and Cantley Marshes and Carrs
15. Cantley to Reedham
16. Norton Marshes to Haddiscoe dismantled railway
17. Chet Valley
18. Haddiscoe Island
19. Halvergate Marshes (exc Bure Loop and west of Tunstall Dyke)
20. Breydon Water
21. Church Farm, Burgh Castle, Fisher's and Humberstone Marshes
22. Upstream Wroxham to Horstead
23. Wroxham to Fleet Dyke, South Walsham
24. South Walsham to Acle Marshes and Fens
25. Lower Bure Arable Marshlands
26. Muck Fleet valley and the Trinity Broads
27. Upstream of Wayford Bridge
28. Downstream of Wayford Bridge
29. Ludham, Horning and Neatishead Grazing Marshes
30. Upper Thurne Open Marsh, Broads and Fens
31. Martham Ferry to Oby

*No LCAs fall within this category.

Map Scale @ A3:1:160,000

LUC

Source:

Broads Landscape Study

Figure 4.13

PV Sensitivity;
Roof Mounted <1 Hectare

- The Broads Authority Boundary
- Broads Authority LCA
- High
- Moderate - High
- Moderate*
- Low - Moderate*
- Low*

0. Arable areas - outside "Broads" Character refers to Adjacent district Landscape Character Assesment

1. Outney Common and Bath Hills
2. Bungay/Ditchingham to Shipmeadow/Geldeston
3. Barsham, Gillingham and Beccles Marshes
4. Aldeby to Burgh St Peter
5. Worlingham Wall to Boundary Dyke Barnby
6. Boundary Dyke Barnby to the Fleet, Oulton
7. Burgh St Peter to Haddiscoe Marshes
8. Flixton to Herringfleet Marshes
9. St Olaves to Burgh Castle
10. Whitlingham Lane and Country Park
11. Thope to Cary's Meadow, Thope Island and marshes, Postwick Grove and Whitlingham Marshes
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14. Buckenham and Cantley Marshes and Carrs
15. Cantley to Reedham
16. Norton Marshes to Haddiscoe dismantled railway
17. Chet Valley
18. Haddiscoe Island
19. Halvergate Marshes (exc Bure Loop and west of Tunstall Dyke)
20. Breydon Water
21. Church Farm, Burgh Castle, Fisher's and Humberstone Marshes
22. Upstream Wroxham to Horstead
23. Wroxham to Fleet Dyke, South Walsham
24. South Walsham to Acle Marshes and Fens
25. Lower Bure Arable Marshlands
26. Muck Fleet valley and the Trinity Broads
27. Upstream of Wayford Bridge
28. Downstream of Wayford Bridge
29. Ludham, Horning and Neatishead Grazing Marshes
30. Upper Thurne Open Marsh, Broads and Fens
31. Martham Ferry to Oby

*No LCAs fall within this category.

Map Scale @ A3:1:160,000

LUC

Source:

Broads Landscape Study

Figure 4.14

PV Sensitivity;
Field Mounted: Small <1 Hectare

- The Broads Authority Boundary
- Broads Authority LCA
- High
- Moderate - High
- Moderate*
- Low - Moderate*
- Low*

0. Arable areas - outside "Broads" Character refers to Adjacent district Landscape Character Assesment

1. Outney Common and Bath Hills
2. Bungay/Ditchingham to Shipmeadow/Geldeston
3. Barsham, Gillingham and Beccles Marshes
4. Aldeby to Burgh St Peter
5. Worlingham Wall to Boundary Dyke Barnby
6. Boundary Dyke Barnby to the Fleet, Oulton
7. Burgh St Peter to Haddiscoe Marshes
8. Flixton to Herringfleet Marshes
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14. Buckenham and Cantley Marshes and Carrs
15. Cantley to Reedham
16. Norton Marshes to Haddiscoe dismantled railway
17. Chet Valley
18. Haddiscoe Island
19. Halvergate Marshes (exc Bure Loop and west of Tunstall Dyke)
20. Breydon Water
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22. Upstream Wroxham to Horstead
23. Wroxham to Fleet Dyke, South Walsham
24. South Walsham to Acle Marshes and Fens
25. Lower Bure Arable Marshlands
26. Muck Fleet valley and the Trinity Broads
27. Upstream of Wayford Bridge
28. Downstream of Wayford Bridge
29. Ludham, Horning and Neatishead Grazing Marshes
30. Upper Thurne Open Marsh, Broads and Fens
31. Martham Ferry to Oby

*No LCAs fall within this category.

Map Scale @ A3:1:160,000

LUC

Source:

Broads Landscape Study

Figure 4.15

PV Sensitivity;
Field Mounted: Medium 1 - 5 Hectare

- The Broads Authority Boundary
- Broads Authority LCA
- High
- Moderate - High
- Moderate*
- Low - Moderate*
- Low*

0. Arable areas - outside "Broads" Character refers to Adjacent district Landscape Character Assesment

1. Outney Common and Bath Hills
2. Bungay/Ditchingham to Shipmeadow/Geldeston
3. Barsham, Gillingham and Beccles Marshes
4. Aldeby to Burgh St Peter
5. Worlingham Wall to Boundary Dyke Barnby
6. Boundary Dyke Barnby to the Fleet, Oulton
7. Burgh St Peter to Haddiscoe Marshes
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14. Buckenham and Cantley Marshes and Carrs
15. Cantley to Reedham
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19. Halvergate Marshes (exc Bure Loop and west of Tunstall Dyke)
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21. Church Farm, Burgh Castle, Fisher's and Humberstone Marshes
22. Upstream Wroxham to Horstead
23. Wroxham to Fleet Dyke, South Walsham
24. South Walsham to Acle Marshes and Fens
25. Lower Bure Arable Marshlands
26. Muck Fleet valley and the Trinity Broads
27. Upstream of Wayford Bridge
28. Downstream of Wayford Bridge
29. Ludham, Horning and Neatishead Grazing Marshes
30. Upper Thurne Open Marsh, Broads and Fens
31. Martham Ferry to Oby

*No LCAs fall within this category.

Map Scale @ A3:1:160,000

LUC

Source:

Appendix 1: Glossary of terms

Glossary of Terms

Term	Definition
Above Ordnance Datum or AOD	Term to describe land heights above sea level.
CPRE Intrusion Mapping	A national map produced for the Campaign to Protect Rural England identifying areas of intrusion such as settlements/transport corridors which can affect tranquillity. The map complements and adds to the earlier nationwide Tranquillity Mapping also produced for the CPRE.
Decoy or decoy pond	An enclosed place or waterbody where wildfowl were lured for capture, to provide a food source, usually for medieval and later landed estates.
Doles	Many of the fen areas of the Broads were common land for use by those with common rights. Doling was used to divide the land up between those with common rights to ensure a fair distribution of the fen products (peat, reed, sedge, litter, grazing etc.). The separate allocations were marked by dykes or dole stones. These doles took the form of long narrow strips which gradually came to be regarded as private property and were bought, sold and exchanged. This led to consolidation of neighbouring strips and it is this simplified pattern of consolidated strips which survive in places today (Tom Williamson's 'fossilised doles'). These survive quite well on the Waveney to the north of Worlingham (there is also a Dole's Covert nearby). Elsewhere they may only now be apparent from aerial photographs (e.g. Upton Fen/The Doles).
Enclosure Acts	Also sometimes known as Inclosure Acts. A series of Acts of Parliament by which common land and open fields were enclosed. The majority of the Acts were passed between 1750 and 1860 although some occurred earlier/in the Medieval period. The Acts removed rights over the land previously held by individuals, such as grazing, hay cutting and cultivation.
Foiling/foil	Visual filtering provided by structural vegetation, by interlacing of tree canopies and understorey, as opposed to blanket screening.
HLC	Historic Landscape Characterisation. Developed by landscape archaeologists, this involves analysis and interpretation of time depth and historic evolution of units of land.
Holms or holmes	Small 'islands' of more elevated ground.
Intervisibility	The property of visibility between one place or site and another.
Landscape character	The distinct, recognisable and consistent pattern of elements that occurs consistently in a particular landscape and how these are perceived. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement/cultural pattern.
Landscape character area	Geographically and locally specific units of landscape character.
Landscape character type or landscape type	Distinct, but generic areas of common or similar landscape character, either within a landscape character area or forming the framework for

Term	Definition
	these.
Loke	A private path or road.
Peri urban	Landscapes or environments associated with settlement edges, also sometimes referred to as urban fringe or settlement fringe.
Reed ronds	Reed beds which are grown and cut for commercial use such as thatch.
Sites and Monuments Record or SMR	A national register maintained by English Heritage, detailing Scheduled Monuments (formerly referred to as Scheduled Ancient Monuments or SAMs).
Soke dyke	Also soak dike. A ditch running parallel to an embankment of a river or watercourse, to take away any water from the watercourse beyond, such as when overtopping of rivers occurs.
Special qualities	These underpin the designation of nationally protected landscapes such as National Parks and Areas of Outstanding Natural Beauty. Those relevant to the Broads can be found in the Broads Plan 2011.
Staithe	A landing place or pier for ships or boats to tie up and load or unload.
Time depth	The imprint of the past and cultural pattern upon a place.
Tithe map	A term usually applied to a map of an English or Welsh parish or township, prepared as a result of the Tithe Commutation Act of 1836.
Toft (as in place names such as Toft Monks)	An Old English name for a homestead or a holding.
Vernacular	A style of building indigenous or specific to a particular place and or adapted to environments and user's needs. The term is derived from the Latin 'vernaculus', meaning native.

Appendix 2: Characteristics of renewable energy technologies

Appendix 2: Characteristics of wind energy development and field-scale solar PV

2.1 In order to develop a method for assessing landscape sensitivity to wind energy development and field-scale solar PV development, it is important to understand the characteristics of these developments and how they may affect the landscape.

Wind energy development

General features of wind energy development

2.2 The key components of wind energy development are the wind turbines, which may be grouped together into a 'wind farm'. The majority of wind turbines consist of horizontal axis three-bladed turbines on a steel tower as shown in **Figure A2.1** below. Other turbines are available including two bladed turbines and vertical axis turbines. All forms of turbine are usually given planning permission for 25 years, although re-powering may take place after this period has elapsed.

Figure A2.1: Three bladed turbines at Somerton in Great Yarmouth Borough

2.3 The main visible components of a wind turbine consist of the tower, nacelle and rotor blade system. Depending on the scale and design of the turbine, the transformer may be located inside or outside the tower. The tower itself sits on a buried concrete foundation. In addition to the turbines themselves, developments involving large-scale wind turbines typically require additional infrastructure as follows:

- Road access to the site and on-site tracks able to accommodate Heavy Goods Vehicles (HGVs) carrying long, heavy and wide loads (for the turbine blades and construction

cranes) – the size of these tracks will vary with the size of turbine and will remain during the operation of the wind farm, although they can be narrowed during operation.

- A temporary construction compound and lay down area for major components.
- Borrow pits to provide construction materials for the access tracks.
- An area of hardstanding next to each turbine to act as a base for cranes during turbine erection (these can be removed or covered over during operation).
- Underground cables connecting the turbines (buried in trenches, often alongside tracks).
- One or more anemometer mast(s) to monitor wind direction and speed.
- A control building (to ensure the turbines are operating correctly) and a substation.

2.4 Lighting requirements depend on aviation and can be required on turbines. However, aircraft warning lights can be infra-red (IR) and therefore not visible to the naked human eye, thereby reducing night time visual impacts. Lighting has not been considered as part of the landscape sensitivity study.

2.5 The District Network Operator (DNO) is responsible for establishing a connection between the substation and the national grid. This connection is usually routed via overhead cables on poles, but may be routed underground (more expensive option). Since these are part of a separate consenting procedure these connections are not being considered as part of the landscape sensitivity study. However, consideration is given where appropriate to large scale infrastructure which could give rise to landscape and visual impacts, such as pylons.

2.6

Landscape effects of wind turbines

2.7 Wind turbines are usually substantial vertical structures that are highly visible within the landscape. The movement of the blades is a unique feature of wind energy developments, setting then apart from other stationary tall structures in the landscape such as masts or pylons. Wind energy development may affect the landscape in the following ways:

- Construction of turbines and associated infrastructure may result in direct loss of landscape features.
- Movement of rotor blades is a unique feature of wind energy development and may affect characteristics of stillness, remoteness and solitude - larger models having slower rotor speeds than smaller models.
- The presence of turbines may increase the perceived modern human influence on the landscape and may appear large in the context of human scale features (particularly larger scale turbines).
- Turbines on skylines may compete with existing landmark features for prominence where prominent skylines or landmark features are characteristic of the landscape (particularly larger scale turbines).
- Access tracks may be highly visible, particularly in open landscapes or undeveloped landscapes that currently may not contain tracks.

  Ancillary buildings and security requirements (such as fencing) may introduce new features into the landscape.

2.8 'Shadow flicker' only theoretically occurs within ten rotor diameters of a turbine[1] under specific conditions and is therefore a specific residential amenity issue rather than a landscape character issue, and so falls outside the remit of this study.

2.9 In undertaking any landscape sensitivity assessment it is important to acknowledge that varying attitudes to wind energy development are expressed by different individuals and constituencies. Aesthetic perceptions can be positive or negative depending on individual attitudes to the principle and presence of wind generation.

Cumulative issues

1.1 As larger numbers of wind farms are built, it is increasingly necessary to consider their cumulative effects. Scottish Natural Heritage's guidance on the siting and design of windfarms in the

[1] ODPM (2004) Planning for Renewable Energy: A Companion Guide to PPS22, para. 76.

landscape[2] suggests that a key consideration is to understand how different developments relate to each other, their frequency as one moves through the landscape, and their visual separation, with the aim of allowing experience of the character of the landscape in-between.

Trends in wind energy development in and adjacent to the Broads

1.2 **Table A2.1** below shows the size and height of consented and operational wind farms affecting the Executive Area (within adjacent Districts of the Executive Area)[3].

Table A2.1: Operational wind farms in the study area

Wind farm	Application number	District	Number of turbines	Height (m) of turbines (inc. blade)
Lowestoft Ness Point (Gulliver)	W14512/1	Waveney	1	100
Household Waste and Recycling Centre	W256/10BA	Waveney	1	-
Harrod UK South Lowestoft Industrial Estate	W8554/19	Waveney	1	48
Africa Alive Wildlife Park, Kessingland	DC/06/1401/FUL	Waveney	2	125
Bernard Mathews at Holten Field	DC/09/0491/FUL	Waveney	5	100
Lenwade House Hotel (wind turbine generator)	980415	Broadland	1	-
Upton Poultry Farm	20110913	Broadland	1	50m to hub
Reepham High School	20110269	Broadland	1	25
Horstead Lodge	20110084	Broadland	1	18.3
Playing Field, Village Hall, Postwick	20101131	Broadland	1	15m hub height
Renenergy (roof mounted)	20100725	Broadland	1	-
Bure Valley Farm, Aylsham	20081470	Broadland	1	24.8
Petersfield, Attlebridge (domestic)	20080915	Broadland	1	-

[2] Scottish Natural Heritage (December 2009) Siting and Designing Windfarms in the Landscape, Version 1. [NB Scottish guidance has been quoted as there is no equivalent English guidance.]

[3] Details of individual wind farm applications are based on information provided by the Broads Authority

Wind farm	Application number	District	Number of turbines	Height (m) of turbines (inc. blade)
The Whitehall and Reepham Station, Reepham	20091644	Broadland	1	24.8
Fox Barn, Holly Lane, Blofield	20091642	Broadland	1	-
21 Meridian Way, Postwick	20071491	Broadland	1	-
Land adjacent to Banningham Road, Aylsham	20070075	Broadland	1	15
Hellesdon Hospital, Hellesdon	20061892	Broadland	1	9
Thorpe St Andrew School, Laundry Lane, Thorpe St. Andrew	20061293	Broadland	1	14
Twyford Hall Barn, Twyford Lane, Foulsham	20041975	Broadland	1	9.5
1 Berrington Road Hellesdon	20031158	Broadland	1	-
Church Farmhouse, Beck Lane, Tuttington	20030750	Broadland	1	-
New Police ODB, Land adjacent NNDC Holt Road, Cromer	PF/09/0893	North Norfolk	1	15
The Hall, Stalham Road, East Ruston	PF/09/0940	North Norfolk	1	15
East View Farm, Stone Lane, Ashmanhaugh	PF/09/0985	North Norfolk	1	18.3
Land at Coltishall Airfield, Scottow	PF/10/0172	North Norfolk	1	70
Village Hall, Coast Road, Bacton	PF/10/0408	North Norfolk	1	15
Rosewood Farm, Craymere Beck Road, Thurning,	PF/10/1035	North Norfolk	1	18

Wind farm	Application number	District	Number of turbines	Height (m) of turbines (inc. blade)
Melton Constable				
Stone Lodge, Kelling Road, Lower Bodham, Holt	PF/10/1098	North Norfolk	1	-
Hall Farm, Aylsham Road, Saxthorpe	PF/10/1186	North Norfolk	2	15
Woodfruits, Locks Farm, Road, Corpusty	PF/10/1305	North Norfolk	1	-
Land off Church Street, Sco Ruston	PF/10/1328	North Norfolk	1	60
Hall Farm Barn, Field Dalling Road, Bale	PF/10/1420	North Norfolk	1	15
Land at Stibbard Road, Fulmodeston, Fakenham	PF/11/0064	North Norfolk	1	15
Church Farm, Church Road, Bacton	PF/11/0334	North Norfolk	1	15
Bridge Farm, Pond Road, Bradfield, North Walsham	PF/11/0523	North Norfolk	2	15
Rosewood Farm, Craymere Beck Road, Thurning, Melton Constable	PF/11/0902	North Norfolk	1	18
Gothic Cottage, Mill Road, East Ruston	PF/11/0922	North Norfolk	1	36.4
Skeyton Poultry Farm, Skeyton Road, Skeyton	HR/83/0119	North Norfolk	1	-
Wayside, Church Lane, Alby with Thwaite	PF/98/1258	North Norfolk	1	-
Thurnes Farm, Crowgate Street, Tunstead	PF/00/1271	North Norfolk	1	-
Site at Wallgate Lane, Little Snoring	PF/01/1826	North Norfolk	1	-
The Farmhouse and	PF/04/0891	North Norfolk	1	15

Wind farm	Application number	District	Number of turbines	Height (m) of turbines (inc. blade)
the barn, Swanton Road Boundary Farm, Gunthorpe				
Land of Turf Moor Road, Lynn Road, Sculthorpe	PF/04/1849	North Norfolk	1	15
Cley Marshes Reserve visitor centre off Coast Road, Cley-Next-The-Sea	PF/04/2192	North Norfolk	1	-
Land at Grimes Hall Farm, Yarmouth Road, Stalham	PF/05/1220	North Norfolk	1	11
Land of Turf Moor Road, Lynn Road, Sculthorpe	PF/05/1750	North Norfolk	1	15
Calthorpe Broad National Nature Reserve, Ingham	PF/05/1750	North Norfolk	1	-
Copys Green Farm, Copys Green, Wighton	PF/06/0316	North Norfolk	1	-
2 Hall Farm Cottages, The Street, Morston	PF/06/0853	North Norfolk	1	-
September House, 2 Cricketers Close, Wood Norton	PF/06/1138	North Norfolk	1	-
Little House, Barningham Road, Gresham	PF/06/1223	North Norfolk	1	-
Highfields, Briston	PF/06/1733	North Norfolk	1	-
45 Skeyton Road, North Walsham	PF/07/0017	North Norfolk	1	-
Old Mill House, The Street, Swafield	PF/07/0055	North Norfolk	1	--
Old Mill House, The Street, Swafield	LA/07/0056	North Norfolk	1	-
The White House,	PF/07/0093	North Norfolk	1	15

Wind farm	Application number	District	Number of turbines	Height (m) of turbines (inc. blade)
Middle Hill, Alby				
Home Farm, Creake Road, Cranmer	PF/07/1184	North Norfolk	1	18
The Cottage, Clipstone Lane, Kettlestone	PF/07/1873	North Norfolk	1	9
45 Skeyton Road, North Walsham	PF/08/0140	North Norfolk	1	-
Sheringham High School & 6th Form Centre, Holt Road, Sheringham	PF/08/0465	North Norfolk	1	15
Fakenham High School, Field Lane, Fakenham	PF/08/0666	North Norfolk	1	15
Hoveton Old Hall, Stone Lane, Ashmanhaugh	PF/08/0777	North Norfolk	1	18
Warren Barn, Brewrey Road, Trunch	PF/08/01236	North Norfolk	1	11.5
Home Farm, Creake Road, Cranmer	PF/08/1343	North Norfolk	1	-
Home Farm, Creake Road, Cranmer	PF/09/0011	North Norfolk	1	-
Beach Cottage, The Marrams, Sea Palling	PF/09/0492	North Norfolk	1	15
South Denes (Great Yarmouth Industrial Area)	-	Great Yarmouth	4	67
Somerton (near Winterton)	-	Great Yarmouth	10	66
Hemsby	-	Great Yarmouth	4	65
West Caister	-	Great Yarmouth	1	9
Caister-on-Sea (St. Nicolas Drive	-	Great Yarmouth	1	-

Wind farm	Application number	District	Number of turbines	Height (m) of turbines (inc. blade)
Martham – Flegg High School	-	Great Yarmouth	1	15
Caister High School	-	Great Yarmouth	1	15
Tesco, Victoria Road, Diss (roof top turbines)	2005/1882/F	South Norfolk	5	-
Lodge Farm, The Heywood, Heywood (micro turbines)	2006/1089/F	South Norfolk	2	-
Wymondham College, Golf Links Road, Morley St. Peter	2006/1973/EA	South Norfolk	2	-
Lotus Cars, Potash Lane, Hethel	2007/0739/EA	South Norfolk	3	-
Semere Green Lane, Dickleburgh	2007/1372/ES	South Norfolk	7	-
Land to the west of New Road, Tivetshall St Mary	2008/0324/ES	South Norfolk	6	-
Norwich Site Bypass, Caistor St Edmunds	2008/0436/ES	South Norfolk	2	60
Land at Group Lotus PLC, Potash Lane, Hethel	2008/0592/F	South Norfolk	3	120
Upper Vaunces Farm, Semere Lane, Pulham St Mary	2008/2247/ES	South Norfolk	3	125
Land east of Semere Green Road (forming part of Upper Vaunces Farm) Pulham Market and Dickleburgh	2010/0383/F	South Norfolk	3	-
New Road/Patten Lane (accessed from Moor Road), Tivetshall St Mary	2010/0861/F	South Norfolk	3	-
Turnpike Farm, London, Suton,	2010/1315/F	South Norfolk	2	-

Wind farm	Application number	District	Number of turbines	Height (m) of turbines (inc. blade)
Wymondham				
Hill Farm, Redenhall Road, Harleston	2011/0001/EA	South Norfolk	3	-
Hill Farm, Redenhall Road, Harleston	2011/0082/ES	South Norfolk	3	-

1.3 In addition the following planning applications have been made for wind turbines in and adjacent to the Executive Area:

Table A2.2: Wind farm planning applications in the study area

Site and application reference	Application number	District	Number of turbines	Height (m) of turbines (inc. blade)
Cantley Sugar Factory, Station Road, Cantley (micro wind turbine 3.4m above roof level)	20091048	Broads Authority	1	-
Manor Farm House, Halvergate	20060299	Broads Authority	1	-

Field scale solar photovoltaics (PV)

1.4 Field-scale solar PV developments are an emerging renewable technology which proved popular with developers from April 2010-August 2011 as a result of the Government's feed-in tariffs which provided an attractive financial incentive for their development (for schemes of less than 5MW in capacity). However, early in 2011 Energy Secretary Chris Huhne launched a comprehensive review of the Feed in Tariffs (FITs) scheme. Fast-track consideration of the tariffs confirmed tariff reductions for large-scale solar PV (over 50 kilowatts) and all stand-alone PV projects. These new tariffs came into force on 1 August 2011. As a consequence a number of applications have been dropped. Nevertheless, the landscape of parts of Norfolk and surrounding the Broads is seen as a potentially attractive location in the UK for this technology due to exposed open character and associated high levels of solar radiation.

General features of solar PV developments

1.5 This section is based on the details of planning applications for solar PV schemes in Norfolk and the Broads and other parts of the UK, as well as developments that are already in place in mainland Europe. Like wind farms, solar PV developments are usually given planning permission for 25 years.

Size and arrangement

1.6 The size of field-scale solar PV developments may vary, with planning applications typically varying in size between approximately 8 and 18 hectare sites (which would generate between 2.1 and 5 MW of electricity).

1.7 Panels are arranged in groups or 'arrays' of around 20 panels. The panels are encased in an aluminium frame, supported by aluminium or steel stands, and positioned at a fixed angle

between 20-40 degrees from the horizontal, facing south. These arrays usually take the form of a linear rack of panels. These arrays or linear racks of panels are usually sited in parallel rows with gaps between the rows for access and to prevent shading of adjacent rows. They therefore do not cover a whole field. The actual arrangement of the arrays within the landscape varies from scheme-to-scheme (i.e. regular layouts versus more varied and irregular, depending on the site situation). Generally though, layouts of the solar arrays tend to be regular.

Figure A2.2: Solar PV development at Benbole Farm, Cornwall

1.8 Some developments contain panels that can be manually rotated several times a year to enable the arrays to track the sun and so ensure maximum capture of the sun's energy, while others feature fixed panels which are positioned to face in a southerly direction. The technology does exist to allow for automatic tracking, although this is rarer. Movement due to automatic tracking is likely to be imperceptible as it will be slow.

Location in the landscape

1.9 In general, the favoured sites for PV schemes from a technical standpoint are plateau tops or gently sloping landforms, with a southerly aspect to maximise efficiency. From a logistical standpoint, steep slopes are avoided. Unless viewed from above, it is unlikely that a whole solar PV development would be visible to the eye.

Height of the solar panels

1.10 Ground mounted panel arrays are usually mounted around 3-4m above ground level allowing the growth of vegetation beneath and between the arrays and the associated grazing of stock.

Appearance of the solar panels

1.11 In the planning applications studied, some of the panels are described as appearing dark in colour as a result of their non-reflective coating and maximised absorption of light, and some have been likened to poly tunnels when viewed from a distance. Some solar PV developments are likened to areas of standing water (i.e. reservoirs or lakes) when viewed from certain angles and from a distance. An example of a solar PV development in Germany is shown in **Figure A2.3**.

Figure A2.3: Solar PV development in Muhlhausen, Germany

1.12 However, it should be noted that the panels may also be seen from behind (back of the panels) or from the side (down the rows of frames) which will also influence how they are perceived. An example is shown in Figure A2.4.

Figure A2.4: Solar PV development seen from behind at Benbole Farm, Cornwall

Other features of field scale solar PV development

1.13 Other features of field scale solar PV may include:

- Temporary storage compounds for plant, machinery and materials during the construction phase.
- Inverters to convert the electricity from DC to AC - which may be housed within new or existing buildings.
- Transformer and underground power cables to transfer the electricity to the National Grid.
- On-site power house (usually a Portacabin with a concrete base).
- Security fencing up to 2.5 metres in height required for insurance purposes.
- Hedgerows or tree planting to screen sites.
- CCTV (such as cameras mounted on 4.5m high poles).

1.14 New access tracks are not necessarily a requirement because temporary matting can be used to bring the solar panels to a site (i.e. if a site is not accessible by existing roads or tracks). However, transportation of panels to the site needs to be considered.

Landscape effects of solar PV developments

2.10 Solar PV developments, although not prominent in terms of height, can occupy substantial areas of ground which may be visible, particularly if located on slopes. Landscape effects may include the following:

- As extensive developments, field-scale solar PV developments may be particularly visible in open landscapes or on upper slopes of hillsides, especially where covering significant areas. Depending on scale it is likely that this would be exacerbated by roof mounted schemes.
- The presence of PV panels and associated infrastructure may increase the perceived modern human influence on the landscape, including landscapes that form a setting to heritage assets. Depending on scale it is likely that this would be exacerbated by roof mounted schemes.
- Solar PV developments will change the land use and appearance of a field or fields, affecting land cover patterns.
- The regular edges of solar PV developments may be conspicuous in more irregular landscapes (particularly where they do not follow contours or where field boundaries are irregular in form).
- The height of racks (up to 3m) means that they may overtop typical hedgerow / hedgebank field boundaries.
- Screen planting around solar PV development can change the sense of enclosure of a landscape (NB some changes in management, such as allowing hedges to grow out, may enhance diversity and local landscape character resulting in positive change – as long as native species are used).
- Construction of the solar PV development may result in damage to landscape features.
- Structures may appear out of place in particularly wild or undeveloped landscapes which are valued for their qualities of remoteness.
- Ancillary buildings and security requirements (such as fencing and/or CCTV) may introduce new and unfamiliar features into the landscape.

2.11 The possibility of light or glare emitting from the solar panels is an important consideration in terms of the visual impacts of schemes. However, photovoltaic technology requires absorption of sunlight to allow for the conversion of energy to take place and therefore very little light energy is lost through reflection. Glare is further minimised through the use of translucent coating materials to improve light transmittance through the glass[4].

Cumulative issues

1.15 Cumulative effects of multiple schemes are a significant issue for local authorities to deal with. This is because field-scale solar PV developments tend to cluster around grid connection points.

Trends in solar PV development in and adjacent to the Broads

1.16 Details of planning applications for solar PV schemes affecting the study area (as of May 2012), are set out in table A2.3 overleaf.

[4] www.whealjanemasterplan.co.uk

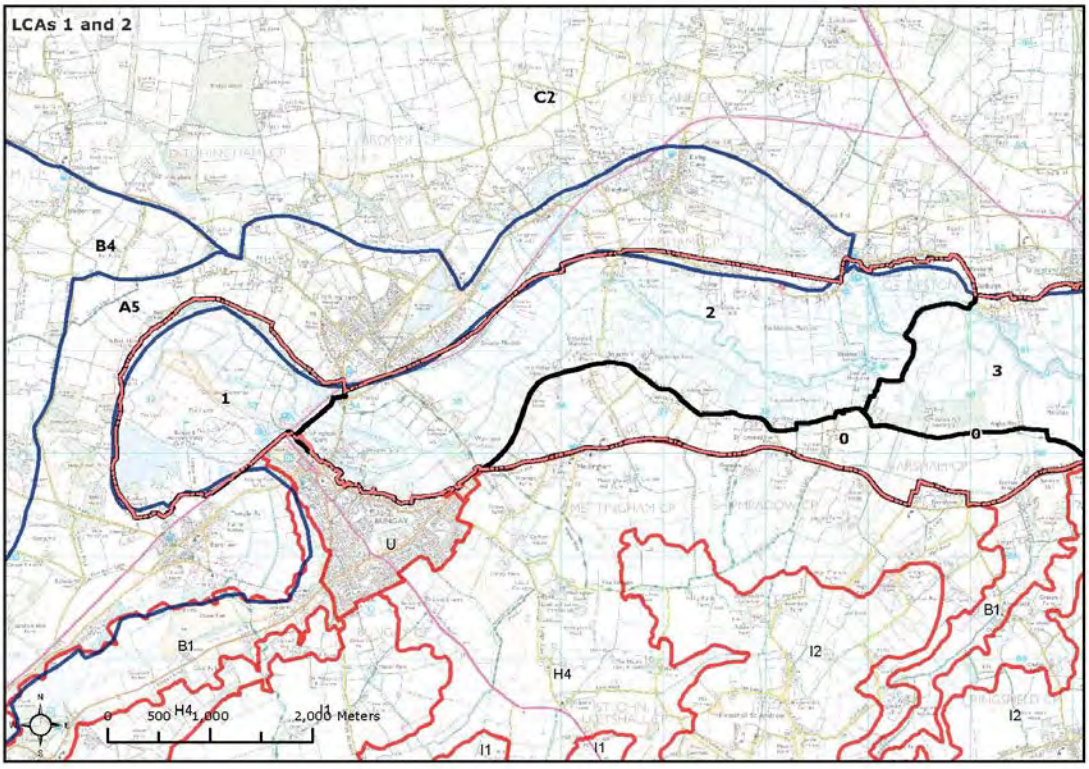
Table A2.3: Solar PV planning applications in the study area

Location	Land area (ha)	Application number
Broadland District	-	201120442
Richardsons Boatyard, The Staithe, Stalham	0.29	BA/2012/0130/FUL
Douglas Farm, Falcon Lane, Ditchingham	0.0432	BA/2011/0314/FUL
Fir Tree Farm, Coast Road, Waxham	0.011	BA/2011/0217/FUL
Farmhouse, Somerton Holmes Farm, Horsey Road, West Somerton	0.1	BA/2011/0160/FUL
Carlton Marshes Visitor Centre, Burnt Hill Lane, Carlton Colville	0.1	BA/2008/0303/FUL
Beccles Swimming Pool, Puddingmoor, Beccles	0.27	BA/2010/0327/FUL
Waveney Inn And River Centre, Staithe Road, Burgh St Peter, NR34 0BT	0.02	BA/2011/0364/FUL
139 Beccles Road, Bungay, NR35 1HX	0.06	BA/2012/0055/FUL
Irstead Manor, Hall Road, Irstead, NR12 8XP	0.029	BA/2011/0034/FUL
25 Northgate, Beccles, Suffolk, NR34 9AS	0.1	BA/2010/0166/FUL
Bramerton Staithe, Woods End, Bramerton, Norwich, NR14 7ED	0.1	BA/2010/0253/FUL

Appendix 3: Landscape sensitivity matrices for each landscape character area

LCA 1: Waveney Valley - Outney Common and Bath Hills Area: LCA 2: Waveney Valley – Bungay / Ditchingham to Shipmeadow / Geldeston

Location and landscape character context



Landscape Sensitivity Assessment for Wind Turbines

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities			
	Special qualities such as areas of open landscape within both character areas and the sense of tranquillity are particularly sensitive to the introduction of larger structures such as wind turbines. The sense of tranquillity is however reduced by some large scale industrial development on the western edge of Bungay in area 1. Although located outside the Broads Executive Area, it negatively influences the perception of remoteness from within and immediately surrounding the settlement and thus reduces sensitivity. However, area 2 comprises of a more sensitive landscape due to its undeveloped nature and as a result the areas when combined have an overall moderate-high sensitivity to wind turbine development in these terms.		
2.Enclosure and scale			
	Both areas display similar riverine characteristics (low-lying river valley) with gently sloping valley sides. Character area 1 however has a more undulating character with steep valley sides rising to 30m to the north outside the Broads Executive Area, which provides a degree of containment while character area 2 has a broad, flat character. There are some subtle differences in relation to field pattern and scale in these areas. Character area 1 is defined by a medium scale field pattern and large open bodies of water which would indicate a lower sensitivity, while character area 2 has a small scale enclosed (hedgerows) field pattern indicating a higher sensitivity. The areas when combined have a high sensitivity due to the sense of enclosure and containment provided by hedgerows and landform, in addition to small scale field pattern in area 2 in particular.		
3.Landscape and land cover pattern			
	Landscape and land cover within these areas is formed by a rich and varied pattern of elements (pasture, woodland, river valley topography and areas of open water) which are sensitive to wind turbine development due to the potential for wind turbines to dominate small scale features. Although area 1 exhibits a more varied composition of elements in comparison to the slightly more simplistic nature of elements within character area 2, both areas combine to create a combination of elements which indicate a moderate-high sensitivity to wind turbine development.		
4.Skylines			
	Both character areas have well defined skylines, particularly to the west of character area 1 where the ridge encircles the area. The ridges to the north and south of character area 2 are also prominent with rising landform and well wooded ridges defining the extent of views. As a result these uninterrupted skylines and rising landform indicate a higher sensitivity. However the interface of character area 1 with the settlement of Bungay is formed by modern, large scale development on the skyline and although confined, this locally lowers sensitivity in the surrounding character area. The areas are considered to have a combined high sensitivity to wind turbine development.		
5.Perception and experience of the landscape			
	The tranquil, undisturbed character of area 2 is enhanced by the isolated and remote perception of the area indicating a higher sensitivity. This is however in contrast to the localised level of intrusion associated with the edges of both character areas where the boundaries adjoin the settlement of Bungay. The influence of the large scale development on the edge of		

	Bungay indicates a lower sensitivity, although elsewhere within character area 1, away from the settlement, the area displays a strong sense of tranquillity indicating a higher sensitivity. Therefore the overall sensitivity is moderate-high.
6.Historic landscape character	The distinct medieval dole pattern and the traditional 17th century grazing marsh within the south of character area 2 indicate a higher sensitivity to wind turbine development. Also sensitive are the malting complexes and historic settlements (Geldeston, Bungay and Ellingham Mill) within character area 2 which have a strong association with former water mills of the area. Large scale wind turbine development could impact upon the coherence of the historic landscape in these areas. In addition, character area 1 also displays some important historic features (i.e. historic common at The Hards, the Bath Hills which are closely associated with the Ditchingham Estate and commons within the area). When combined, these historic features indicate a high sensitivity to wind turbine development.
7.Visual sensitivities and intervisibility with areas outside the Broads	This is an enclosed landscape which is defined by ridge topography and surrounded by wooded skylines that provide a degree of containment, indicating a lower sensitivity to wind turbine development in these terms. Although contained, there is some intervisibility with adjacent character areas outside the Broads Executive Area (namely areas A5 and B4 in South Norfolk District and area H4 in Waveney District). This is particularly evident where these areas are on higher ground (A5 and B4) having the additional impact of being more prominent in views from the character area. Due to the level of structural screening provided by landform balanced with filtered views of adjacent areas and the degree of intervisibility the overall sensitivity of the areas is considered to be moderate-high.
Discussion on landscape sensitivity	Overall the two areas have a high landscape sensitivity to wind turbine development. This is due to the special qualities such as the sense of tranquillity, the strong sense of enclosure provided by undulating landform, wooded ridges and steeper valley sides in the adjacent character areas (A5 and B4 in South Norfolk). In addition, the historic landscape features reflected in the area's commons, the 17th century grazing marsh enclosures and the historic settlement pattern increase sensitivity to wind turbine development. As a result, the areas when combined, demonstrate a high sensitivity to wind turbine development overall. This judgement also applies to large infrastructure for off shore wind farm schemes, such as pylons.

Sensitivity to different turbine heights	**Land within the character areas**		**Land outside the Executive Area**	
	Small (0-20m)	**M-H**	Small (0-20m)	**M-H**
	Medium (20-50m)	**H**	Medium (20-50m)	**H**
	Large (50-70m)	**H**	Large (50-70m)	**H**
	Very large (70m+)	**H**	Very large (70m+)	**H**

Commentary:
This grouping of character areas is likely to have a lower sensitivity to small scale turbines (0-20m) where topography and vegetation can provide an element of screening. Siting will need careful consideration so as not to impact upon the distinctive historic settlement and landscape pattern of the areas, in addition to taking account of intervisibility with adjacent character areas and the well-defined skylines. As outlined above, the landscape would be highly sensitive to all other larger scale turbine typologies.

Landscapes outside the Executive Area
Relevant character areas and sensitivities are:

South Norfolk –
A5: Waveney Rural River Valley: Rising valley sides to the Broads which provide intervisibility.
B4: Waveney Tributary Farmland: Elevated land close to the Broads in the north.
Waveney District -
H4: Mettingham Tributary Farmland: Steeply rising valley sides (10-15m AOD) to the north and forms part of the landscape setting of the Broads abutting the Broads Authority boundary along much of its length.

Fieldwork confirmed that the elevated ridgelines of areas A5 and B4 which surround character areas 1 and 2 are sensitive. H4 character area also displays a strong visual association with the Broads and is therefore of high sensitivity. The rising ridges are sensitive to wind turbine development of most typologies, particularly those at the higher end of the scale due to their prominence. Adjacent areas are less sensitive to small scale turbines (0-20m) where there is careful consideration of siting and impact upon sensitive characteristics (i.e. skylines, scale and intervisibility).

Commentary on different cluster sizes

Single turbine
Small clusters (<5 turbines)
Medium (6-10)
Large (11-25)
Very large (>26)

Land within the character areas		**Land outside the Executive Area**	
Single turbine	**M-H**	Single turbine	**M-H**
<5 turbines	**H**	<5 turbines	**H**
6-10 turbines	**H**	6-10 turbines	**H**
11-25 turbines	**H**	11-25 turbines	**H**
>26 turbines	**H**	>26 turbines	**H**

Commentary:

Within both character areas the landscape has a moderate-high sensitivity to single wind turbine schemes provided careful consideration of the sensitive characteristics (e.g. skylines) is demonstrated. The areas would however be sensitive to larger clusters due to the potential to interrupt skylines and in turn create visual clutter within an otherwise largely undeveloped skyline.

Landscapes outside the Executive Area

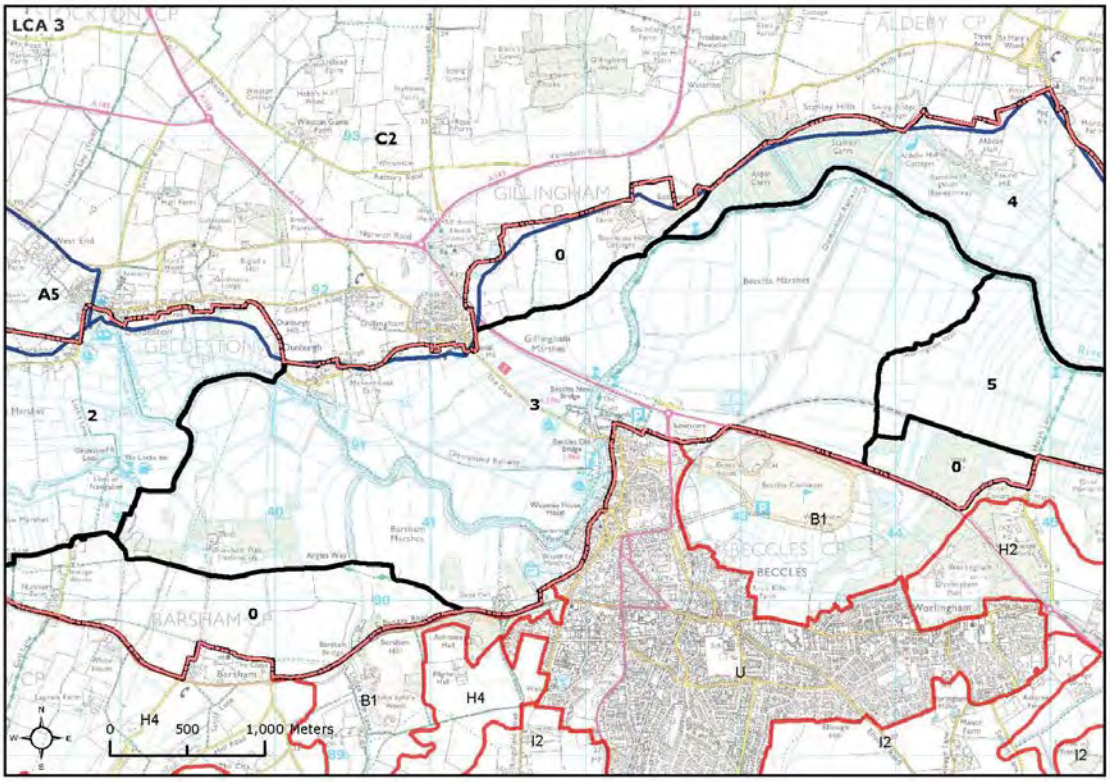
Relevant character areas and sensitivities are:

South Norfolk –
A5: Waveney Rural River Valley: Rising valley sides to the Broads which provide intervisibility.
B4: Waveney Tributary Farmland: Elevated land close to the Broads in the north.
Waveney District -

	H4: Mettingham Tributary Farmland: Steeply rising valley sides (10-15m AOD) to the north and forms part of the landscape setting of the Broads abutting the Broads Authority boundary along much of its length. Fieldwork confirms that due to the relative prominence of the valley sides and ridges in these adjacent areas as they overlook the Broads, multiple turbine clusters could be more dominant in relation to skyline character and intervisibility, resulting in a high landscape sensitivity. Although the landscape has a lower sensitivity (moderate-high) to schemes of up to five turbines, design and siting would require careful consideration in relation to the predominantly undeveloped skylines to the Broads.

LCA 3: Waveney Valley - Barsham, Gillingham & Beccles Marshes

Location and landscape character context



Landscape Sensitivity Assessment for Wind Turbines

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities	Special qualities sensitive to turbines in this area relate mainly to aesthetic and perceptual character - the traditional vernacular valley town core at Beccles with associated prominent medieval stone built church tower, which would be sensitive to large scale modern development such as wind turbines. Also sensitive are the sense of tranquillity to the wider river valley floodplain (due to potential impact of moving tall structures) and associated meandering course of the River Waveney and wetland habitat network. Areas of open skies would be sensitive due to potential impact of turbines on the perception of this.		
2.Enclosure and scale	A well-defined valley landscape of small to medium scale, with enclosure created by pollard willows to the river and associated water courses, and by valley topography, woodlands to the southern area boundary and the ridges in adjacent character areas beyond the Executive Area. Small scale landscape patterns are apparent to settlement edges, whilst human scale elements are imparted by sailing boats using the river. All of these elements combine to create a landscape which is sensitive to large scale elements such as wind turbines.		
3.Landscape and land cover pattern	A mosaic landscape due to the interplay of grazing pasture, river and riparian habitat, flood meadow and historic valley settlements, in addition to small areas of carr woodland and orchards. The landscape contains a number of human scale references such as waterside pollard willows, the historic settlement of Beccles, its quayside and boats (associated with the navigable Waveney), and the church tower, all of which indicate higher sensitivity to turbines, as they create human scale elements in the landscape, the legibility of which would potentially be affected by wind turbines. However, larger scale elements of the landscape pattern such as pylons reduce sensitivity slightly – moderate-high overall.		
4.Skylines	Skylines are mostly uninterrupted and undeveloped (high voltage pylons are however visible in parts, reducing skyline sensitivity). Horizons are formed by valley sides in adjacent landscape character areas, and comprise small woodland blocks and occasional small scale settlement edge development, although the settlement edge at Beccles forms part of the horizon to the south (including prominent church tower). This is predominantly of vernacular character and of a scale and type which would be sensitive. Taller skyline elements such as pylons locally reduce landscape sensitivity – moderate-high overall.		
5.Perception and experience of the landscape	Areas of tranquil landscape within the valley floor such as flood meadows would be sensitive to turbines due to their potential effect on cohesion of perceptual landscape character. Settlements are mostly of contained, compact and historic character. However intrusions such as the A146 corridor within the area, locally reduce landscape sensitivity, as do tall elements such as pylons – moderate high sensitivity to turbines in perceptual terms.		
6.Historic landscape character	A number of elements with this area would be sensitive to turbines e.g. areas of fragmented dole patterns and traditional vernacular settlement such as historic valley towns. This is due to the effect that turbines would		

	potentially have on scale and cohesion/perception of such historic elements. Much of the landscape of this area is also defined by boundary loss which reduces historic landscape sensitivity, as do areas where more modern settlement fringe influences persist. Taking all of the above into account, sensitivity of historic landscape character to wind turbines is moderate.
7.Visual sensitivities and intervisibility with areas outside the Broads	This area has intervisibility with a small part of the Waveney River Valley outside the Broads Authority Executive Area, and associated tributary valley farmlands which form the valley slopes (Waveney LCA H4: Mid Waveney Tributary Farmland), although a degree of visual filtering is provided by the woodland blocks on the southern boundary of the character area. Similarly the area is intervisible with the valley crests in South Norfolk District character area C2 Thurlton Tributary Farmland, with a more open visual character in this direction. The valley crests are therefore visually prominent and important. In places, views are filtered by the presence of pollard willows lining water courses, creating visual foiling in relation to other Broads character areas within the Waveney Valley. Taking this varied visual character into account, the landscape has a moderate sensitivity to turbines in visual terms.
Discussion on landscape sensitivity	Overall landscape sensitivity of the Waveney Valley – Barsham, Gillingham and Beccles Marshes to wind turbine development is moderate-high. Whilst a number of scenic and special qualities sensitive to turbines are present in this area, such as vernacular settlements and areas of open skies, overall landscape sensitivity is slightly reduced by intrusions such as the A146 corridor and line of pylons in the valley floor. The erosion of aspects of historic landscape character, such as boundary loss, and associated impacts on scale, also influence this sensitivity judgement. This judgement also applies to large infrastructure for off shore wind farm schemes, such as pylons.

Sensitivity to different turbine heights

Land within the character areas		Land outside the Executive Area	
Small (0-20m)	**M-H**	Small (0-20m)	**M-H**
Medium (20-50m)	**H**	Medium (20-50m)	**H**
Large (50-70m)	**H**	Large (50-70m)	**H**
Very large (70m+)	**H**	Very large (70m+)	**H**

Commentary:

Turbines at the smallest end of the range (below 20 metres to tip height) would have less effect on perceptual landscape character as they are closer in scale to existing landscape elements and existing vertical skyline features such as church towers. Turbines beyond this height range would introduce elements out of scale with the landscape, hence the higher sensitivity rating.

Landscapes outside the Executive Area

Relevant character areas and sensitivities are:

Waveney District character area H4: Mid Waveney Tributary Farmland: Framed views to the Broads.
South Norfolk District character area C2: Thurlton Tributary Farmland: Open views to the Broads.

Turbines at the smallest end of the range (below 20 metres to tip height) would have less effect on landscape character and perceptual aspects within the Broads, due to closer relationship to existing landscape scale elements. However, fieldwork confirms that the relative prominence of the valley sides and ridges in these adjacent areas means that larger turbines would appear

	more dominant in relation to the Broads, resulting in a high landscape sensitivity.

Commentary on different cluster sizes

Single turbine
Small clusters (<5 turbines)
Medium (6-10)
Large (11-25)
Very large (>26)

Land within the character areas		Land outside the Executive Area	
Single turbine	**M-H**	Single turbine	**M-H**
<5 turbines	**H**	<5 turbines	**H**
6-10 turbines	**H**	6-10 turbines	**H**
11-25 turbines	**H**	11-25 turbines	**H**
>26 turbines	**H**	>26 turbines	**H**

Commentary:
Single turbines would confine the introduction of visual clutter in this simple valley landscape.

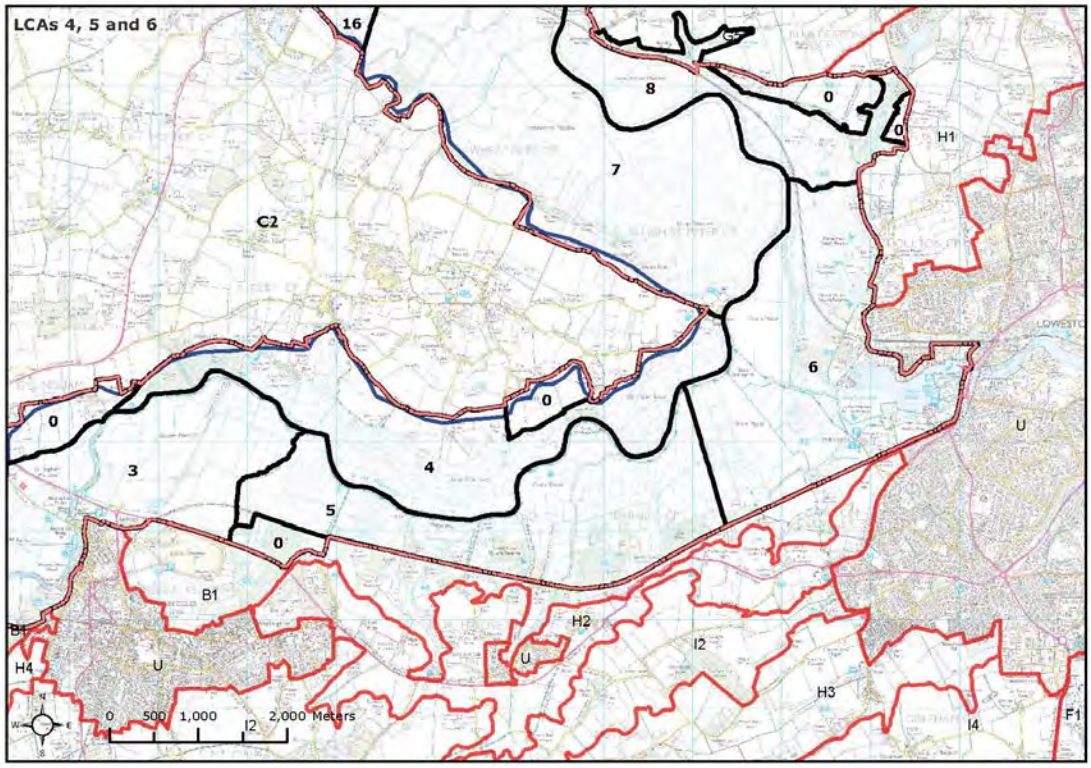
Landscapes outside the Executive Area
Relevant character areas and sensitivities are:

Waveney District character area H4: Mid Waveney Tributary Farmland: Framed views to the Broads.
South Norfolk District character area C2: Thurlton Tributary Farmland: Open views to the Broads.

Fieldwork confirms that the relative prominence of the valley sides and ridges in these adjacent areas as they overlook the Broads means that multiple turbine clusters could be more dominant in relation to skyline character and intervisibility, resulting in a high landscape sensitivity.

LCA 4: Waveney Valley – Aldeby to Burgh St Peter: LCA 5: Waveney Valley - Worlingham Wall to Boundary Dyke, Barnby: LCA 6: Waveney Valley - Boundary Dyke Barnby to The Fleet, Oulton

Location and landscape character context



Landscape Sensitivity Assessment for Wind Turbines

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities			
	Some of the special qualities of the Broads are present within these areas, specifically the wide and open landscapes of the marshes within areas 5 and 6. These wide open areas are sensitive to movement and changes to scale as a result of the introduction of wind turbines. The areas have a relatively strong sense of tranquillity away from settlement edges and communication corridors indicating a higher sensitivity to large scale elements which contrast with the mostly tranquil and isolated character. In addition, turbines would introduce a level of aural and visual intrusion in a relatively remote area.		
2.Enclosure and scale			
	Areas 4, 5 and 6 are comprised of a mix of large and small scale elements (i.e. some large scale rectilinear enclosures and small scale blocks of carr woodland) creating localised variation. Enclosure is formed by the variation in landform (i.e. the adjacent South Norfolk and Waveney ridges outside the Broads Executive Area) and small clusters of carr woodland (i.e. Alder and Stanley carrs in area 4 and North Cove Nature Reserve, Barnby Broad and Old Broad in area 5). In addition, areas of reed rond along the course of the River Waveney provide enclosure within the more open marshes. These areas are sensitive to wind turbine development with landscape features and passing boating traffic providing a relative sense of scale. Elsewhere the areas are considerably more open (large scale marshes i.e. Castle Marshes and Peto's Marsh) which would have a lower sensitivity to wind turbine development due to the reduced sense of scale with no visual boundaries, and few features that relate to human scale.		
3.Landscape and land cover pattern			
	Areas 4, 5 and 6 provide a varied and intricate pattern of elements creating a mosaic of carr woodland, open marshland and meandering waterways with reed fringed edges. When combined, these elements create a rich and textured surface and this diversity of elements indicates a higher sensitivity to wind turbines. The wooded settlement at the edge of Oulton Broad is characteristic of the area and is sensitive to wind turbine development due to the likely dominance of large scale turbines over traditional features of the area.		
4.Skylines			
	Skylines are mostly undeveloped in large parts with the exception of area 6 where development at Lowestoft is visible on the south eastern skyline. Gently rising ridgelines in the adjacent South Norfolk and Waveney Districts and wooded ridges filter distant views. These relatively uninterrupted views and undeveloped skylines are sensitive to wind turbine development. Elsewhere, localised modern development forms part of the skyline (i.e. sand and gravel workings in South Norfolk, and overhead power lines and Lowestoft wind turbine (Gulliver) visible from area 5). These features reduce sensitivity and detract from the more naturalistic defined skylines.		
5.Perception and experience of the landscape			
	Each of the character areas have a tranquil and remote character although there is some localised intrusion on the edges (Lowestoft urban development, and sand and gravel extraction pits in South Norfolk District). Although remote, areas 5 and 6 have provision for access along the river via the Angles Way and local footpaths across the marshes, in addition to the well-used Oulton Broad (recreation). Area 4 is less well served with reduced access while the River Waveney provides boating access through		

	each of the areas. Although there are some localised intrusions, all landscape character areas would be sensitive overall to wind turbine development in perceptual terms.
6.Historic landscape character	A number of sensitive historic landscape types are apparent; specifically in area 6 which retains 16th and 17th century grazing marshes and where Edwardian waterside development at Oulton Broad is recognised through Conservation Area status. Such small scale features would be sensitive to wind turbine development. Elsewhere, localised features such as Worlingham medieval wall (today a raised tree lined corridor) in the west of area 5 and 17th and 18th century farmsteads on the northern fringes of area 4 are of higher sensitivity to wind turbine development. Some areas of lower sensitivity HLT's are evident, although this is confined to localised areas of large scale rectilinear field patterns which are a result of field boundary removal (e.g. central parts of area 4 and eastern parts of area 5).
7.Visual sensitivities and intervisibility with areas outside the Broads	The open expanse of marshes provides distant views with some intervisibility into adjacent character areas (i.e. South Norfolk District area B1 and C2 and Waveney District area H2) which would indicate a higher sensitivity to wind turbines. Areas of enclosed landscape character adjacent to blocks of carr woodland or rising topography create containment and would therefore have lower sensitivity to wind turbine development.
Discussion on landscape sensitivity	Overall the areas are considered to have a moderate - high sensitivity to wind turbine development in general. This is due to the representation of some of the Broads special qualities within these character areas. Specifically reference is made to the varied landscape pattern and scale, the historic landscape character associated with 16th and 17th century marshes, the winding river corridor and provision for boating, the sense of tranquillity across the marshes and the presence of Edwardian settlement surrounding Oulton Broad. Sensitivity is lowered as a result of localised intrusion at Lowestoft, the sand and gravel pits in South Norfolk District, and areas of large scale 20th century rectilinear field patterns which results in an overall judgement of moderate – high. This judgement also applies to large infrastructure for off shore wind farm schemes, such as pylons.

Sensitivity to different turbine heights

Land within the character areas		Land outside the Executive Area	
Small (0-20m)	**M-H**	Small (0-20m)	**M-H**
Medium (20-50m)	**H**	Medium (20-50m)	**M-H**
Large (50-70m)	**H**	Large (50-70m)	**H**
Very large (70m+)	**H**	Very large (70m+)	**H**

	Commentary: Within areas 4, 5 and 6, the introduction of medium, large and very large scale turbines would introduce elements out of scale with the existing features and could become focus points in a relatively undeveloped landscape. It is however noted, that when carefully sited, some areas are less sensitive to small scale turbines of less than 20m to tip height due to existing scale of landscape and elements. ***Landscapes outside the Executive Area*** Relevant character areas and sensitivities are: South Norfolk - C2 Thurlton Tributary Farmland with Parkland: Views open out to the Broads where land rises up from the low lying Waveney Valley. Waveney - B1 Waveney Valley: Rising valley sides (15-20m AOD) evident in views from the Broads. H2 Waveney Tributary Valley Farmland: Gently sloping valley sides providing views out into the Broads with some smaller blocks of woodland. Given the prominence of the adjacent ridges in relation to the Broads landscapes, landscape sensitivity to the largest turbines in the typology is the same as for the areas in the Broads as set out above. Character areas which are partially screened from within the Broads by clusters of woodland (H2) and rising landform indicate a lower sensitivity to wind turbines of smaller scale (small and medium). However, these would need careful consideration with their relationship with the Broads, due to topography, skylines and land cover.

Commentary on different cluster sizes

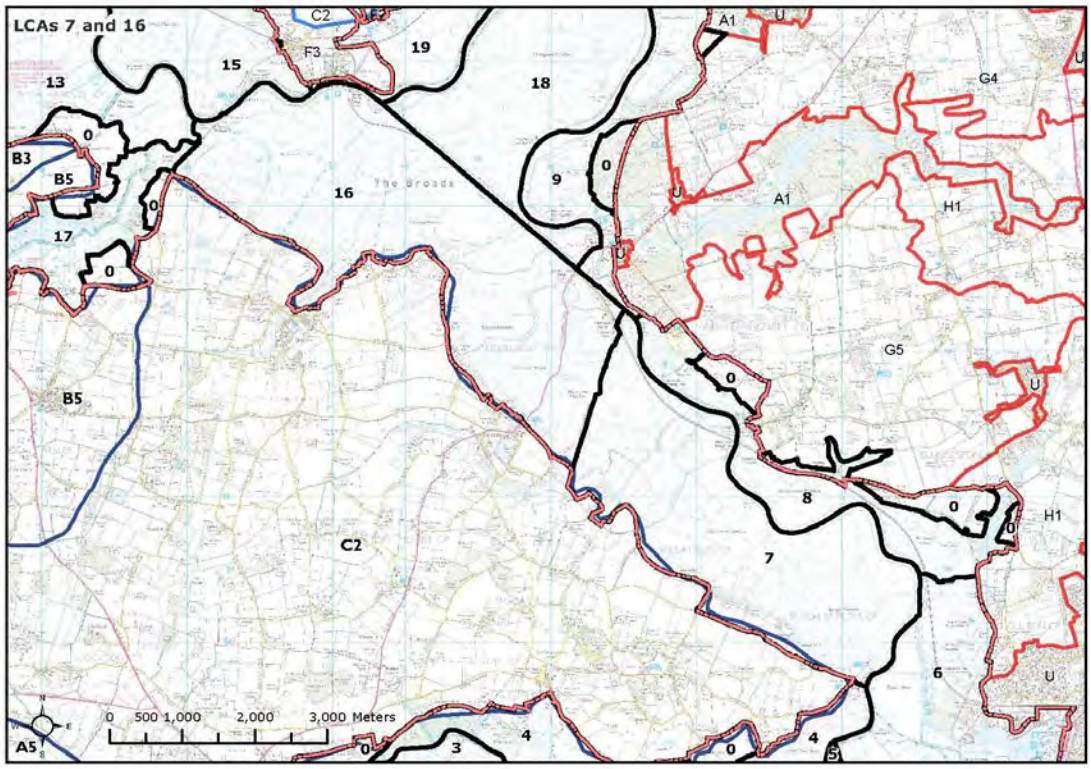
Single turbine
Small clusters (<5 turbines)
Medium (6-10)
Large (11-25)
Very large (>26)

Land within the character areas		**Land outside the Executive Area**	
Single turbine	**M-H**	Single turbine	**M-H**
<5 turbines	**H**	<5 turbines	**M-H**
6-10 turbines	**H**	6-10 turbines	**H**
11-25 turbines	**H**	11-25 turbines	**H**
>26 turbines	**H**	>26 turbines	**H**

	Commentary: Clusters of turbines would be likely to have greatest impact upon the character of these areas creating a level of visual intrusion in what are relatively undeveloped skylines. As a result, areas 4, 5 and 6 are considered to have the highest level of sensitivity to clusters of turbines due to the complex pattern of elements, largely uninterrupted views and skylines and the tranquil character of the marshes. There is however lower sensitivity to single wind turbines of a small scale although careful siting and design would be needed in relation to existing features which form part of the skyline and historic character. ***Landscapes outside the Executive Area*** Relevant character areas and sensitivities are: South Norfolk - C2 Thurlton Tributary Farmland with Parkland: Views open out to the Broads where land rises up from the low lying Waveney Valley. Waveney - B1 Waveney Valley: Rising valley sides (15-20m AOD) evident in views from the Broads. H2 Waveney Tributary Valley Farmland: Gently sloping valley sides providing views out into the Broads with some smaller blocks of woodland. Given the prominence of the adjacent ridges in relation to the Broads landscapes, landscape sensitivity to the largest turbine clusters is the same as for the areas in the Broads as set out above. Character areas which are partially screened from within the Broads by clusters of woodland (area H2) and rising landform indicate a lower sensitivity to clusters of up to five turbines. However, these would need careful consideration to their relationship with the Broads, due to topography, skylines and land cover.

LCA 7: Waveney Valley – Burgh St. Peter to Haddiscoe Marshes: LCA 16: Yare and Waveney Valley - Norton Marshes to Haddiscoe Dismantled Railway

Location and landscape character context



Landscape Sensitivity Assessment for Wind Turbines

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities			
	These character areas exhibit special qualities of the Broads which are sensitive to wind turbine development. These include the sense of openness with big skies, the wide expanses of floodplain and the tranquil and remote character of the areas. However some areas have a degree of localised intrusion, such as the Lowestoft railway line and the edge of the settlement of Lowestoft in area 7, while area 16 is locally influenced by pylons crossing the Thurlton Marshes and the A143 which reduce sensitivity. Within area 16, views of the Cantley Sugar Beet Factory complex on the skyline also reduce sensitivity. Overall the areas are sensitive to wind turbine development due to the expansive views and open landscape character, although recognition of localised intrusive elements reduces the overall sensitivity to moderate-high.		
2.Enclosure and scale			
	The simple, large scale open expanse of the marshes is less sensitive to wind turbine development due to the lack of visual boundaries, although the enclosure provided by distant valley sides and rising landform provides an element of visual containment. Elements such as pylons and the Cantley Sugar Beet Factory complex introduce clutter to this large scale landscape, although they do provide reference to human scale features. Marsh boundaries are ditched and unmarked by structural vegetation which enhances the sense of openness across area 7, while the boundary loss associated with area 16 and the New Cut also reduce sensitivity to wind turbine development. Overall the area has a moderate sensitivity as a result of the wide areas of large scale open marsh where field boundary removal is evident. However enclosure provided by distant valley sides and reference to human scale features increases sensitivity.		
3.Landscape and land cover pattern			
	The large scale, simple arable land cover pattern of area 7 which displays little variation in terms of elements (water and marsh) would indicate a lower sensitivity to wind turbine development. However, the landscape pattern associated with area 16 is more varied with a mix of curvilinear and rectilinear dyke patterns which are of a finer grain and thus more sensitive to wind turbines, due to the influence of larger scale elements (turbines) on the perception of pattern. Closer to the fringes of the areas (particularly the southern boundary of area 7), there is greater variation in land cover pattern with the emergence of carr woodland which influences the complexity of the pattern and results in a higher sensitivity. Due to both areas simple land cover and landscape pattern they are judged to have an overall moderate sensitivity.		
4.Skylines			
	Skylines are mostly undeveloped in both areas although some elements of localised intrusion do exist (e.g. pylons on Thurlton Marshes and the Cantley Factory complex) which reduce sensitivity. There are also some smaller scale vertical features visible on the skylines (wind pumps at Herringfleet, church tower at St Peter's Staithe and a steam engine house at Burgh Marshes) although these are of historical importance and therefore increase sensitivity. Rising landform and distant wooded ridges on the edges of the areas also help define skylines and add to the undeveloped nature of views, thus having a higher sensitivity. For example to the north of area 7, skylines are defined by distinctive mixed woodland while to the		

	south skylines are formed by a band of carr woodland on lower valley slopes. The skyline of area 16 is defined by undulating farmland in the adjacent South Norfolk character area (C2), while to the east the horizon is defined by wooded ridges of Waveney Forest and Somerleyton Estate. Although there is a degree of intrusion associated with the Cantley Factory, pylons and traffic travelling through the area on the A143, the area has an overall moderate-high sensitivity due to largely undeveloped skylines with mostly uninterrupted views.
5.Perception and experience of the landscape	Both character areas have a sense of tranquillity and remoteness associated with the wide, expansive marshes although this is reduced in areas of localised intrusion (i.e. pylons on Thurlton Marshes and the Cantley Factory complex). The A143 and the Great Yarmouth to Lowestoft railway line also impede on the sense of tranquillity in these areas and these elements of human activity create a degree of disturbance in relation to the perceptual characteristics of the area and therefore reduce sensitivity. Overall the area has a moderate sensitivity to wind turbine development in terms of perception and experience.
6.Historic landscape character	Areas of 17th century grazing marsh found within area 7 are sensitive to wind turbine development due to the potential to affect coherence of this historic landscape pattern, while parts of area 16 which display evidence of boundary loss, particularly near the 19th century New Cut are of lower sensitivity to wind turbine development. In addition, there are large areas of 20th century rectilinear grazing marshes across both areas which are of lower sensitivity. Both areas were once drained by mills although evidence of these has since been lost but there are visual links to drainage mills to the north of area 7 (i.e. Herringfleet Drainage Mill) which would indicate a higher sensitivity due to their historical importance.
7.Visual sensitivities and intervisibility with areas outside the Broads	Due to the flat nature of the marshes there is intervisibility with areas within the Broads (6, 8 and 16) and those in adjacent districts. These include areas A1, G4 and G5 in Waveney District and area C2 in South Norfolk District. Although views towards adjacent areas are often contained by wooded ridges (i.e. north and south of area 7) these adjacent areas influence the character of the Broads and this degree of intervisibility indicates a higher sensitivity to wind turbine development. The areas have an overall high sensitivity as a result of the degree of intervisibility, distant views and the potential of adjacent character areas to influence the visual character of the Broads areas.
Discussion on landscape sensitivity	The areas when combined have a moderate-high sensitivity to wind turbine development due to the special qualities of the Broads (wide, open landscape, sense of tranquillity and mostly undeveloped skylines) which are represented within these character areas. The remote character of the areas and the degree of intervisibility with adjacent areas also increase sensitivity to wind turbine development. However, there is a noticeable degree of intrusion and visual clutter which exists within these areas as a result of the pylon lines and the Cantley Factory complex which are highly visible on skylines across the area. The large scale rectilinear field pattern, where there is strong evidence of field boundary loss, also indicates a lower sensitivity to wind turbine development and although this is localised it would nevertheless reduce sensitivity. This judgement also applies to large infrastructure for off shore wind farm schemes, such as pylons.

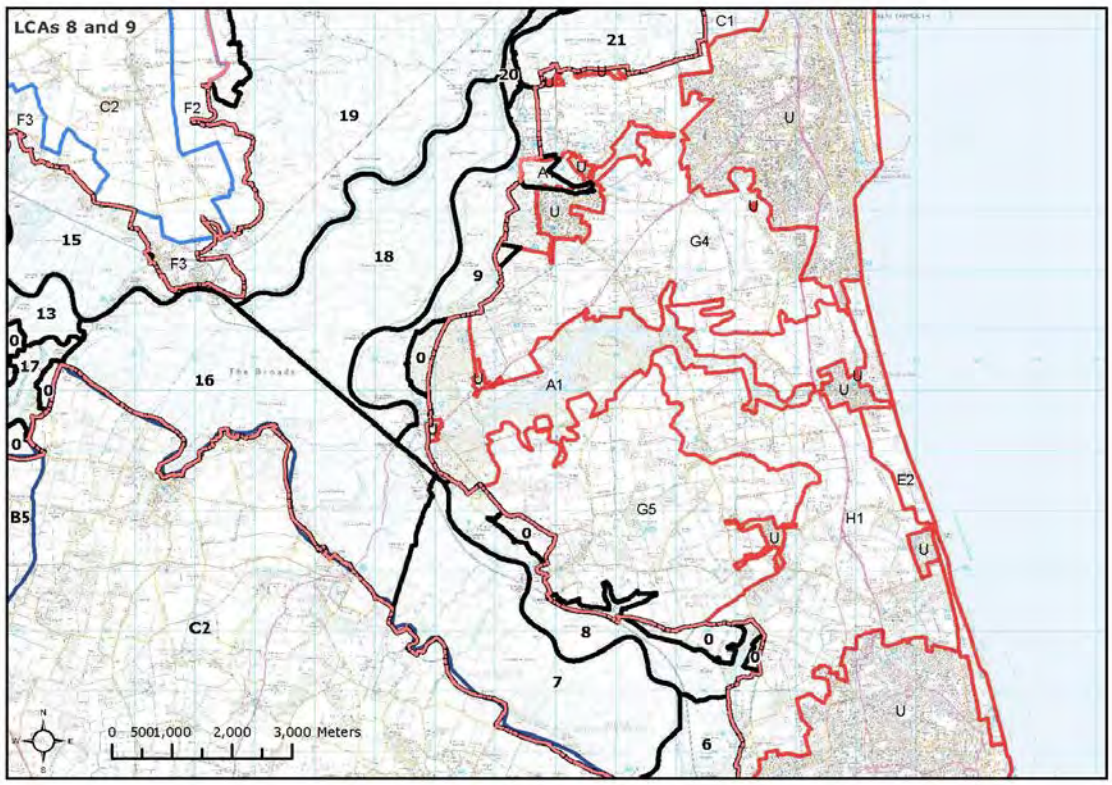
Sensitivity to different turbine heights	**Land within the character areas**		**Land outside the Executive Area**	
	Small (0-20m)	**M-H**	Small (0-20m)	**M-H**

	Medium (20-50m)	**H**	Medium (20-50m)	**M-H**
	Large (50-70m)	**H**	Large (50-70m)	**H**
	Very large (70m+)	**H**	Very large (70m+)	**H**
	Commentary: Due to the nature of the open, expansive marshes with distant views, this grouping of character areas has a high sensitivity to wind turbine development to most groupings on the larger end of the typology scale, although the sensitivity of the landscape to small scale turbines (0-20m) is reduced. Siting will need careful consideration particularly in relation to their impact upon skylines and the potential to create visual clutter. As set out above, the majority of these areas are sensitive to wind turbine development, particularly those at the large end of the scale. ***Landscapes outside the Executive Area*** The relevant character areas and sensitivities are: South Norfolk - C2: Thurlton Tributary Farmland with Parkland: Views open out to the Broads where land rises up from the low lying Waveney Valley. Great Yarmouth and Waveney - G4: Hobland Settled Farmland: Site work confirmed that the escarpment at Burgh Castle is a prominent ridge which provides views out into the Broads. G5: Somerleyton Settled Farmland: Some long views across the adjacent low lying pasture and wetland landscape of the Broads and reciprocal views back with this area. Given the prominence of these topographic features in relation to the marshland landscapes of these parts of the Broads, landscape sensitivity to the largest turbines is generally the same as for the areas in the Broads as set out above. However, sensitivity would be slightly lower (moderate-high) for clusters of up to 5 turbines where careful consideration is given to siting in relation to the more sensitive characteristics.			
Commentary on different cluster sizes ***Single turbine*** ***Small clusters (<5 turbines)*** ***Medium (6-10)*** ***Large (11-25)*** ***Very large (>26)***	**Land within the character areas**		**Land outside the Executive Area**	
	Single turbine	**M-H**	Single turbine	**M-H**
	<5 turbines	**H**	<5 turbines	**M-H**
	6-10 turbines	**H**	6-10 turbines	**H**
	11-25 turbines	**H**	11-25 turbines	**H**
	>26 turbines	**H**	>26 turbines	**H**
	Commentary: Due to the level of visibility across both areas, the landscape has a high sensitivity to all groupings of turbines due to their potential to introduce visual clutter to this landscape of undeveloped skylines. The landscape is however less sensitive to single turbines where there is careful siting and consideration is given to the sensitive characteristics outlined above. ***Landscapes outside the Executive Area*** Relevant areas and sensitivities are: South Norfolk - C2: Thurlton Tributary Farmland with Parkland: Views open out to the			

	Broads where land rises up from the low lying Waveney Valley. Great Yarmouth and Waveney - G4: Hobland Settled Farmland: Site work confirmed that the escarpment at Burgh Castle is a prominent ridge which provides views out into the Broads. G5: Somerleyton Settled Farmland: Some long views across the adjacent low lying pasture and wetland landscape of the Broads and reciprocal views back with this area. Given the prominence of these topographic features in relation to the marshland landscapes of these parts of the Broads, landscape sensitivity to turbine clusters is generally the same as for the areas in the Broads as set out above. However sensitivity would be slightly lower (moderate-high) for clusters of up to 5 turbines where careful consideration is given to siting in relation to the more sensitive characteristics.

LCA 8: Waveney Valley - Flixton to Herringfleet Marshes: LCA 9: Waveney Valley – St Olaves to Burgh Castle

Location and landscape character context



Landscape Sensitivity Assessment for Wind Turbines

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities	The special qualities of the Broads represented within these character areas such as the wide open landscapes, big skies and sense of space are each highly sensitive to wind turbine development. This is because the presence of tall vertical features in these expansive areas of open landscape would impede upon the sense of space and the large skies. The rural character and sense of tranquillity across the marshes would also be influenced by the introduction of elements which would add movement and noise to an otherwise undeveloped landscape, thus increasing the sensitivity. Overall the areas have a high sensitivity to wind turbine development in these terms.		
2.Enclosure and scale	Both character areas are open and exposed with character area 8 having a more defined medium sized field pattern, while area 9 has a larger more expansive character (particularly to the west). The open marsh character of area 9 is however less sensitive to wind turbine development, due to the lack of visual boundaries and having few features that relate to human scale (albeit some drainage mills along the Waveney). Although generally an open landscape, the northern edge of area 8 and eastern edge of area 9 have a greater sense of enclosure with a pronounced ridge rising to 20m in Great Yarmouth's G4:Hobland Estate Farmland and G5: Somerleyton Settled Farmland character areas and small blocks of carr woodland create a definitive edge. This structural containment results in a higher sensitivity due to the relative sense of scale perceived by landform and tree cover. Boats on the river which are visible throughout also provide an element of human scale. Due to the variation in enclosure and scale, the overall judgement on sensitivity is medium.		
3.Landscape and land cover pattern	The landscape and land cover pattern is predominantly grazing marsh although there is a good deal of textural variation due to a combination of elements. Specifically this is provided by reed ronds along the course of the rivers and bands of mixed and coniferous plantation which create textural variation across the areas. This degree of variation in land cover pattern in both areas indicate a higher sensitivity to wind turbine development as does the sinuous dyke pattern found within the Caldecott Marshes in area 9. These patterns are of higher sensitivity to wind turbine development due to the potential of turbines to affect visual perception, although there are large tracts of grazing marsh which are of a lower sensitivity. Overall the areas have a medium-high sensitivity taking all of this into account.		
4.Skylines	Skylines are defined by undeveloped views (with the exception of views east towards Great Yarmouth from area 9) with a simple open character which indicates a higher sensitivity. This is due to the potential for turbines to detract from this simple skyline character. Views of drainage mills in area 8 and in adjacent character areas (areas 18) provide reference to scale and therefore any introduction of tall structures such as turbines have the potential to appear out of scale. The wooded ridges to the east of area 9 and north of area 8 also form distinctive undeveloped skylines and therefore have a higher sensitivity. Overall, due to the relatively remote and untouched nature of these horizons the landscape has a high sensitivity to wind turbine development in terms of skylines.		
5.Perception and experience of the landscape	Perceptual experience in these areas is defined by the sense of rurality and remoteness from within the expansive marshes. There is little in the form of modern development (although some distant views of Great Yarmouth exist from area 9) indicating a higher sensitivity to wind turbine development.		

	Traditional vernacular in the form of drainage mills characterises both areas and due to their perceived historical significance they increase sensitivity. Overall the areas have a high sensitivity to wind turbine development. This is due to the potential for wind turbines to detract from the sense of tranquillity through the introduction of modern, large scale features.
6.Historic landscape character	The landscape retains a number of elements of historic significance (drainage mills, Burgh Castle, the Augustinian Priory at St. Olaves, and Wicker Well and Summerhouse Water gardens) which are sensitive to wind turbine development. These cultural elements are considered sensitive to wind turbine development due to the potential to affect the coherence of these features and the ability to appreciate them. In landscape terms, the area is primarily comprised of 19th-20th century grazing marsh although there are areas of sensitive 17th century rectilinear enclosures and curvilinear marsh boundary patterns. Overall the area is considered to have a medium-high sensitivity to wind turbine development, due to the potential of large scale elements to affect the scale and coherence of historic landscape and cultural features.
7.Visual sensitivities and intervisibility with areas outside the Broads	There are expansive views out across the marshes although these views are contained by rising ridges (20m) to the north of area 8 and east of area 9, which reduces sensitivity. The wooded ridge of Great Yarmouth's G5: Somerleyton Settled Farmland character area also filters views thus resulting in a landscape which is less sensitive to wind turbine development. However due to the open and more expansive views into the marshes and due to the elevation of the higher ridges and their prominence in views, they are of a higher sensitivity. Although the ridges screen distant views, their prominence on the edge of the Broads indicates a high sensitivity to wind turbine development in visual terms.
Discussion on landscape sensitivity	This character area grouping has a high sensitivity to wind turbine development due to the special qualities of the Broads represented within these areas (wide, open landscape, sense of tranquillity and mostly undeveloped skylines), all of which would be sensitive to wind turbine development. The remote character, the sense of rurality and the undeveloped nature of these areas create a landscape which is sensitive to wind turbine development. It is however recognised that there is a degree of intrusion from adjacent areas (particularly from G4 within Great Yarmouth) as a result of pylons, boatyards and caravan parks which reduce this sense of tranquillity, although this is localised. The degree of visual containment to adjacent character areas also reduces sensitivity, although the elevated ridges are highly sensitive to wind turbine development due to their prominence. Due to the combination of sensitive characteristics, these character areas are of high sensitivity to wind turbine development overall. This judgement also applies to large infrastructure for off shore wind farm schemes, such as pylons.

Sensitivity to different turbine heights	**Land within the character areas**		**Land outside the Executive Area**	
	Small (0-20m)	**H**	Small (0-20m)	**H**
	Medium (20-50m)	**H**	Medium (20-50m)	**H**
	Large (50-70m)	**H**	Large (50-70m)	**H**
	Very large (70m+)	**H**	Very large (70m+)	**H**

Commentary:
Due to the nature of the open, expansive and undeveloped marshes, this grouping of character areas has a high sensitivity to wind turbine typologies of all scales. This is primarily due to the potential impacts on undeveloped skylines, the sense of scale in relation to historic features (particularly in relation to drainage mills and Burgh Castle) and the perceptual experience of such a remote landscape. As set out above, the majority of these characteristics are highly sensitive to wind turbine development, due to the potential to impact upon the coherence and character of the landscape and influence the perception of scale.

Landscapes outside the Executive Area
Relevant character areas and sensitivities:

Great Yarmouth/Waveney -
A1: Waveney Rural Wooded Valley: Fieldwork has confirmed that the wooded ridge to the edge of area A1 which incorporates Waveney Forest is prominent and therefore sensitive in relation to the Broads.

G4: Sensitive elements of this area in relation to the Broads and revealed through field survey are the low wooded ridge which adjoins the north eastern part of Broads LCA 9 and Burgh Castle Roman Fort, which occupies the top of the ridge. These are prominent features in relation to the Broads.

G5: The wooded parkland fringes on the plateau to the edge of the Waveney Rural Wooded Valley form undeveloped skyline elements to the east of the Broads, which contribute to this setting and are therefore sensitive.

Due to the level of intervisibility with adjacent prominent ridges outside the Broads, these landscapes are considered to have a high sensitivity in relation to the Broads, to larger scale turbines. Although screened in parts by woodland blocks the prominence of these ridges reduces the ability to screen turbines and therefore they are judged to have a high sensitivity in relation to the Broads.

Commentary on different cluster sizes

Single turbine
Small clusters (<5 turbines)
Medium (6-10)
Large (11-25)
Very large (>26)

Land within the character areas		**Land outside the Executive Area**	
Single turbine	**H**	Single turbine	**H**
<5 turbines	**H**	<5 turbines	**H**
6-10 turbines	**H**	6-10 turbines	**H**
11-25 turbines	**H**	11-25 turbines	**H**
>26 turbines	**H**	>26 turbines	**H**

Commentary:

Due to the level of visibility and prominence of adjacent ridges, the landscape has a high sensitivity to all clusters of turbines, due to their potential to introduce visual clutter to an undeveloped skyline.

Landscapes outside the Executive Area

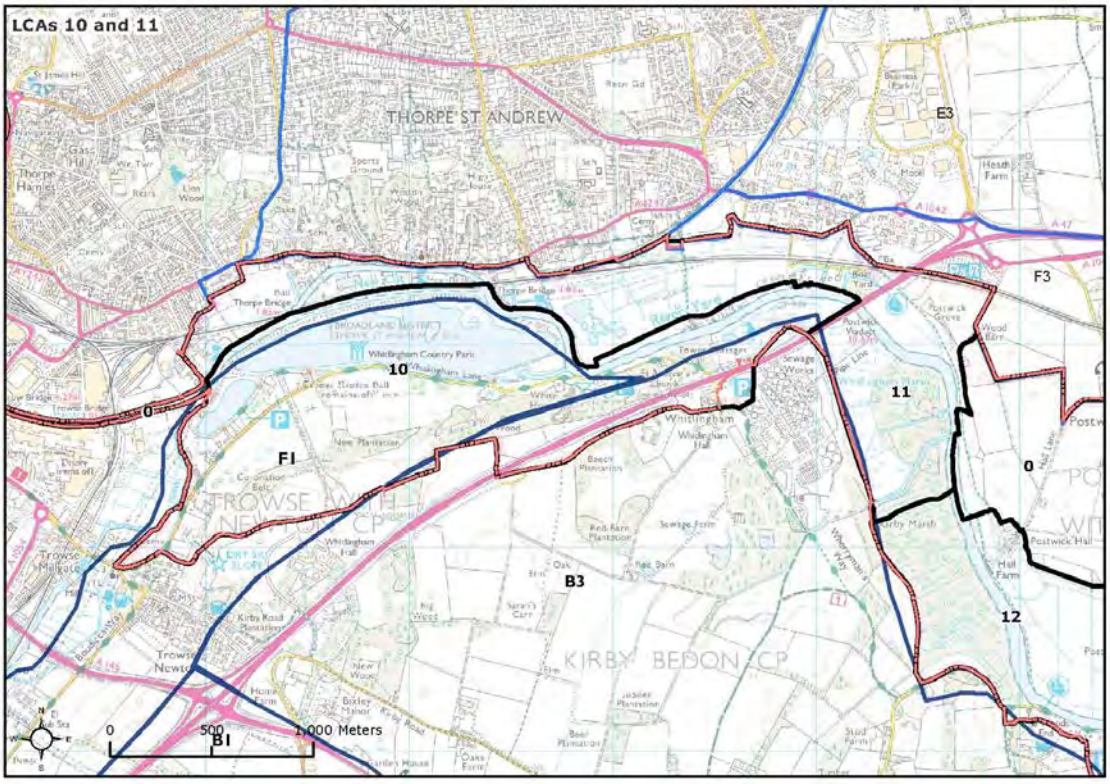
Relevant character areas and sensitivities are:

Great Yarmouth/Waveney -
A1: Waveney Rural Wooded Valley: Fieldwork has confirmed that the

	wooded ridge to the edge of area A1 which incorporates Waveney Forest is prominent and therefore sensitive in relation to the Broads. G4: Sensitive elements of this area in relation to the Broads and revealed through field survey are the low wooded ridge which adjoins the north eastern part of Broads LCA 9 and Burgh Castle Roman Fort, which occupies the top of the ridge. These are prominent features in relation to the Broads. G5: The wooded parkland fringes on the plateau to the edge of the Waveney Rural Wooded Valley form undeveloped skyline elements to the east of the Broads which contribute to this setting and are therefore sensitive. Due to the level of intervisibility with adjacent prominent ridges outside the Broads, these landscapes are considered to have a high sensitivity in relation to the Broads to larger scale turbines. Although screened in parts by woodland blocks, the prominence of these ridges reduces the ability to screen turbines and therefore they are judged to have a high sensitivity in relation to the Broads.

LCA 10: Yare Valley - Whitlingham Lane and Country Park, LCA 11: Local Character Area 11 - Yare Valley Cary's Meadow, Thorpe Island and Marshes, Postwick Grove and Whitlingham Marshes

Location and landscape character context



Landscape Sensitivity Assessment for Wind Turbines

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities			
	Relatively few special qualities sensitive to wind turbine development are represented in this character area grouping, although the diversity of habitats in area 10 relates to a landscape pattern which would be sensitive in terms of cohesiveness to wind turbine development. The recreational use of both areas for boating also indicates a degree of recreational user interest in the landscape and therefore also some sensitivity to turbines in these terms. Taking the above into account, these areas have a moderate overall landscape sensitivity to turbine development in relation to the special qualities.		
2.Enclosure and scale			
	Both areas in this group are of medium scale and with a degree of enclosure provided by woodland within and surrounding the character areas (e.g. wood fringed broad in area 10 plus wooded south facing ridge and the wooded parklands to the south, and, in area 11, by relatively steep, well wooded valley sides. This level of enclosure increases the sensitivity of the landscape to turbine development, as wind turbines would potentially appear out of scale with the elements which make up these landscapes. This sensitivity judgement is reinforced by human scale elements such as recreational boating traffic using the river.		
3.Landscape and land cover pattern			
	Area 10 lacks cohesion in terms of landscape pattern, due to severances created by transport corridors and urban edge development, whilst a diverse and more naturalistic pattern is created in area 11 due to the presence of river and riparian vegetation, areas of scrub, grassland and the nature reserve near Postwick Viaduct, albeit with contrast created by aggregate extraction, industrial sites and boatyards. Due to this mixed and partly eroded landscape pattern, landscape sensitivity to turbines is moderate.		
4.Skylines			
	Settlement characterises much of the northern skyline from area 10, albeit partly foiled by woodland and mature trees on the south facing ridge overlooking the valley. To the west taller buildings within Norwich, and pylons, are prominent skyline elements, locally reducing landscape sensitivity to turbines. Within area 11, whilst much of the skyline is wooded in character, larger scale development such as the Postwick Viaduct and the sewage works south of the river form skyline elements. Given the above, skyline sensitivity to turbines is moderate, although it is recognised that areas of undeveloped skylines within area 11 would have a higher sensitivity.		
5.Perception and experience of the landscape			
	Area 10 is defined by significant intrusions which affect experiential landscape character, such as urban fringe development at Norwich (including the bypass and Thorpe). However sense of tranquillity here is locally enhanced by the wetland environment of Whitlingham Country Park including relict parkland and Whitlingham Great Broad. Within area 11, the sense of tranquillity and perceptual landscape character is disjointed due to the proximity to large scale settlement at Norwich, including the Postwick Viaduct which forms part of the A47 bypass.		
6.Historic landscape character			
	Aspects of relict historic landscape character such as parkland features associated with Trowse Newton and Whitlingham Hall would be sensitive to turbines as the cohesiveness of such features would potentially be vulnerable to such development. Other historic processes such as gravel extraction (which have created the Great Broad) have eroded aspects of		

	historic landscape pattern and therefore reduced sensitivity. Some aspects of the historic character of area 11 would also be sensitive to wind turbines, such as areas of 17th-20th century rectilinear grazing marsh, although sensitivity is reduced by areas of boundary loss north east of the river. Given the above, sensitivity of the historic landscape pattern is moderate overall, due to its level of fragmentation.
7.Visual sensitivities and intervisibility with areas outside the Broads	Views out from area 10 are often framed due to the wooded nature of the parkland and the embankments to the edge of Whitlingham Great Broad, although large scale development associated with the urban edge is visible from within the area (pylons and taller buildings within Norwich). Some views are available to the settled wooded ridge to the north (within the Norwich urban area, with Broadland District character area E3 Spixworth Estate Lands beyond) and to the rising parklands to the south - intervisibility with South Norfolk District character area B3 Rockland Tributary Farmlands. Within area 11, many views are framed due to the meandering course of the river, the valley topography and woodland, particularly to the south. However, there is intervisibility with other landscapes outside the Broads from this area, notably to the north of the river, the wooded skylines within Broadland District character areas E3 and E4 (Spixworth Wooded Estatelands and Rackheath and Salhouse Wooded Estatelands respectively), and area F3: Reedham to Thorpe Marshes Fringe are visible. As such, whilst there is a degree of intervisibility, due to the filtered visual character, sensitivity to wind turbines in visual terms is judged moderate. This judgement also applies to large infrastructure for off shore wind farm schemes, such as pylons.
Discussion on landscape sensitivity	Overall landscape sensitivity of this area group to wind turbines is moderate. This is due to the disjointed landscape pattern and historic character (severances created by large scale settlement edges and by transport corridors such as the Norwich Bypass), the degree of visual containment created by valley sides and woodlands and the presence of large scale settlement edge influences to area 10 in particular. Against this are balanced sensitive features such as relict historic landscape patterns created by parkland as at Whitlingham and Trowse Newton, and the sense of tranquillity within Whitlingham Country Park and the Great Broad.

Sensitivity to different turbine heights

Land within the character areas		Land outside the Executive Area	
Small (0-20m)	**M**	Small (0-20m)	**M**
Medium (20-50m)	**M**	Medium (20-50m)	**M-H**
Large (50-70m)	**M-H**	Large (50-70m)	**H**
Very large (70m+)	**H**	Very large (70m+)	**H**

Commentary:
The landscape of this area grouping would be most sensitive to the largest turbine size typologies, due to their potential effect on the legibility of existing landscape scale elements and landscape features.

Landscapes outside the Executive Area
Relevant landscape character areas and sensitivities are:

Broadland District –
E3 Spixworth Estate Lands: Only a small part of this area is intervisible with the Broads due to urban fringe development at Norwich. The wooded skylines which form the hinterland are sensitive in relation to the Broads.

E4 Rackheath and Salhouse Wooded Estatelands: Lightly settled, part wooded skylines which are intervisible with the Broads.

F3: Reedham to Thorpe Marshes Fringe: Fieldwork has identified few sensitive features due to low lying character.

South Norfolk District -
B3 Rockland Tributary Farmlands: Fieldwork confirmed the valley sides on which Whitlingham Hall and parklands are sited, together with the mostly undeveloped, part wooded ridge, are sensitive.

Due to the topographic prominence of the more elevated areas in relation to the Broads and the fact that they overlook these areas in many instances, landscape sensitivity to turbines is the same as for the Broads at the larger end of the turbine typology.

Commentary on different cluster sizes

Single turbine
Small clusters (<5 turbines)
Medium (6-10)
Large (11-25)
Very large (>26)

Land within the character areas		**Land outside the Executive Area**	
Single turbine	**M**	Single turbine	**M**
<5 turbines	**H**	<5 turbines	**H**
6-10 turbines	**H**	6-10 turbines	**H**
11-25 turbines	**H**	11-25 turbines	**H**
>26 turbines	**H**	>26 turbines	**H**

Commentary:
Larger turbine groups and clusters would create further visual clutter and potential for erosion in an already eroded landscape of fragmented skylines.

Landscapes outside the Executive Area
Relevant landscape character areas and sensitivities are:
Broadland District character area E3 Spixworth Estate Lands:
Only a small part of this area is intervisible with the Broads due to urban fringe development at Norwich. The wooded skylines which form the hinterland are sensitive in relation to the Broads.

Broadland District –
E3 Spixworth Estate Lands: Only a small part of this area is intervisible with the Broads due to urban fringe development at Norwich. The wooded skylines which form the hinterland are sensitive in relation to the Broads.

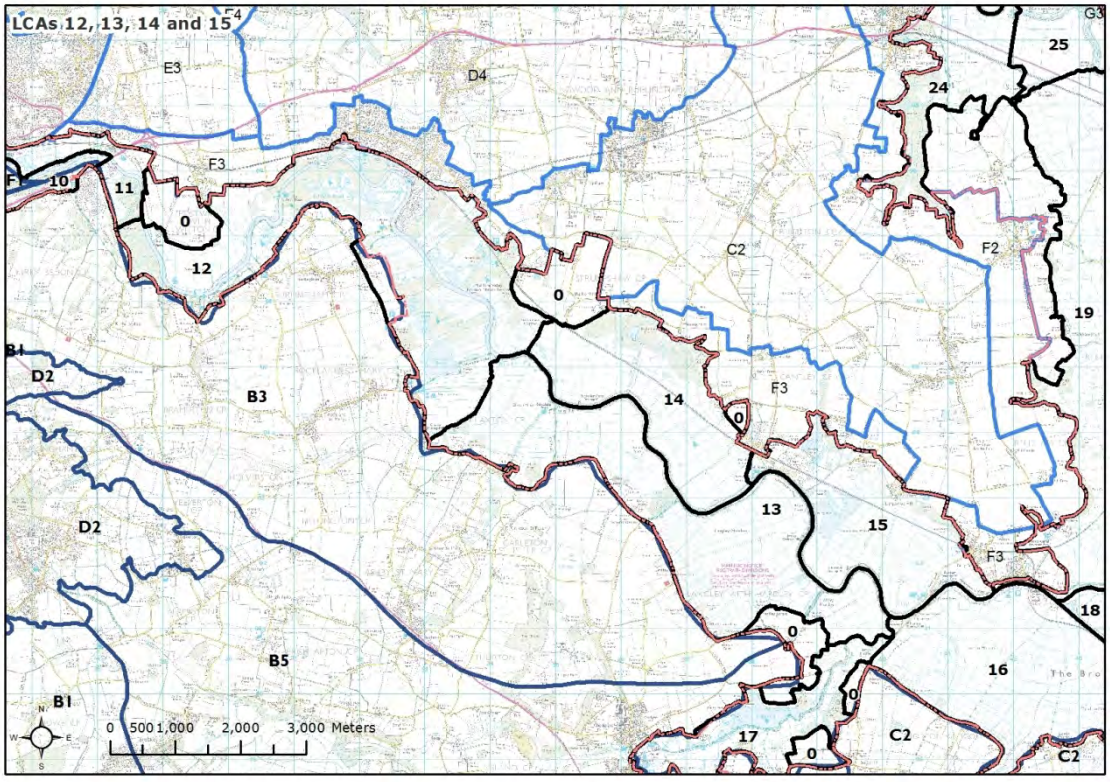
E4 Rackheath and Salhouse Wooded Estatelands: Lightly settled, part wooded skylines which are intervisible with the Broads.

F3: Reedham to Thorpe Marshes Fringe: Fieldwork has identified few

	sensitive features due to low lying character. South Norfolk District - B3 Rockland Tributary Farmlands: Fieldwork confirmed the valley sides on which Whitlingham Hall and parklands are sited, together with the mostly undeveloped, part wooded ridge, are sensitive. Due to the topographic prominence of the more elevated areas in relation to the Broads and the fact that they overlook the Broads in many instances, landscape sensitivity to turbines is the same as for the Broads. This is due to visual prominence issues and potential for readily perceived skyline clutter which multiple turbines could introduce.

LCA 12: Yare Valley -Kirby/Postwick to Rockland/Strumpshaw, LCA 13: Yare Valley - Claxton to Hardley Marshes, LCA 14: Yare Valley – Buckenham and Cantley Marshes and Carrs, LCA 15: Yare Valley – Cantley to Reedham

Location and landscape character context



Landscape Sensitivity Assessment for Wind Turbines

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities			
	Special qualities sensitive to wind turbines and which are represented in these areas are as follows – wide open landscapes, big skies and sense of space represented in area 13. This and the associated sense of tranquillity are also represented in area 14 and 15. The habitat diversity in area 12 is indicative of an intricate landscape mosaic which would be sensitive to turbines in terms of scale. All of the special qualities set out above would be vulnerable to the introduction of turbines – high sensitivity.		
2.Enclosure and scale			
	Much of area 12 is of an enclosed, wooded character, although local contrast is created by the wide flat valley floor around Postwick Marsh and Strumpshaw Fen. The sense of enclosure would be sensitive to turbines. Other areas where a more open character persists would have lower sensitivity in these terms e.g. area 13 and 14, although area 13 also has localised enclosure and finer grain landscape scale – Langley Staithe. Some elements create a human scale in the landscape which would be sensitive to turbines by virtue of their size e.g. carr woodlands and seasonal boating/sailing on the river in all areas within this grouping. Within area 15, the sense of enclosure created by valley sides and carr woodlands increases sensitivity to turbines in these terms. Given the above, sensitivity to turbines in terms of enclosure and scale is judged moderate-high.		
3.Landscape and land cover pattern			
	Many of the areas in this grouping exhibit a varied landscape mosaic and landcover pattern which would be sensitive to wind turbines due to the potential effect they would have on the cohesiveness of such landscape patterns. For example, the network of dykes and rectilinear grazing interspersed with carr woodland blocks and fens in area 12, the wetland vegetation and contrast created by carr woodlands in the arable landscape of area 13 and carr woodlands and water bodies in area 14. A more discontinuous and disjointed landscape pattern characterises part of area 15 – industrial uses associated with the Cantley Factory and associated settling basins. These would locally reduce the landscape sensitivity of this area, in these terms, to moderate-high, although it is high for the area group overall, given the above.		
4.Skylines			
	Many of the skylines in these areas are undeveloped and as such would be sensitive to wind turbine development. Exceptions are provided by Brundall Riverside Estate and villages such as Postwick and Surlingham in area 12 and the Cantley Sugar Beet Factory Complex in area 14. This is a prominent skyline element which is intervisible with a number of other character areas including area 13 and 15. Such elements reduce the sensitivity of the skyline to development including wind turbines. The drainage mills and pumps present in a number of these areas would also form sensitive skyline elements. Taken together, these areas have a moderate-high sensitivity to wind turbines in skyline terms.		
5.Perception and experience of the landscape			
	Many parts of the areas which make up this group are of tranquil rural character which would be sensitive to wind turbines. Aspects which would locally reduce sensitivity are transport corridors and communications routes in the western part of area 12 and the Cantley Sugar Beet Factory, the presence of which influences areas 13, 14 and 15. Considering the above, the area group has a moderate-high landscape sensitivity to turbines in perceptual terms.		

6.Historic landscape character					
	Aspects of historic landscape character in these areas which would be sensitive to wind turbine development include the wind pumps/drainage mills and aspects of the historic functional landscape such as the historic staithes in area 13, plus intact areas of rectilinear dyke patterns as in areas 14 and 15. This is due to the effect that wind turbines would have on the coherence of such historic landscape features.				
7.Visual sensitivities and intervisibility with areas outside the Broads					
	The presence of carr woodlands in a number of these areas would provide visual containment although areas of more open marshes with higher levels of intervisibility would have greater sensitivity to turbines in visual terms, e.g. Postwick Marsh within area 12 and the largely open areas of landscape in area 13 and area 14. Area 15 has strong intervisibility with adjacent areas in South Norfolk District (character area B3 Rockland Tributary Farmland), whilst area 12 is intervisible with parts of the Reedham to Thorpe Marshes Fringe (area F3) within Broadland District, and this would increase sensitivity to turbines in visual terms. Overall, given the level of intervisibility across these areas, sensitivity to turbines in visual terms is judged to be high.				
Discussion on landscape sensitivity					
	Overall landscape sensitivity of these areas to wind turbine development is judged to be high. This is due to the sensitive special qualities represented in the areas such as sense of tranquillity and the wide open landscape of big skies, together with related aspects such as areas of undeveloped skylines. Other factors important to this sensitivity judgement are the varied landscape and historic landscape patterns, the coherence of which would be vulnerable to turbines, as well as the areas of open landscape which provide greater intervisibility with adjacent areas and therefore potentially increase the influence of wind turbines. This judgement also applies to large infrastructure for off shore wind farm schemes, such as pylons.				
Sensitivity to different turbine heights	**Land within the character areas**		**Land outside the Executive Area**		
	Small (0-20m)	**M-H**	Small (0-20m)	**M-H**	
	Medium (20-50m)	**H**	Medium (20-50m)	**H**	
	Large (50-70m)	**H**	Large (50-70m)	**H**	
	Very large (70m+)	**H**	Very large (70m+)	**H**	
	Commentary: Small turbines would relate more closely to existing skyline/scale references such as wind pumps and would be perceptibly less dominating in relation to skylines. However, the larger turbines in the typology would appear to dominate such elements as well as the landscape and historic pattern, hence the highest sensitivity rating. ***Landscapes outside the Executive Area*** Relevant landscape character areas and sensitivities are: South Norfolk - B3 Rockland Tributary Farmland: Fieldwork confirmed distant views out over the Yare Valley and into the Broads indicating a greater vulnerability to visual intrusion associated with tall elements. Broadland District – F3 Reedham to Thorpe Marshes Fringe: Fieldwork confirmed intervisibility between the valley sides in this area and Broads character area 12.				

	Turbines at the smallest end of the range (below 20 metres to tip height) would have less effect on landscape character and perceptual aspects within the Broads, due to closer relationship to existing landscape scale elements (i.e. carr woodland). However, fieldwork confirms that intervisibility with the adjacent areas and the expansive views out from the marshes means that larger turbines would appear more dominant in relation to the Broads, resulting in a high landscape sensitivity.

Commentary on different cluster sizes

Single turbine
Small clusters (<5 turbines)
Medium (6-10)
Large (11-25)
Very large (>26)

Land within the character areas		Land outside the Executive Area	
Single turbine	**M-H**	Single turbine	**M-H**
<5 turbines	**H**	<5 turbines	**H**
6-10 turbines	**H**	6-10 turbines	**H**
11-25 turbines	**H**	11-25 turbines	**H**
>26 turbines	**H**	>26 turbines	**H**

Commentary:
Single turbines would respond more closely to existing skyline elements such as wind pumps, although larger groups of turbines would create visual clutter in relation to open landscapes and simple skylines of these areas, hence the highest sensitivity rating.

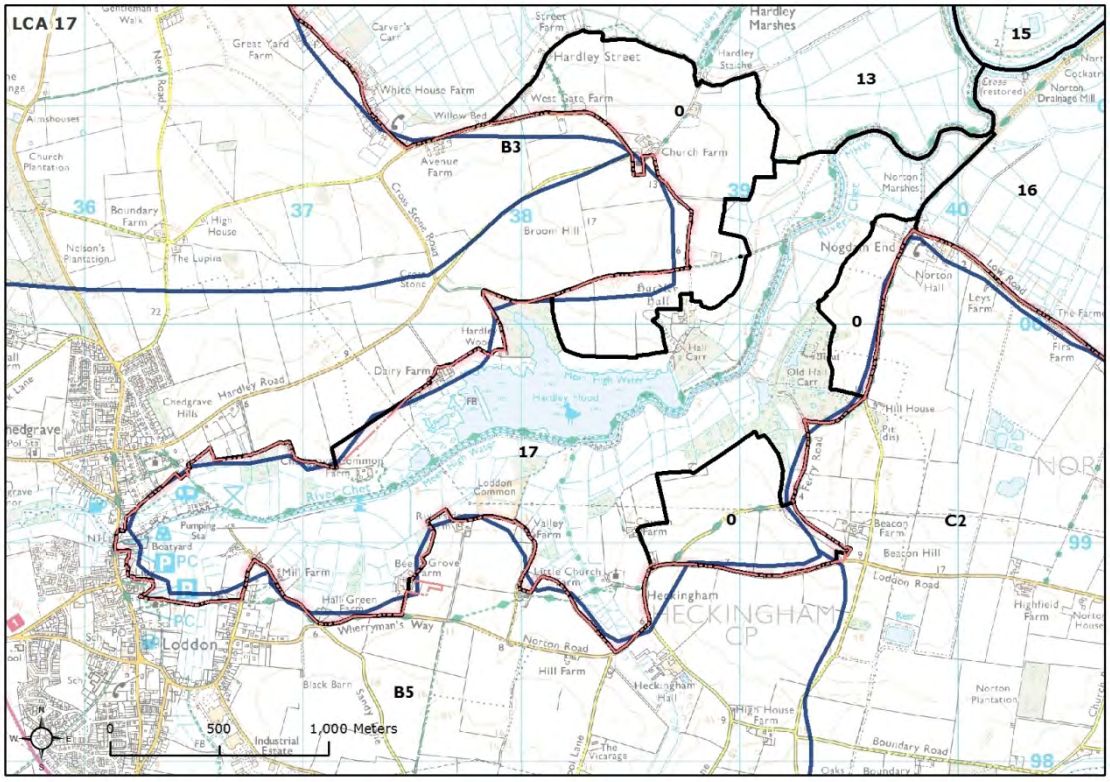
Landscapes outside the Executive Area
Relevant landscape character areas and sensitivities are:

South Norfolk -
B3 Rockland Tributary Farmland: Fieldwork confirmed distant views out over the Yare Valley and into the Broads indicating a greater vulnerability to visual intrusion associated with tall elements.
Broadland District –
F3 Reedham to Thorpe Marshes Fringe: Fieldwork confirmed intervisibility between the valley sides in this area and Broads character area 12.

Fieldwork confirms that the degree of intervisibility with adjacent areas as they overlook the Broads means that multiple turbine clusters could be more dominant in relation to skyline character and intervisibility, resulting in a high landscape sensitivity. Single turbines would however have less effect on landscape character and perceptual aspects within the Broads, due to closer relationship to existing landscape scale elements (i.e. carr woodland).

LCA 17: The Chet Valley

Location and landscape character context



Landscape Sensitivity Assessment for Wind Turbines

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities	Special qualities sensitive to wind turbines and which are represented in this area is as follows – the habitat diversity is indicative of an intricate landscape mosaic which would be sensitive to turbines in terms of scale. The winding waterways and large expanse of open water at Hardley Flood relates to sensitive special qualities such as the wide open landscape. As such, these special qualities would have a high sensitivity to the introduction of turbines.		
2.Enclosure and scale	The sense of enclosure created by valley sides and carr woodlands in area 17 increases sensitivity to turbines in these terms. Given the above, sensitivity to turbines in terms of enclosure and scale is high.		
3.Landscape and land cover pattern	Much of this character area exhibits a varied landscape mosaic and landcover pattern which would be sensitive to wind turbines due to the potential effect they would have on the cohesiveness of such landscape patterns. For example, the intricate mix of wetland landscape elements such as open water, reed, wet fen, grazing and carr woodland, which would have a high sensitivity to wind turbines.		
4.Skylines	Skyline character is largely undeveloped, being formed by woodland fringed valley sides and ridges, and occasional open, smooth arable farmland in the adjacent South Norfolk District. The few intrusions are small scale, such as telegraph poles and wires. Considering all elements together, area 17 is highly sensitive to turbines in skyline terms.		
5.Perception and experience of the landscape	This area has a mostly tranquil, enclosed rural character which would be sensitive to wind turbines. Aspects which would locally reduce sensitivity are the staithe and waterside development at Loddon, although this affects only a small proportion of the area – highly sensitive to turbines in terms of perception overall.		
6.Historic landscape character	Aspects of historic landscape character in this area which would be sensitive to solar PV development include the historic staithe at Loddon plus intact areas of rectilinear dyke patterns in the valley floor. Such aspects would be sensitive due to the effect that wind turbines could have on the coherence of these historic landscape features.		
7.Visual sensitivities and intervisibility with areas outside the Broads	The presence of carr woodlands to large parts of the valley side provide visual containment. Whilst there is some intervisibility with adjacent areas in South Norfolk District, views are framed. This creates a moderate-high sensitivity to turbines in visual terms.		
Discussion on landscape sensitivity	Overall landscape sensitivity of this area to wind turbine development is judged to be high. This is due to the sensitive special qualities represented in the area such as sense of tranquillity, the habitat mosaic and the large expanse of open water at Hardley Flood, together with the largely undeveloped skyline character. Other factors important to this sensitivity judgement are the varied landscape and historic landscape patterns, the coherence of which would be vulnerable to turbines. This judgement also applies to large infrastructure for off shore wind farm		

	schemes, such as pylons.

Sensitivity to different turbine heights

Land within the character area		Land outside the Executive Area	
Small (0-20m)	M-H	Small (0-20m)	M-H
Medium (20-50m)	H	Medium (20-50m)	H
Large (50-70m)	H	Large (50-70m)	H
Very large (70m+)	H	Very large (70m+)	H

Commentary:
Small turbines would relate more closely to existing skyline/scale references such as buildings within Loddon and would be perceptibly less dominating in relation to skylines. However, the larger turbines in the typology would appear to dominate such elements as well as the landscape and historic pattern, hence the highest sensitivity rating.

Landscapes outside the Executive Area
Relevant landscape character areas and sensitivities are:

South Norfolk -
B3 Rockland Tributary Farmland: Fieldwork confirmed distant views out over the Yare Valley and into the Broads indicating a greater vulnerability to visual intrusion associated with tall elements.

B5 Chet Tributary Farmland: Fieldwork confirmed the visual relationship with the Broads where views of the area's rising ridges are evident.

Turbines at the smallest end of the range (below 20 metres to tip height) would have less effect on landscape character and perceptual aspects within the Broads, due to closer relationship to existing landscape scale elements (i.e. carr woodland). However, fieldwork confirms that filtered intervisibility with the adjacent areas means that larger turbines could appear more dominant in relation to the Broads, resulting in a high landscape sensitivity.

Commentary on different cluster sizes

Single turbine
Small clusters (<5 turbines)
Medium (6-10)
Large (11-25)
Very large (>26)

Land within the character area		Land outside the Executive Area	
Single turbine	M-H	Single turbine	M-H
<5 turbines	H	<5 turbines	H
6-10 turbines	H	6-10 turbines	H
11-25 turbines	H	11-25 turbines	H
>26 turbines	H	>26 turbines	H

Commentary:
Single turbines would respond more closely to existing skyline elements such as buildings within Loddon, although larger groups of turbines would create visual clutter in relation to open landscapes and simple skylines of these areas, hence the highest sensitivity rating.

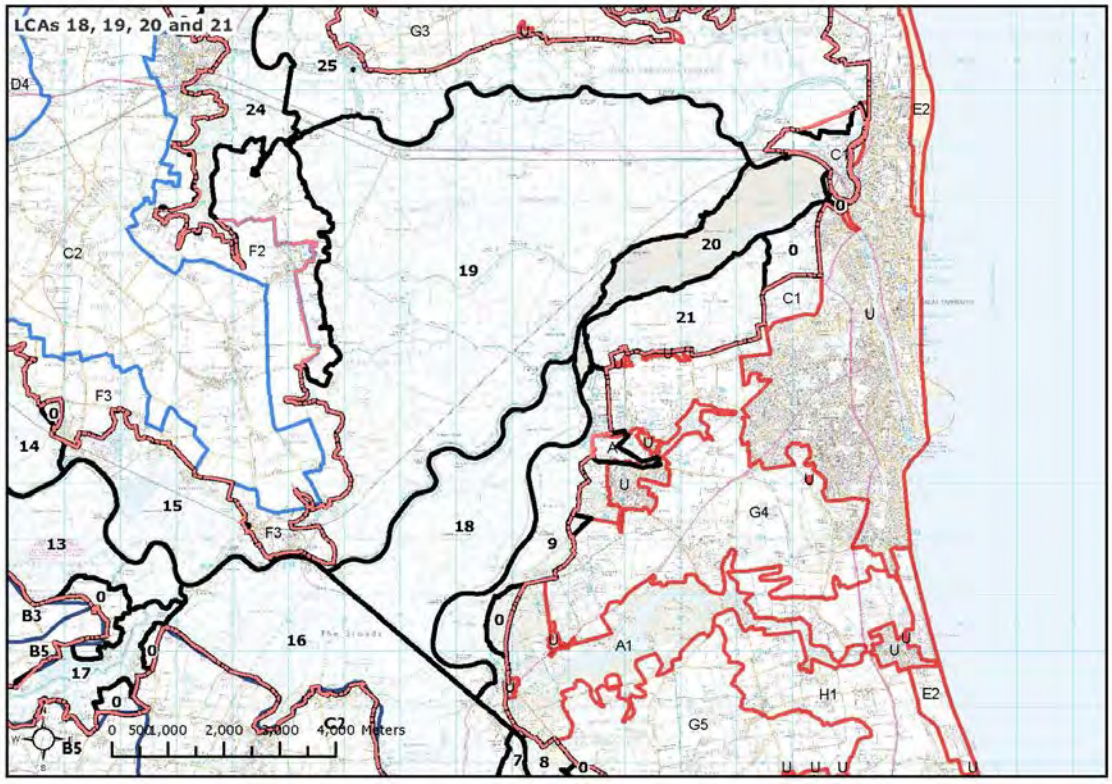
Landscapes outside the Executive Area
Relevant landscape character areas and sensitivities are:

South Norfolk -
B3 Rockland Tributary Farmland: Fieldwork confirmed distant views out

	over the Yare Valley and into the Broads indicating a greater vulnerability to visual intrusion associated with tall elements. B5 Chet Tributary Farmland: Fieldwork confirmed the visual relationship with the Broads where views of the area's rising ridges are evident. Fieldwork confirms that the filtered intervisibility with adjacent areas as they overlook the Broads means that multiple turbine clusters could be more dominant in relation to skyline character, resulting in a high landscape sensitivity. Single turbines would however have less effect on landscape character and perceptual aspects within the Broads, due to closer relationship to existing landscape scale elements (i.e. carr woodland).

LCA 18: Haddiscoe Island; LCA 19: Halvergate Marshes (excluding Bure Loop and the west of Tunstall Dyke), LCA 20: Breydon Water; LCA 21: Yare Valley – Church Farm, Burgh Castle, Fisher's and Humberstone Marshes

Location and landscape character context



Landscape Sensitivity Assessment for Wind Turbines

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities			
	Sensitive special qualities are represented by the sense of openness and simple skylines in areas 18 and 19, and the sense of space evident in both areas 19 and 20. These characteristics are also reflected in area 21. The sense of space and openness and of big, simple skies in these areas would be highly sensitive to the introduction of large scale elements which could alter this character, such as turbines.		
2.Enclosure and scale			
	These areas are generally expansive, largely open marshland landscapes of vast scale, although variation is provided by complex dyke patterns within area 21 for example. A degree of wider context enclosure is provided in area 18 by the presence of the wooded ridge at St Olaves on which Waveney Forest is sited and by the low carr woodland fringed ridge to the west of the Halvergate Marshes, which is also reflected in area 19. Similarly, enclosure is provided to area 21 by the low cliffs on which Burgh Castle is located. Breydon Water (area 20) is an entirely open estuary, although variation in scale is introduced by the mud flats and creeks at low tide and by the low sea wall fringing the water. Occasional human scale references are provided by wind pumps and seasonally by sailing boats. These factors, together with elements which provide localised enclosure, increase the sensitivity of these character areas to wind turbines, to moderate.		
3.Landscape and land cover pattern			
	These are predominantly open marshland landscapes of simple pattern, although variation is introduced by riverside reed ronds in area 18 and 21 and by rectilinear dyke networks, which create variations in scale within the areas. Similarly in area 19, occasional variations are created by intermittent trees/tree lines, domestic buildings to the edges (e.g. within Halvergate village) and occasional World War II Pill Boxes on the marshes. Within area 20, variations in landscape pattern are primarily formed by the sinuous creeks visible in the mudflats at low tide. Wind pumps and church towers are the only other recognisably 'human scale' features, together with sailing boats. These and the localised variations in landscape pattern described above, increase the sensitivity of the landscape to turbines, to moderate-high.		
4.Skylines			
	These are generally landscapes of largely flat, open skylines with relatively few modern development influences, and would therefore be sensitive to large scale features such as wind turbines. Historic drainage mills such as Toft Monks at area 18 provide occasional skyline punctuation elements which would be sensitive to the introduction of turbines, although pylons are also significant skyline elements in area 18. Other aspects of skyline character which are sensitive are the low wooded ridges as at St Olaves and Halvergate (area 18/19) and the former coastal cliffs at Burgh Castle on the southern edge of area 21. The sensitive, simple skyline character is reflected at Breydon Water (area 20), albeit with intrusions to the east in the form of large scale modern and industrial development edges at Great Yarmouth. Although skyline sensitivity is locally reduced due to the latter, overall skyline sensitivity to wind turbines is high given the simple, mostly undeveloped character.		
5.Perception and experience of the landscape			
	These are a series of remote, isolated marshland landscapes of often vast scale, and with few obvious modern human influences, and which have a strong sense of remoteness and tranquillity, with few intrusions. All of these factors indicate a high sensitivity to turbines in perceptual terms. Specific relevant aspects of the areas in this group are: the mostly tranquil		

	character of area 18, albeit with localised intrusions created by adjacent developments outside the Broads and by the influences of St Olaves Marina and the large number of pylons crossing the area. Area 19 is largely isolated with only movement and aural effects from the A47 and the railway line affecting tranquillity. The greatest level of intrusion is provided by the settlement edge and A47 at Great Yarmouth on the eastern edge of Breydon Water (area 20) and area 21, indicating slightly lower landscape sensitivity, although this is localised. Given the general level of remoteness and isolation, this area group would be highly sensitivity to wind turbines in perceptual terms.
6.Historic landscape character	Historic drainage mills such as at Toft Monks (area 18) are sensitive to wind turbine development, due to the potential effect they would have on one's ability to appreciate such elements. This also applies to features such as Burgh Castle on the ridge which overlooks areas 18, 20 and 21. Areas of boundary loss associated with the A47 in areas 19 and 21 reduce historic landscape sensitivity, although Breydon Water is an important and ancient relic of a formerly much more expansive coastal landscape, and is therefore sensitive for this reason. Taking all the above into account, sensitivity to turbines in historic terms is judged to be moderate-high.
7.Visual sensitivities and intervisibility with areas outside the Broads	These predominantly exposed, open marshland landscapes have exceptionally high levels of intervisibility with adjacent landscapes within and outside the Broads. This open visual character means that the landscape character group would be highly sensitive to turbines in visual terms. Areas 19 and 20 in particular also have intervisibility with existing wind farms such as Scroby Sands (off shore) and such features often appear prominent in the landscape. Within area 18, wider views are truncated by the Waveney Forest, which lies on the edge of the adjacent Great Yarmouth/Waveney character area A1: Waveney Rural Wooded Valley. Area 19 has high levels of intervisibility with adjacent marshland character areas in the Broads, as far as Breydon Water to the east and to the edge of Great Yarmouth, beyond the Executive Area. The low ridge to the west of area 19 (within Broadland District) is visually prominent and important in containing views in a westerly direction. The Burgh Castle ridge within Great Yarmouth character area G4 is significant in providing visual containment to parts of areas 20 and 21, with Burgh Castle a visually sensitive historic feature. Taking the above into account, the areas have a high sensitivity to turbines due to their often open visual character.
Discussion on landscape sensitivity	Overall landscape sensitivity of this area grouping to wind turbines is high. This is due to the representation of sensitive special qualities such as the sense of openness/wide open landscapes, simple skylines and big skies, the sense of which would be vulnerable to wind turbines. Other factors important to this sensitivity judgement are the open visual character and level of intervisibility with adjacent landscapes in the Broads, and the largely tranquil perceptual character, which would again be vulnerable to turbines. This judgement also applies to large infrastructure for off shore wind farm schemes, such as pylons.

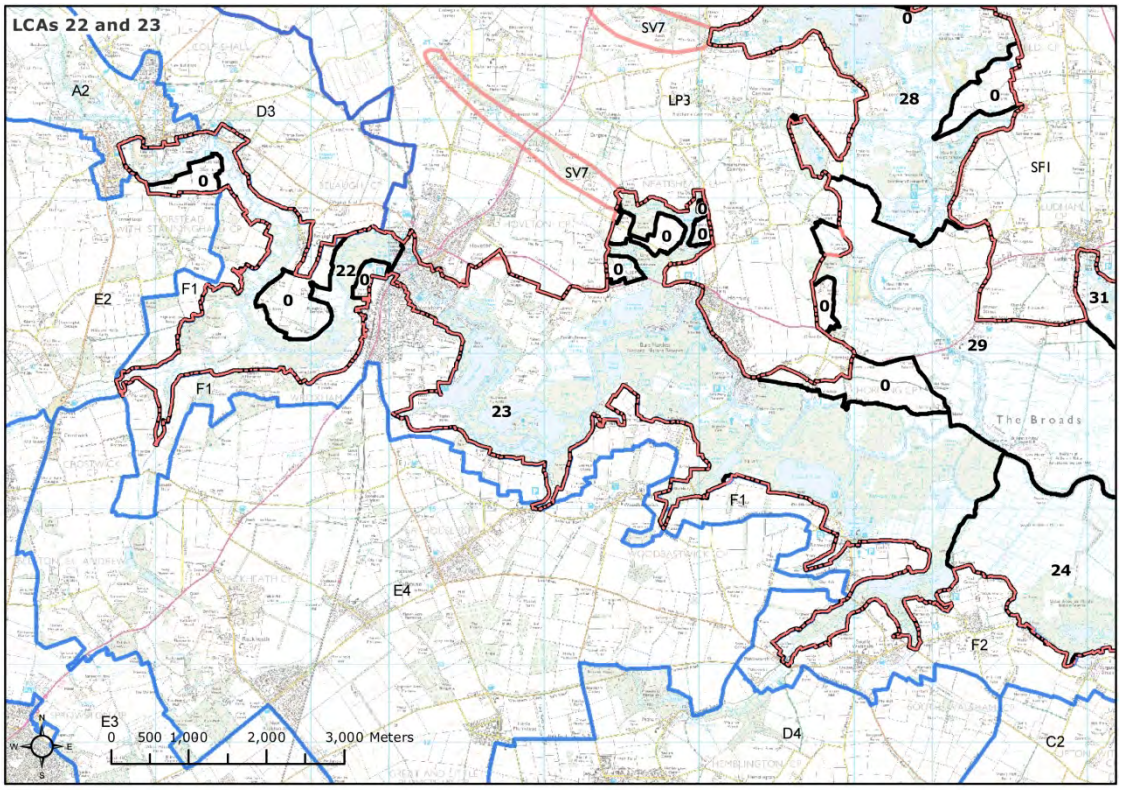
Sensitivity to different turbine heights	**Land within the character areas**		**Land outside the Executive Area**	
	Small (0-20m)	**M-H**	Small (0-20m)	**M-H**
	Medium (20-50m)	**H**	Medium (20-50m)	**H**
	Large (50-70m)	**H**	Large (50-70m)	**H**

	Very large (70m+)	**H**	Very large (70m+)	**H**
	Commentary: Turbines within the smallest typology (0-20m) would respond more closely to existing vertical scale elements within the landscape, such as church towers and historic wind pumps, resulting in a slightly lower landscape sensitivity rating. However, all larger turbine typologies could appear visually dominant in these simple landscapes, hence the high sensitivity rating. ***Landscapes outside the Executive Area*** Relevant character areas and sensitivities are: Great Yarmouth/Waveney character area A1: Waveney Rural Wooded Valley: Fieldwork has confirmed the low wooded ridge at Waveney Forest to be visually important/sensitive in relation to the Broads. Great Yarmouth character area G4: Hobland Estate Farmland. Fieldwork confirms the prominent ridge on which Burgh Castle is sited to be sensitive in relation to the Broads. Broadland District character area F2: South Walsham to Reedham Marshes Fringe: Survey has confirmed the low ridge to the west of Halvergate Marshes and on which Halvergate Village is sited, as being sensitive in relation to the Broads. Given the prominence of these topographic features in relation to the marshland landscapes of these parts of the Broads, landscape sensitivity to turbines is the same as for the areas in the Broads as set out above.			
Commentary on different cluster sizes ***Single turbine*** ***Small clusters (<5 turbines)*** ***Medium (6-10)*** ***Large (11-25)*** ***Very large (>26)***	**Land within the character areas**		**Land outside the Executive Area**	
	Single turbine	**M-H**	Single turbine	**M-H**
	<5 turbines	**H**	<5 turbines	**H**
	6-10 turbines	**H**	6-10 turbines	**H**
	11-25 turbines	**H**	11-25 turbines	**H**
	>26 turbines	**H**	>26 turbines	**H**
	Commentary: Single turbines would respond more closely to existing vertical scale elements within the landscape, such as church towers and historic wind pumps, resulting in a slightly lower landscape sensitivity rating. However, all multiple turbine clusters could appear visually dominant in these simple landscapes and skylines, hence the high sensitivity rating. ***Landscapes outside the Executive Area*** Relevant landscape character areas and sensitivities are: Great Yarmouth/Waveney character area A1: Waveney Rural Wooded Valley: Fieldwork has confirmed the low wooded ridge at Waveney Forest to be visually important/sensitive in relation to the Broads. Great Yarmouth character area G4: Hobland Estate Farmland. Fieldwork confirms the prominent ridge on which Burgh Castle is sited to be sensitive in relation to the Broads. Broadland District character area F2: South Walsham to Reedham Marshes Fringe: Survey has confirmed the low ridge to the west of Halvergate Marshes and on which Halvergate Village is sited, as being sensitive in			

	relation to the Broads. Given the prominence of these topographic features in relation to the marshland landscapes of these parts of the Broads, landscape sensitivity to turbines is the same as for the areas in the Broads as set out above.

LCA 22: Bure Valley – Upstream Wroxham to Horstead: Area 23: Bure Valley – Wroxham to Fleet Dyke, South Walsham

Location and landscape character context



Landscape Sensitivity Assessment for Wind Turbines

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities			
	Special qualities of the Broads represented within these areas include the sense of tranquillity and wildness evident in much of the Bure Valley and these would be sensitive to noise and movement introduced by turbines. The 'local character of beautiful churches and quiet villages' is particularly represented in the settlements in these areas, e.g. vernacular settlements such as Wroxham, Hoveton, Horstead, Belaugh,Horning and Coltishall. This local character would be highly sensitive in view of the small scale, traditional riverside settlement pattern.		
2.Enclosure and scale			
	Both areas are defined by well enclosed valleys (10m crests) and wooded landscapes of intimate scale. Valley sides are often masked by the density of carr woodland in the valley floor which provides physical and visual containment. Outside the Executive Area, the landform rises to 15m in parts, thus enhancing the sense of enclosure. This landscape would be sensitive to turbines, as such topographic features are visually important and often define landscape scale. However both areas exhibit variations in scale and there are areas of more open fen at Ranworth on the Hoveton Marshes and the open riverside green and grazing marshes at Coltishall. In addition, the presence of the church at Ranworth and the seasonal use of sailing boats in both areas provide human scale indicators increasing sensitivity to wind turbines. Overall, due to the area's considerable sense of enclosure and containment it has a high sensitivity to wind turbines.		
3.Landscape and land cover pattern			
	The character areas display a varied pattern of fen, carr woodland, broads and sinuous reed fringed river. As such, this diversity of landscape elements and texture would be sensitive to wind turbines. This is reinforced by the presence of human scale indicators such as small scale riverside vernacular settlement in both areas, which is particularly diverse in area 23. This diversity of waterside settlement adds to the variety of pattern and texture, from large Edwardian villas at Wroxham, minor country houses and parkland at Woodbastwick, and original Boulton and Paul timber and reed chalets to later and modern development, particularly the waterside chalets at Crabbetts Marsh. Development of wind turbines within such a complex landscape may also increase the potential to impede on the coherence of the area and thus it has a high sensitivity.		
4.Skylines			
	Skylines defined by wooded ridges are largely undeveloped in both character areas, with the exception of localised areas of vernacular settlement and boatyards at Hoveton and Wroxham. Ranworth church tower is a particularly prominent feature on the skyline in the immediate area and is visible from within both character areas and from the surrounding countryside. The wooded skyline which forms a backdrop to reed fringed rivers, areas of open water, marsh and fen is distinctive to both areas, and together with the mainly undeveloped nature of the horizon, would be sensitive to wind turbine development. This is due to the potential for turbines and other related infrastructure such as pylons to detract from such skyline features and as such skylines are considered to have a high sensitivity to wind turbines. This is however reduced by development associated with Hoveton and Wroxham and the overall sensitivity is therefore judged to be moderate-high.		
5.Perception and experience of the landscape			
	A strong sense of tranquillity and remoteness exists within both character areas once away from the settlements of Hoveton and Wroxham. Outside of these settlements it is essentially a tranquil rural character with little human disturbance, indicating a higher sensitivity to wind turbines. Both areas		

	have a lightly settled character and an often remote, largely inaccessible quality (other than by boat and from within settlements). The larger areas of modern settlement at Hoveton and Wroxham and associated boatyards dilute this sense of tranquillity. Overall the areas have a moderate-high sensitivity to wind turbine development in perceptual terms.
6.Historic landscape character	Both areas display characteristics of historic significance. The principal HLC types within both areas are regenerated carr woodland interspersed with freshwater fen and small broads. Areas of 17th century grazing marsh (at Coltishall) and the vernacular of the area's settlement (particularly Horning Conservation Area) are sensitive to wind turbine development. This higher sensitivity is due to the potential to affect the coherence of such historic features and the way they are perceived. Overall the areas have a high sensitivity to wind turbine development in historic terms.
7.Visual sensitivities and intervisibility with areas outside the Broads	The areas are defined by landscapes of intimate spatial scale and of contained visual character, although there is intervisibility with adjacent areas in Broadland District (D3: Coltishall Tributary Farmland, E2: Marsham and Hainford Wooded Estatelands and E4: Rackheath, Salhouse Wooded Estatelands and F1: Wroxham to Ranworth Marshes Fringe) and North Norfolk's LP3: Worstead, Coltishall, Hoveton and Smallburgh Area. These open areas of fen and undulating farmland provide views into adjacent character areas and this would increase sensitivity to turbines in visual terms. The character areas themselves however have a predominantly enclosed character with a degree of containment and so have an overall moderate–high sensitivity to wind turbine development.
Discussion on landscape sensitivity	Character areas 22 and 23 have a high sensitivity to wind turbine development in general. This is due to the representation of special qualities in the areas which would be sensitive to development, such as the sense of tranquillity and wildness. Also, the landscape pattern and scale, historic character and integrity, the sense of remoteness and the presence of human scale indicators associated with traditional riverside vernacular are sensitive to wind turbine development. This judgement also applies to large infrastructure for off shore wind farm schemes, such as pylons.

Sensitivity to different turbine heights	**Land within the character areas**		**Land outside the Executive Area**	
	Small (0-20m)	**M-H**	Small (0-20m)	**M-H**
	Medium (20-50m)	**H**	Medium (20-50m)	**M-H**
	Large (50-70m)	**H**	Large (50-70m)	**H**
	Very large (70m+)	**H**	Very large (70m+)	**H**

Commentary:

The majority of the larger turbine typologies would interfere with the intimate scale and the undeveloped skylines of these character areas. Subject to careful siting in relation to the above characteristics, small scale wind turbines (below 20m) would have less effect on sensitive characteristics (i.e. skylines, landscape scale and pattern). Sensitivity to small scale turbines is however only marginally lower than those of a larger scale. Turbines beyond this height range would introduce elements out of scale with the landscape, hence the higher sensitivity rating.

Landscapes outside the Executive Area

Relevant character areas and sensitivities are:

Broadland District -
D3: Coltishall Tributary Farmland: Wide expansive views and uninterrupted skyline although views into the Broads are filtered due to tree cover.
E2: Marsham and Hainford Wooded Estatelands: Close to the edges small-scale woodlands and copses reflects its proximity to the Broads.
E4: Rackheath, Salhouse Wooded Estatelands: Characteristic northerly views over descending wooded slopes to the Broads, and associated wooded horizon.
F1: Wroxham to Ranworth Marshes Fringe: Forms a fringe to the lower-lying flat landscapes of the Broads and has a strong association with the area.

North Norfolk -
LP3: Worstead, Coltishall, Hoveton and Smallburgh: Closely adjoining and infiltrated by the Broads and contributing to their setting.

The adjacent character areas have intervisibility with the Broads and display a strong association with the area. It is noted however, that there is a high degree of foiling created by carr woodland on rising valley slopes on both sides of the Bure. Turbines at the smallest end of the range (below 20 metres to tip height) would have less effect on landscape character and perceptual aspects within the Broads, due to closer relationship to existing landscape scale elements. Fieldwork confirmed that turbines of a larger scale, located in such close proximity to the Broads would appear dominant, resulting in a high landscape sensitivity.

Commentary on different cluster sizes

Single turbine
Small clusters (<5 turbines)
Medium (6-10)
Large (11-25)
Very large (>26)

Land within the character areas		**Land outside the Executive Area**	
Single turbine	**M-H**	Single turbine	**M-H**
<5 turbines	**H**	<5 turbines	**M-H**
6-10 turbines	**H**	6-10 turbines	**H**
11-25 turbines	**H**	11-25 turbines	**H**
>26 turbines	**H**	>26 turbines	**H**

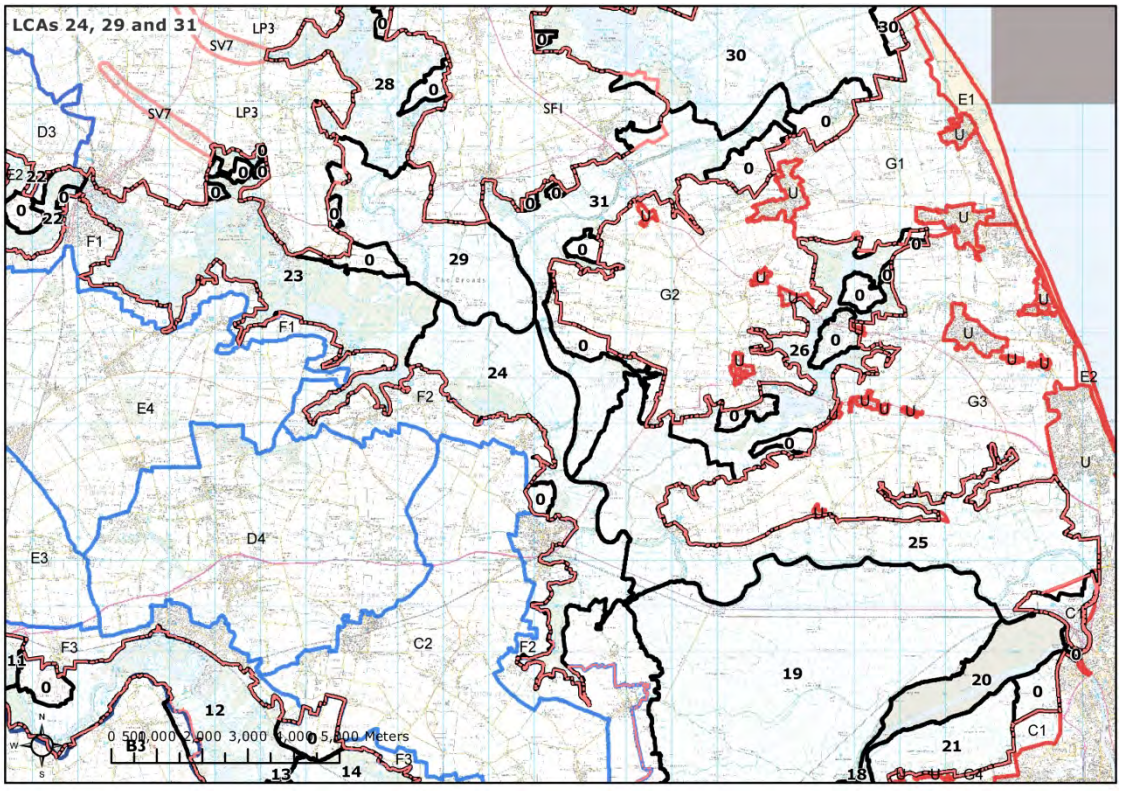
Commentary:

Large clusters of turbines would have considerably greater likelihood of introducing visual clutter in relation to the undeveloped skylines which define the majority of this grouping of character areas. Accordingly these clusters have been assigned the highest landscape sensitivity rating. This landscape has a slightly lower sensitivity to single turbines in these terms. However this would depend on a careful, well considered visual relationship

	to other skyline elements including historic taller structures such as Ranworth church tower, in addition to siting in relation to the historic settlements. ***Landscapes outside the Executive Area*** Relevant character areas and sensitivities are: Broadland District - D3: Coltishall Tributary Farmland: Wide expansive views and uninterrupted skyline although views into the Broads are filtered due to tree cover. E2: Marsham and Hainford Wooded Estatelands: Close to the edges small-scale woodlands and copses reflects its proximity to the Broads. E4: Rackheath, Salhouse Wooded Estatelands: Characteristic northerly views over descending wooded slopes to the Broads, and associated wooded horizon. F1: Wroxham to Ranworth Marshes Fringe: Forms a fringe to the lower-lying flat landscapes of the Broads and has a strong association with the area. North Norfolk - LP3: Worstead, Coltishall, Hoveton and Smallburgh: Closely adjoining and infiltrated by the Broads and contributing to their setting. Fieldwork confirmed that due to the degree of intervisibility, the landscape sensitivity is similar for the valley sides which lie adjacent to the Executive Area boundary. These landscapes would have a slightly lower sensitivity to single turbines or small groups of less than five turbines, although this is dependent upon the relationship with existing skyline elements which define skylines e.g. avoid according undue prominence in relation to these, particularly when viewed from within the Executive Area. Multiple turbine clusters have the potential to be dominant in relation to skyline character and intervisibility, resulting in a higher landscape sensitivity.

LCA 24: Bure Valley – South Walsham to Acle Marshes and Fens; 29:Ant and Bure Valleys – Ludham, Horning and Neatishead Grazing Marshes; 31: Thurne and Bure Valley – Martham Ferry to Oby

Location and landscape character context



Landscape Sensitivity Assessment for Wind Turbines

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities	The three character areas in this cluster all display special landscape qualities which would be sensitive to wind turbines. For example area 24 is defined by a wide open landscape of big skies, as is area 29, and this character would potentially be affected by introduction of wind turbines. All three areas have a sense of tranquillity, which turbines would affect through visual, movement and aural intrusion. The fact that all three areas afford riverine access and are well used by recreational boating traffic also indicates a degree of sensitivity due to the interest users have in their landscape. Furthermore, all three character areas represent aspects of the local character referred to in the special qualities of the Broads, through the presence of windmills. These are particularly prominent within area 29, with the ruins of the oldest windmill on the Broads at St Benet's Abbey. Given the above, the character areas have a high sensitivity to wind turbines with regard to special qualities.			
2.Enclosure and scale	All three areas are for the most part defined by open, low lying and largely flat marshland landscapes. Although areas 24 and 31 are cut by an intricate network of dykes, this is not readily perceived in term of scale. However in areas 24 and 31, sensitivity to turbines is increased by more intimate scale, contained landscapes created by valley side carr woodlands, such as around Upton Broad (area 24), and particularly in area 31 with more wooded, intimate scale tributaries such as Womack Water. Turbines would impact on the coherence of such landscape patterns. Within area 29, localised enclosure is created by landform variation such as the low ridge on which St Benet's Abbey and causeway are sited. Human scale elements are introduced by the presence of windmills in all three areas, particularly in area 29, and by small scale riverside settlement such as that associated with the medieval bridge and staithe at Potter Heigham (area 31). Also by the seasonal presence of sailing craft on the Rivers Bure, Thurne and Ant. The presence of such human scale elements increase the sensitivity to turbines of this group of character areas, to moderate-high.		
3.Landscape and land cover pattern	These three character areas for the most part have a simple character due to the presence of open marshland, although much local variation in pattern is evident. This is due to the mosaic of carr woodland and broads at Upton Broad in the southern part of area 24, the subtlety of the dyke pattern and reeded river edges to all three areas, and the woodland fringed tributaries and fens (Womack Water/Horse Fen) in area 31. These areas of woodland landscape would be highly sensitive to wind turbines due to the potential effect they would have on their cohesiveness, although these are variations in a landscape of otherwise relatively simple pattern. However, the presence of human scale elements such as windmills and, seasonally, of recreational sailing boats using the rivers, are also sensitive elements of the landscape pattern. As such, overall sensitivity of this area grouping to wind turbines is moderate-high in these terms.		
4.Skylines	Skylines have a largely simple undeveloped character (which would be sensitive to turbines), with the exception of settlement edges to the south of area 24 (including larger buildings at Upton), and the Somerton Windfarm and industrial buildings visible at Acle, to the north and south respectively of area 29. Also visual intrusions associated with the A47 flyover and adjoining modern development around Potter Heigham, in the northern part of area 31. Many skylines are otherwise of largely flat character across the marshes with occasional bands of carr woodland (e.g. the southern edge of area 24 and the valley fingers in the western part of		

	area 31 (Womack Water/Horse Fen). Punctuation by traditional Broads vernacular features such as windpumps is a characteristic of skylines in all three areas, which increases skyline sensitivity. This is particularly the case from the St Benets Levels (area 29) where the skyline is partly formed by distinctive historic structures such as the ruins of St Benet's Abbey. Allied to the predominantly undeveloped skyline character, these are sensitive to wind turbine development, although sensitivity is locally reduced by occasional modern skyline development described above, resulting in an overall moderate-high sensitivity to wind turbines for these areas, in skyline terms.
5.Perception and experience of the landscape	The tranquil character created in these areas by expansive, open and predominantly undeveloped marshland, and by wooded broads such as Upton Broad and wooded fens at Horse Fen would be highly sensitive to wind turbines, due to the potential changes they would create in terms of landscape perception. Localised intrusions such as larger buildings outside the Executive Area in Upton and which form part of the southern skyline to area 24, and the Somerton Windfarm which is intervisible with area 29, locally reduce sensitivity to turbines, although this is judged moderate-high overall for these three character areas in perceptual terms.
6.Historic landscape character	The small scale early enclosures (17th century and later) created by the network of boundary dykes within all three areas and particularly areas 24 and 29 would be sensitive to turbines due to their potential effect on the coherence of this landscape pattern. Also sensitive are areas of carr woodland and small scale wooded broads such as in area 24 (Upton Broad), for the same reasons. Area 29 possesses some notable scheduled historic archaeological resources which are visually prominent and whose visual and cultural setting would be sensitive to turbines e.g. St Benet's Abbey. This and associated drainage mill, plus other wind pumps in all three areas, increase landscape sensitivity in historic terms. Within area 31, remnant medieval landscapes such as Womack Water (former medieval broad) would also be sensitive due to cohesiveness of the landscape pattern. Given the above, this area grouping has a high sensitivity to wind turbines in historic landscape character terms.
7.Visual sensitivities and intervisibility with areas outside the Broads	The areas of open marshland character and the level of intervisibility with adjacent landscapes to the north and south of area 24 and in area 29 (views to farmland within Great Yarmouth Borough to the north, including intervisibility with Somerton Windfarm, and, specific to area 24, views to the farmland within Broadland District) would be highly sensitive to wind turbines due to the potential extent of their visual influence. Intervisibility is less in area 31 (the western part of the area in particular) due to the intermittent blocks of carr woodland to the area's boundaries (including the valley tributaries at Womack Water). However, the more open landscape and visual character to the east creates greater intervisibility with adjacent landscapes in Great Yarmouth Borough and North Norfolk District, and therefore high sensitivity to wind turbines in visual terms.
Discussion on landscape sensitivity	Overall, this area cluster has a high landscape sensitivity to wind turbine development. This is due to the representation of sensitive special qualities such as the sense of tranquillity, the wide open landscape and big skies and the local character imparted by features such as drainage mills. Other elements which contribute to this sensitivity rating are directly linked to the special qualities, such as the mostly undeveloped skylines which contribute to the simplicity of the landscape and 'big skies' character. Other factors influencing the judgement include the level of intervisibility which all three areas have with adjacent districts' landscapes beyond the Executive Area, and the cultural pattern. For example in area 29, features such as St Benet's Abbey ruins are significant, as are the wind pumps which locally

	punctuate the skylines of all three areas. Other aspects of cultural pattern relate to landscape pattern more generally and would also have a high sensitivity due to the potential effect of turbines on their coherence, for example small rectilinear dyke patterns and early enclosures or small wooded broads such as Upton Broad within area 24, or Womack Water and Horse Fen in area 29. This judgement also applies to large infrastructure for off shore wind farm schemes, such as pylons.

Sensitivity to different turbine heights

Land within the character areas		Land outside the Executive Area	
Small (0-20m)	**M-H**	Small (0-20m)	**M-H**
Medium (20-50m)	**H**	Medium (20-50m)	**M-H**
Large (50-70m)	**H**	Large (50-70m)	**H**
Very large (70m+)	**H**	Very large (70m+)	**H**

Commentary:

This landscape character area grouping would have a slightly lower (moderate-high) landscape sensitivity to turbines at the smallest end of the typology scale (up to 20m to tip). This is due to the fact that such turbines are closer in scale to skyline elements such as wind pumps, although much would depend on siting. However, for all other larger turbine typologies, landscape sensitivity judgements are high, due to the reasons outlined in the sensitivity profile and overall landscape sensitivity judgement to turbines in general, outlined above.

Landscapes outside the Executive Area

Relevant character areas and sensitivities are:

Great Yarmouth District:

GI East Flegg Settled Farmland: Fieldwork confirmed that the wooded landscape of the Broads, notably the carr woodlands at Ormesby Broad, form a prominent backdrop which contains views.

G2 West Flegg Settled Farmland: Small scale field pattern persists around villages and on the edges of the Broads where woodland and areas of parkland occur. Site work also confirmed views across the lowland wetlands of the Broads.

G3 Ormesby and Filby Settled Farmland: Fieldwork confirmed the area shares similar characteristics but views from the Broads are filtered by woodland.

Broadland District:

C2 Freethorpe Plateau Farmland: Fieldwork confirmed partial views over descending wooded slopes to the Broads, and associated strong but low horizon.

D4: Blofield Tributary Farmland: the rising farmland forming the valley side is visually sensitive.

F2 South Walsham to Reedham: Horizons wooded in places, but some areas facilitate views over adjacent broads, lowland rivers and marshes.

North Norfolk:

SF1 Stalham, Ludham and Potter Heigham: The sense of enclosure is increased by the woodland fringe of adjoining broads.

Fieldwork confirms that the intervisibility with adjacent areas means that larger turbines would appear more dominant in relation to the Broads, resulting in high landscape sensitivity. Landscape sensitivity is lowest for

	small and medium scale turbines, as turbines below 50 metres to tip height would have less effect on landscape character and perceptual aspects within the Broads, due to closer relationship to existing landscape scale elements. However, much would depend on siting in relation to the Broads and areas of intervisibility noted for the Broads at criterion 7 above. Otherwise sensitivities are high due to visual prominence issues.

Commentary on different cluster sizes

Single turbine
Small clusters (<5 turbines)
Medium (6-10)
Large (11-25)
Very large (>26)

Land within the character areas		Land outside the Executive Area	
Single turbine	**M-H**	Single turbine	**M-H**
<5 turbines	**H**	<5 turbines	**M-H**
6-10 turbines	**H**	6-10 turbines	**H**
11-25 turbines	**H**	11-25 turbines	**H**
>26 turbines	**H**	>26 turbines	**H**

Commentary:

Within this character area grouping, the landscape would have moderate-high sensitivity to single turbines, as, subject to siting, these could impact less on simple, undeveloped skylines or create les visual confusion with other vertical elements.

All the larger turbine clusters would create potential for skyline clutter and dominance and accordingly the sensitivity of the landscape to these is high.

Landscapes outside the Executive Area

Relevant character areas and key landscape sensitivities are:

Great Yarmouth Borough:

GI East Flegg Settled Farmland: The wooded landscape of the Broads, notably the carr woodlands at Ormesby Broad, forms a prominent backdrop which contains views in that direction.

G2 West Flegg Settled Farmland: Small scale field pattern persists around villages and on the edges of the Broads where woodland and areas of parkland occur. Also evident are views across the lowland wetlands of the Broads.

G3 Ormesby and Filby Settled Farmland: Shares similar characteristics with the area but views from the Broads are however filtered by woodland.

Broadland District:

C2 Freethorpe Plateau Farmland: Partial views over descending wooded slopes to the Broads, and associated strong but low horizon.

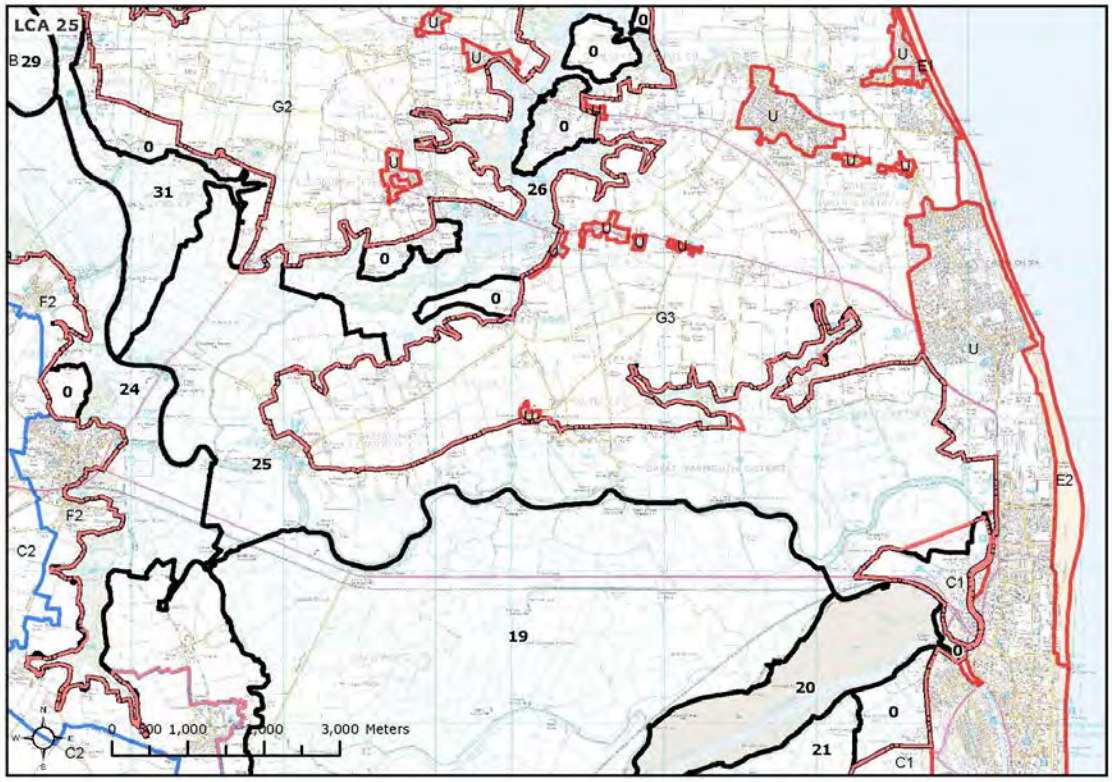
D4: Blofield Tributary Farmland: the rising farmland forming the valley side is visually sensitive.

F2 South Walsham to Reedham: Horizons wooded in places, but some areas facilitate views over adjacent broads, lowland rivers and marshes.

	North Norfolk: SF1 Stalham, Ludham and Potter Heigham: The sense of enclosure is increased by the woodland fringe of adjoining broads. Fieldwork confirms that the degree of intervisibility with adjacent landscapes means that multiple turbine clusters could be more dominant in relation to skyline character, resulting in high landscape sensitivity. Single turbines would however have less effect on landscape character and perceptual aspects within the Broads, due to closer relationship to existing landscape scale elements.

LCA 25: Bure Valley – Lower Bure Arable Marshlands

Location and landscape character context



Landscape Sensitivity Assessment for Wind Turbines

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities			
	This character area displays a number of special qualities which would be sensitive to wind turbine development, notably the wide open landscape character and big skies (the perception of which could be altered by wind energy development and associated tall on-shore infrastructure such as pylons for off-shore schemes). Similarly, the area's remote and empty character (which relates to the special quality 'sense of tranquillity') would also be vulnerable to introduction of large moving structures such as turbines, although this would be locally reduced in proximity to the settlement edges at Great Yarmouth and Caister. The character area is highly sensitive overall to wind turbines with regard to scenic and special qualities, taking the above into account.		
2.Enclosure and scale			
	Whilst the large scale open marshland character decreases sensitivity to turbines, the presence of localised elements of enclosure such as the low valley sides beyond the Executive Area, and intermittent blocks of carr woodland, increase landscape sensitivity to wind energy development in these terms.		
3.Landscape and land cover pattern			
	The landscape pattern is relatively simple, being defined mostly by large scale rectilinear marshes and arable fields, albeit with localised complexity and variation provided by the presence of carr woodland fringed tributary valleys such as at Caister Castle. The wide bands of reed associated with the course of the Bure create textural variation, whilst human scale elements are introduced by small scale settlement such as Stokesby and also seasonally by sailing boats using the Bure. In spite of the generally simple landscape pattern, sensitivity is increased by the presence of human scale elements and by areas of textural variation such as carr and reed rond – moderate-high sensitivity to wind turbines.		
4.Skylines			
	The largely undeveloped skylines (including wooded skylines associated with Mautby Decoy) would be sensitive to wind turbine development and associated tall on-shore infrastructure such as pylons due to potential disturbance to perceptual character, although the developed eastern horizon (Great Yarmouth – Caister) would locally decrease landscape sensitivity. Historic skyline features such as wind pumps and Caister Castle would also increase sensitivity, giving a high skyline sensitivity overall.		
5.Perception and experience of the landscape			
	The generally tranquil landscape and remote landscape character, reinforced by mostly undeveloped skylines, would be sensitive to wind turbine development, although this would be locally reduced in the eastern part of the character area, where the landscape is influenced by coastal settlement edge. Overall, the landscape has a high sensitivity to wind turbines in perceptual terms.		
6.Historic landscape character			
	Many of the historic landscape types and features of this area have been affected by boundary loss and resultant erosion of landscape pattern. However, historic features of this character area which would be sensitive to wind turbine development are areas of small scale vernacular settlement such as Stokesby and the traditional wind pumps which define skylines, together with the ruins of Caister Castle. These elements increase landscape sensitivity to turbines to moderate-high in historic terms.		
7.Visual sensitivities and intervisibility			
	The expansive nature of views across the area and to the adjacent		

with areas outside the Broads	Halvergate Marshes mean that this landscape is visually sensitive to the introduction of large scale vertical elements such as turbines and supporting infrastructure of comparable scale such as pylons. This is reinforced by the part intervisibility with adjacent character areas beyond the Broads Authority Executive Area (Great Yarmouth Borough character area G3: Ormesby and Filby Estate Farmland), albeit partly filtered by carr woodland. Given the visual influence on and of the Halvergate Marshes, this landscape character area is highly sensitive to turbines in visual terms.
Discussion on landscape sensitivity	Overall landscape sensitivity to wind turbine development and to related tall infrastructure such as pylons is judged to be high. This is in view of the representation of special qualities sensitive to wind turbine development, such as the sense of tranquillity and the wide open landscape of big skies. The predominantly open and undeveloped skyline character and the level of intervisibility with other remote landscapes such as the Halvergate Marshes are also important to this sensitivity judgement, as is the presence of occasional historic skyline features such as wind pumps and Caister Castle. This judgement also applies to large infrastructure for off shore wind farm schemes, such as pylons.

Sensitivity to different turbine heights

Land within the character areas		Land outside the Executive Area	
Small (0-20m)	**M-H**	Small (0-20m)	**M-H**
Medium (20-50m)	**H**	Medium (20-50m)	**M-H**
Large (50-70m)	**H**	Large (50-70m)	**H**
Very large (70m+)	**H**	Very large (70m+)	**H**

Commentary:
Turbines in the smallest height typology would have less impact on human scale feature such as wind pumps, resulting in a marginally lower (moderate-high) sensitivity rating, although for all other typologies the high landscape sensitivity rating would apply, for the reasons outlined in the overall sensitivity judgement above.

Landscapes outside the Executive Area

Relevant landscape characteristics and key landscape sensitivities are:

Great Yarmouth Borough –
G3: Ormesby and Filby Settled Farmland: Panoramic views albeit with carr woodlands providing visual filtering in relation to the Broads.

Whilst the landscape has a slightly reduced (moderate-high) sensitivity in relation to the Broads, to smaller and medium size turbines (due primarily to more filtered visual character), siting would be critical in relation to the Executive Area. Landscape sensitivity to large turbine typologies would be high, due to potential visual prominence in relation to the Broads.

Commentary on different cluster sizes

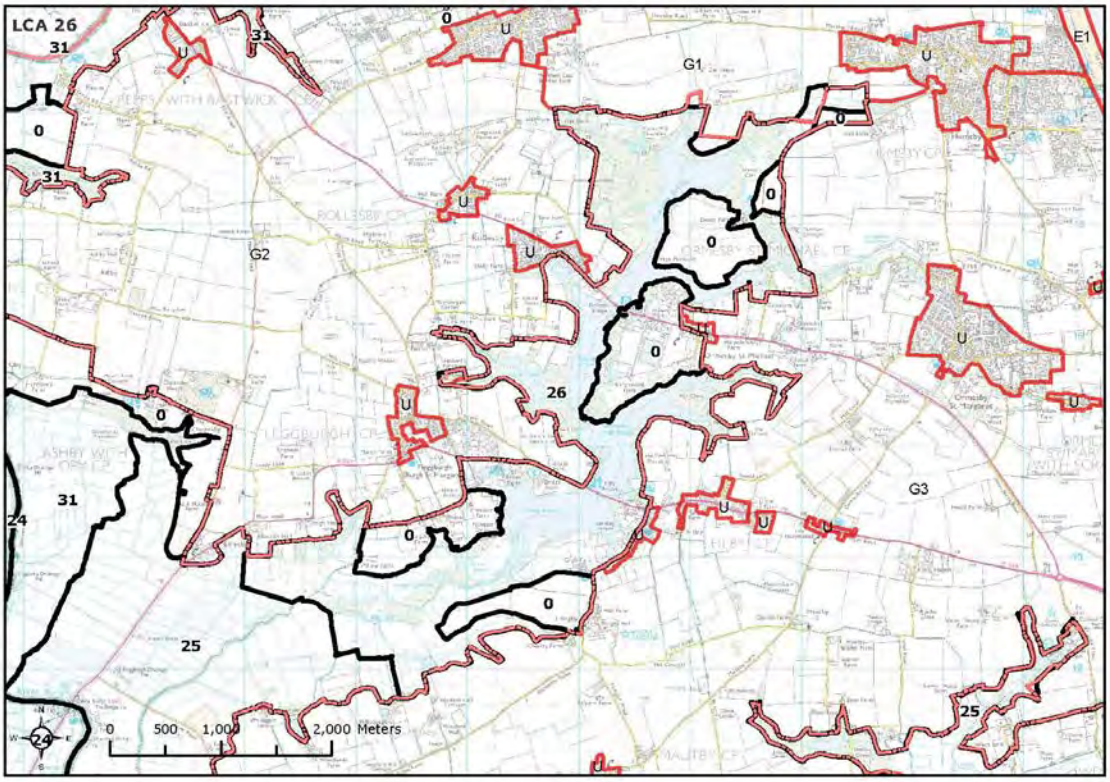
Single turbine
Small clusters (<5 turbines)
Medium (6-10)
Large (11-25)
Very large (>26)

Land within the character areas		Land outside the Executive Area	
Single turbine	**M-H**	Single turbine	**M-H**
<5 turbines	**H**	<5 turbines	**M-H**
6-10 turbines	**H**	6-10 turbines	**H**
11-25 turbines	**H**	11-25 turbines	**H**

	>26 turbines	**H**	>26 turbines	**H**
	Commentary: Single turbines would better respond to existing skyline elements such as single wind pumps, reducing the visual clutter that would potentially be introduced by larger clusters, hence a slightly lower (moderate-high) sensitivity rating for this typology. Landscape sensitivity to all multi turbine typologies would be high due to the potential for visual clutter in relation to simple skylines within the character area and the adjacent Halvergate Marshes. ***Landscapes outside the Executive Area*** Relevant landscape characteristics and key landscape sensitivities are: Great Yarmouth Borough: G3: Ormesby and Filby Settled Farmland: Panoramic views albeit with carr woodlands providing filtering in relation to the Broads. The landscape has a slightly reduced (moderate-high) sensitivity in relation to the Broads, to single turbines and small clusters (due primarily to more filtered levels of intervisibility), although siting would be critical in relation to the Executive Area. Landscape sensitivity to larger multi turbine clusters would be high, due to potential visual prominence in relation to the Broads and associated potential for introduction of skyline clutter.			

LCA 26: Muck Fleet Valley and the Trinity Broads

Location and landscape character context



Landscape Sensitivity Assessment for Wind Turbines

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities	The sense of tranquillity and wildness is reflected in the quiet, rural and largely undeveloped character of this area. This sense of tranquillity would be highly sensitive to the introduction of tall, moving structures such as turbines and also to supporting infrastructure (such as pylons for off-shore schemes). This because of the effect that such elements could have upon the perception of these scenic/special qualities.		
2.Enclosure and scale	The often enclosed character created by sinuous, reed-fringed broads and carr woodland backdrops, and the associated strong sense of enclosure, would be highly sensitive to large scale elements such as wind turbines, due to the potential confusion they would introduce. The landscape also includes a number of human scale elements (such as seasonal recreational boating) which would also be sensitive to turbines.		
3.Landscape and land cover pattern	The richly varied and intricate landscape pattern created by waterways, sinuous broads, reed ronds and carr woodland, together with associated fine grain appearance, would be highly sensitive to turbines due to the difference in scale and the effect they would have on perception/coherence of this landscape pattern.		
4.Skylines	The wooded skylines are of an essentially undeveloped character which would be highly sensitive by virtue of this, to introduction of any developed elements such as turbines.		
5.Perception and experience of the landscape	The relative absence of human influence and the associated tranquil, rural character associated with the experience of this character area would be sensitive to the introduction of development such as wind turbines.		
6.Historic landscape character	This area exhibits a number of historic landscape types whose coherence would potentially be affected by wind turbine development, and which would therefore be sensitive, such as broads/reservoirs fringed by carr woodland and regenerated carr and small scattered areas of 17th-20th century rectilinear grazing marsh.		
7.Visual sensitivities and intervisibility with areas outside the Broads	A high degree of visual filtering is created by the valley sides and the presence of the carr woodlands, which create almost continuous visual foiling and results in very little intervisibility with landscapes beyond the area. However, as demonstrated by the existing Somerton Windfarm which is intervisible with the area, the extent of visual filtering such features provide in relation to larger structures such as turbines is limited. Sensitivity to turbines in visual terms is therefore no less than moderate, given the above.		
Discussion on landscape sensitivity	Overall landscape sensitivity of this area to wind turbines and associated tall infrastructure such as pylons is high. This is due to the presence of sensitive special qualities, principally represented by the area's sense of tranquillity and undeveloped character, which would be sensitive to the introduction of turbines. Other factors which are essential to this sensitivity judgement are the undeveloped skyline character and the presence of fine grain historic features and landscape elements which would be vulnerable to the introduction of large scale elements such as turbines.		

	This judgement also applies to large infrastructure for off shore wind farm schemes, such as pylons.

Sensitivity to different turbine heights

Land within the character areas		Land outside the Executive Area	
Small (0-20m)	H	Small (0-20m)	M-H
Medium (20-50m)	H	Medium (20-50m)	H
Large (50-70m)	H	Large (50-70m)	H
Very large (70m+)	H	Very large (70m+)	H

Commentary:

This area has no comparable vertical features or scale references similar to any turbine types in the identified typology. As such, landscape sensitivity is high for all typologies, for the reasons set out in the overall sensitivity judgement above.

Landscapes outside the Executive Area

Relevant landscape character areas and sensitivities:

Great Yarmouth Borough -
G1: East Flegg Settled Farmland: Fieldwork confirmed the prominence of Somerton Windfarm in addition to the wooded landscape backdrop created by carr woodlands at the Trinity Broads.

G2: West Flegg Settled Farmland: Views are punctuated by vertical features such as wind pumps, turbines (Somerton and offshore) with views to and from the Broads, although there is a degree of enclosure associated with the edge of the Broads.

G3: Ormesby and Filby Settled Farmland: Panoramic views albeit contained by the wooded backdrop of the Broads. Vertical elements such the turbines at Somerton are visible, and the interface with the wetland landscapes of the Executive Area provide localised textural variation and interest.

Fieldwork confirmed that these character areas are visible through filtered views (carr woodland) from the Executive Area. However, due to the largely undeveloped skyline character and resultant visual prominence of turbines such as those at Somerton, sensitivity of the landscapes outside the Executive Area remains high to nearly all turbine typologies (skylines, prominence of such features in relation to the Broads). The exception is the smallest turbine typology where this could potentially be visually absorbed behind the carr woodlands, although much would depend on siting.

Commentary on different cluster sizes

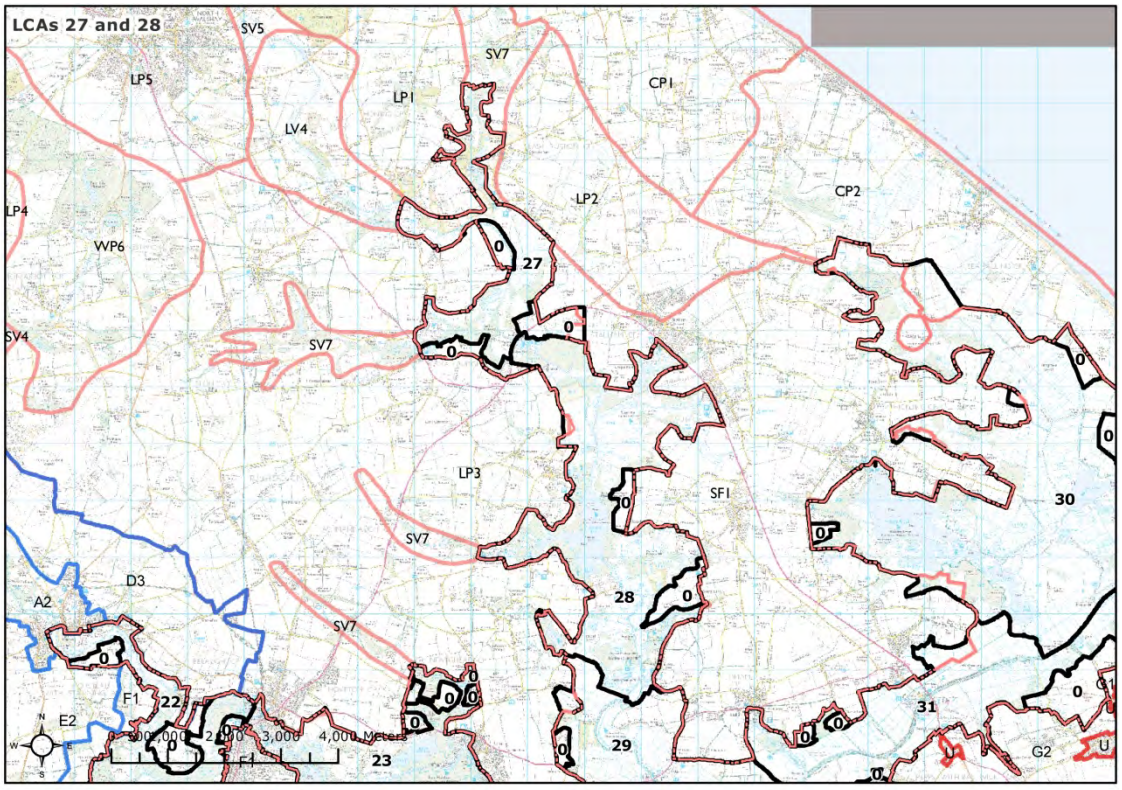
Single turbine
Small clusters (<5 turbines)
Medium (6-10)
Large (11-25)
Very large (>26)

Land within the character areas		Land outside the Executive Area	
Single turbine	H	Single turbine	M-H
<5 turbines	H	<5 turbines	H
6-10 turbines	H	6-10 turbines	H
11-25 turbines	H	11-25 turbines	H
>26 turbines	H	>26 turbines	H

	Commentary: This area has no comparable vertical features or scale references similar to any turbine types in the identified typology. As such, landscape sensitivity is high for all typologies, for the reasons set out in the overall sensitivity judgement above. ***Landscapes outside the Executive Area*** Relevant landscape character areas and sensitivities: Great Yarmouth Borough - G1: East Flegg Settled Farmland: Fieldwork confirmed the prominence of Somerton Windfarm in addition to the wooded landscape backdrop created by carr woodlands at the Trinity Broads. G2: West Flegg Settled Farmland: Views are punctuated by vertical features such as wind pumps, turbines (Somerton and offshore) with views to and from the Broads, although there is a degree of enclosure associated with the edge of the Broads. G3: Ormesby and Filby Settled Farmland: Panoramic views albeit contained by the wooded backdrop of the Broads. Vertical elements such the turbines at Somerton are visible, and the interface with the wetland landscapes of the Executive Area provide localised textural variation and interest. Site work confirmed that views to these character areas are generally filtered from the Executive Area due to carr woodland. However, due to the largely undeveloped skyline character and prominence of turbines such as those at Somerton, sensitivity of the landscapes outside the Executive Area is high to nearly all turbine typologies (skylines, prominence of such features in relation to the Broads and potential of multiple turbine clusters to introduce visual clutter when viewed from the Broads). The potential exception is the single turbine typology, although siting and distance in relation to the Broads would be critical.

LCA 27: Ant Valley upstream of Wayford Bridge: LCA 28: Ant Valley downstream of Wayford Bridge

Location and landscape character context



Landscape Sensitivity Assessment for Wind Turbines

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities	Many of the special qualities which are sensitive to wind turbines are represented in both areas 27 and 28, specifically the sense of tranquillity and wildness evident in much of the Ant Valley, which would be sensitive to noise and movement introduced by turbines. The 'local character of beautiful churches and quiet villages' is particularly represented in settlements in area 28 e.g. vernacular settlements such as Neatishead and Irstead. This local character would be sensitive in view of the small scale, traditional settlement pattern.		
2.Enclosure and scale	Both areas 27 and 28 are predominantly enclosed, wooded landscapes of intimate spatial scale, with subtly perceived valley sides masked by carr woodlands which provide physical and visual containment. This would be sensitive to turbines as such landscape features are visually important and often define landscape scale. However, within area 28 it should be noted that there is considerable variation in landscape scale, due the presence of more expansive areas of marsh and of Barton Broad, which is the second largest broad in the Executive Area. The presence of wind pumps in area 28 and, seasonally of sailing boats in both areas, provide human scale indicators in the landscape, increasing sensitivity to wind turbines.		
3.Landscape and land cover pattern	Both areas 27 and 28 display a varied landscape mosaic of carr woodland, marsh and fen, reed ronds and sinuous river with riparian vegetation, whilst area 28 is also defined by a series of broads, often with intricate reeded edges. As such, this diversity of landscape elements and texture would be sensitive to wind turbines. This is reinforced by the presence of human scale indicators within both character areas e.g. small scale settlement in both areas, presence of wind pumps in area 28.		
4.Skylines	Skylines are predominantly undeveloped in both areas 27 and 28, with the exception of localised areas of settlement which form the horizon e.g. East Ruston (area 27) and the traditional waterside settlement and staithe at Stalham (area 28), and occasional traditional wind pumps within area 28. The wooded skyline forming a backdrop to reed fringed rivers, areas of open water, marsh and fen is distinctive to both areas, and, together with the mainly undeveloped nature of the horizon, would be sensitive to wind turbine development. This is due to the potential for turbines and other related infrastructure such as pylons to detract from such skyline features.		
5.Perception and experience of the landscape	Both of the character areas have an essentially tranquil rural character with little human disturbance and which would be sensitive to wind energy development. This is particularly the case in area 28 which has a very lightly settled character and an often remote, largely inaccessible quality other than by boat. More modern areas of settlement edge within area 27, such as at Dilham and East Ruston create localised intrusions, however both landscape character areas would be sensitive overall to wind turbine development in perceptual terms.		
6.Historic landscape character	A strong distribution of sensitive historic landscape types is apparent in both areas 27 and 28. For example ancient woodland within area 27 at Potter's Grove, plus areas of freshwater fen and 17th century and later rectilinear grazing marshes of often small scale. Within area 28, the medieval broads and areas of freshwater fen would also be sensitive to wind turbines as they could affect the coherence of such features. Other aspects of historic landscape character in area 28 are closely related to human scale indicators which would be sensitive to turbines, such as historic wind pumps		

	and areas of small, traditional vernacular settlement such as Neatishead, Barton Turf and Irstead.
7.Visual sensitivities and intervisibility with areas outside the Broads	Landscapes of intimate spatial scale and of contained visual character, which define much of areas 27 and 28 would have the lowest sensitivity to turbines in visual terms. However, open fen within area 27 and which have higher intervisibility with adjacent landscapes beyond the Executive Area (North Norfolk landscape character type Coastal Plain CP1/CP2 to the east and the Low Plains Farmland type to the west – area LP1), and small parts of area 28 which are intervisible with North Norfolk District landscape types Settled Fen (area SF1) and Low Plain Farmland (area LP3), would be more sensitive. This would result in a moderate overall sensitivity to turbines in visual terms.
Discussion on landscape sensitivity	Areas 27 and 28 have a high overall landscape sensitivity to wind turbine development in general. This is due to the representation of special qualities in the areas which would be sensitive to such development. Also the landscape pattern and scale, historic character and integrity, the sense of remoteness and the presence of human scale indicators associated with traditional wind pumps and vernacular settlement within area 28 in particular. This judgement also applies to large infrastructure for off shore wind farm schemes, such as pylons.

Sensitivity to different turbine heights	**Land within the character areas**		**Land outside the Executive Area**	
	Small (0-20m)	**M-H**	Small (0-20m)	**M**
	Medium (20-50m)	**H**	Medium (20-50m)	**M-H**
	Large (50-70m)	**H**	Large (50-70m)	**H**
	Very large (70m+)	**H**	Very large (70m+)	**H**

Commentary:
Turbines within the smallest typology (0-20m) would respond more closely to existing vertical scale elements within the landscape, such as historic wind pumps, resulting in a slightly lower landscape sensitivity rating. However, all larger turbine typologies could appear visually dominant in these simple landscapes, hence the high sensitivity rating.

Landscapes outside the Executive Area:

Relevant character areas and sensitivities are:

North Norfolk –
CP1/CP2 Coastal Plain: Open, undeveloped skylines are sensitive.
LP1 Edingthorpe to Honing Area: Evidence of some intervisibility with the Broads although some larger woodlands provide screening (Bacton and Honing Hall).
LP3 Worstead, Coltishall, Hoveton and Smallburgh: The area is intervisible with the Broads landscape with views available from rising valley landform.
SF1 Stalham, Ludham and Potter Heigham: Sense of enclosure is increased by the woodland fringe of adjoining Broads.

Fieldwork confirmed that outside the Executive Area, landscape sensitivity to turbines is the same at the larger end of the typology scale. This is due to the potential prominence such structures could have from the low, gently sloping valley sides when viewed from within the Executive Area. There is a slightly lower overall sensitivity to smaller turbines below 20 metres and at the lower end of the 20-50 metre height range, due to the level of foiling created by landscape features. However much would depend on siting and

	design in relation to specific planning applications, with regard to topography, valley sides and relationship to landscape structure features.

Commentary on different cluster sizes

Single turbine
Small clusters (<5 turbines)
Medium (6-10)
Large (11-25)
Very large (>26)

Land within the character areas		Land outside the Executive Area	
Single turbine	**M-H**	Single turbine	**M**
<5 turbines	**H**	<5 turbines	**M-H**
6-10 turbines	**H**	6-10 turbines	**H**
11-25 turbines	**H**	11-25 turbines	**H**
>26 turbines	**H**	>26 turbines	**H**

Commentary:
Multiple turbine clusters would have considerably greater likelihood of introducing visual clutter in relation to the simple, rural and undeveloped skylines which define the majority of areas 27 and 28. Accordingly the landscape has the highest sensitivity rating to these clusters. The landscape of these two character areas has a slightly lower sensitivity to single turbines in these terms. However this would depend on a careful, well considered visual relationship to other skyline elements including historic taller structures such as church towers and wind pumps.

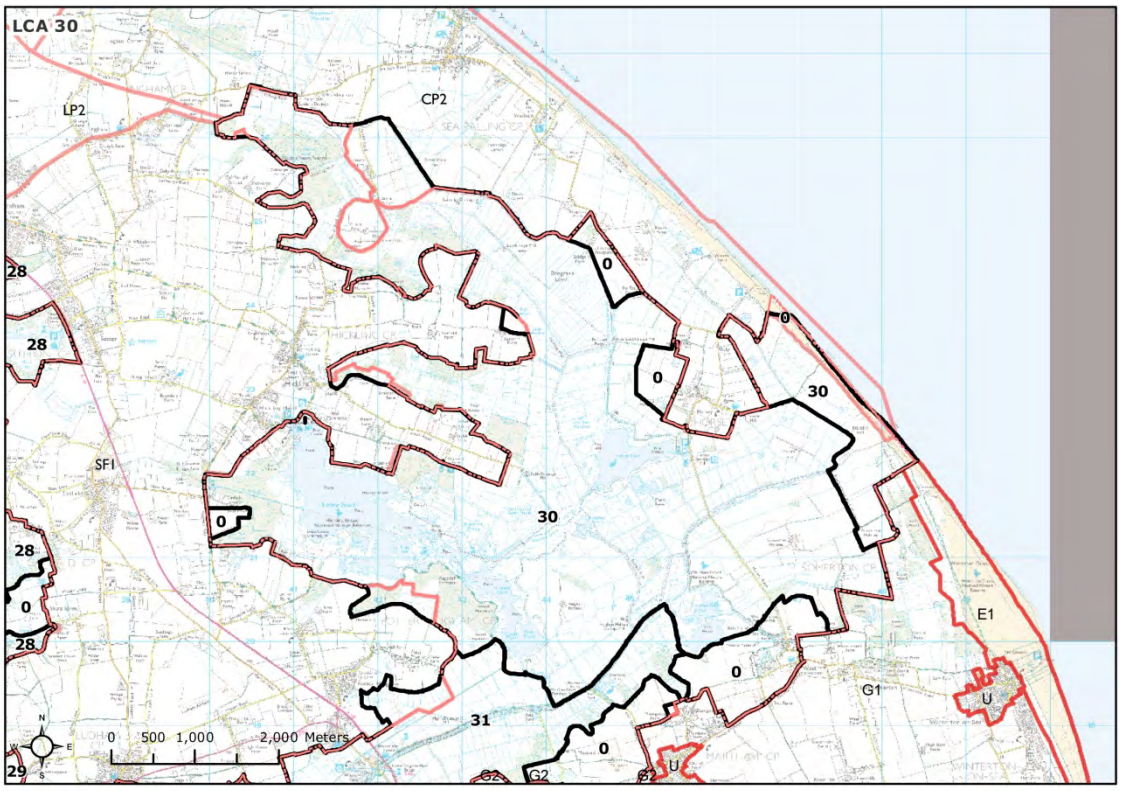
Landscapes outside the Executive Area:
Relevant character areas and sensitivities are:

North Norfolk –
CP1/CP2 Coastal Plain: Open, undeveloped skylines are sensitive.
LP1 Edingthorpe to Honing Area: Evidence of some intervisibility with the Broads although some larger woodlands provide screening (Bacton and Honing Hall).
LP3 Worstead, Coltishall, Hoveton and Smallburgh: The area is intervisible with the Broads landscape with views available from rising valley landform.
SF1 Stalham, Ludham and Potter Heigham: Sense of enclosure is increased by the woodland fringe of adjoining Broads.

Fieldwork confirmed that sensitivity to larger turbine clusters is high. These landscapes would have a slightly lower sensitivity to single turbines or small groups of less than five turbines, although this depends on relationship to existing skyline elements and landscape features to valley sides, which define skylines.

LCA 30: Upper Thurne Open Marsh, Broads and Fens

Location and landscape character context



Landscape Sensitivity Assessment for Wind Turbines

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities			
	A considerable number of special qualities sensitive to wind turbine development are presented in this area, specifically the sense of tranquillity and wildness created by open marshes and coastal landscapes, and the wide open landscapes such as at Hickling Broad and associated eastern marshes. Sense of tranquillity would be vulnerable to movement and aural effects of turbines and the perception of the wide, open landscape could be affected by such structures and supporting tall infrastructure, whether on or off shore, hence the high sensitivity rating.		
2.Enclosure and scale			
	A mostly open marshland landscape of expansive character, formed by a broad, essentially flat valley floor. A degree of wider containment is provided by the rising coastal dunes at Winterton to the east, and localised variations are created by the bands of carr woodland and reeded areas fringing Hickling Broad to the west. These elements and human scale features such as the historic windmill at Horsey, increase the sensitivity of the landscape. Taking the above into account, the landscape has a moderate-high sensitivity to turbines in terms of scale and enclosure.		
3.Landscape and land cover pattern			
	The variation in pattern and texture created by the intricate, fine grain dyke network and the mix of land cover elements such as grazing marsh, arable fields, reed ronds, rush pasture and areas of reed fringed open water, creates a landscape sensitive to wind turbines. This is due to the effect turbines could have on the coherence of such landscape patterns. The human scale elements of the landscape pattern, such as Horsey Windmill, also contribute to this sensitivity.		
4.Skylines			
	The largely undeveloped skyline character created by elements such as coastal dunes and the wooded backdrop to Hickling Broad would be sensitive to the introduction of tall vertical elements, as would historic elements of the skyline such as Horsey Windmill. This applies to off shore turbines also, as well as related tall on shore infrastructure such as pylons. Skyline elements such as the Somerton Windfarm and settlement edges to the south locally reduce sensitivity, resulting in an overall skyline sensitivity to turbines of moderate-high.		
5.Perception and experience of the landscape			
	The tranquil rural and part coastal character of this landscape, and the scant presence of modern human development and influence, save for localised intrusions such as Somerton Windfarm and perception of settlement edges in the southernmost parts of the area, mean that this landscape is sensitive to on and off shore turbines in perceptual terms. This is due to the potential for turbines to introduce further intrusion in terms of experiential character.		
6.Historic landscape character			
	The area has a distribution of historic landscape types such as peat broad at Hickling and unimproved freshwater fen (including associated small scale landscape mosaic which would be sensitive to turbines due to scale issues). Other historic elements of the landscape apparent in the area, such as windmills, are also sensitive, resulting in a high sensitivity to wind turbines in terms of historic landscape character.		
7.Visual sensitivities and intervisibility with areas outside the			
	This is a landscape of mostly open visual character, with expansive views across the more locally elevated 'holmes' and from the Winterton Dunes, and with intervisibility both with the coast and adjacent character areas in		

Broads	Great Yarmouth Borough (G1: East Flegg Settled Farmland) and North Norfolk District (Coastal Plain landscape type – area CP2), with more filtered and framed views into the North Norfolk District Settled Fen landscape type (area SF1). Given the above, the landscape of this area is sensitive in visual terms to wind turbines including off shore turbines and associated tall on shore infrastructure for such schemes, such as pylons.
Discussion on landscape sensitivity	This character area has a high overall landscape sensitivity to wind turbines in general, including off shore development and associated on shore infrastructure such as pylons. This is due to the diversity of special qualities sensitive to wind energy development in the area, notably the sense of tranquillity and wildness created by grazing marsh, fen and coastal landscapes, and the wide, open character of the landscape. Other factors which are important in contributing to this sensitivity judgement are elements of historic landscape character such as freshwater fens and windmills, the coherence of which would potentially be vulnerable to introduction of wind turbines. Also the visual character and the extent of visibility across the area, and its intervisibility with adjacent landscape character areas within Great Yarmouth Borough and North Norfolk District. This judgement also applies to large infrastructure for off shore wind farm schemes, such as pylons.

Sensitivity to different turbine heights	**Land within the character areas**		**Land outside the Executive Area**	
	Small (0-20m)	**M-H**	Small (0-20m)	**M-H**
	Medium (20-50m)	**H**	Medium (20-50m)	**H**
	Large (50-70m)	**H**	Large (50-70m)	**H**
	Very large (70m+)	**H**	Very large (70m+)	**H**

Commentary:
Small scale turbines (less than 20m to tip) would have slightly lower potential impact on the landscape pattern and scale of the character area, and, subject to siting, on historic skyline elements such as windmills. They would be less likely to impinge on skyline character in certain parts of the area (such as where the horizon is formed by Winterton Dunes). As such the sensitivity rating is marginally lower for these (moderate-high). However for all larger turbine typologies, the high sensitivity rating applies, due to the potential effect they would have on perception of landscape scale, pattern and cultural pattern, and on skyline character and intervisibility (potential creation of visual clutter). This also applies to off shore turbines and associated on shore development such as pylons, substation and land fall infrastructure.

Landscapes outside the Executive Area
Relevant character areas and sensitivities are:

Great Yarmouth Borough
G1: East Flegg Settled Farmland: Fieldwork confirmed that the wooded landscape of the Broads, notably the carr woodlands at Ormesby Broad, form a prominent backdrop which contains views.

North Norfolk District
Coastal Plain CP2: Open, undeveloped skylines are sensitive.

Settled Fen SF1: Fieldwork confirmed that filtered views between this area and the Broads are sensitive.

The same sensitivity judgements apply to the adjacent landscape character areas due to the level of intervisibility these have with the character area, and the associated potential impact wind turbines here would have on skylines, perception, experience and cultural pattern of the area. This also applies to off shore turbines affecting these areas and associated on shore development such as pylons, substation and land fall infrastructure.

Commentary on different cluster sizes

Single turbine
Small clusters (<5 turbines)
Medium (6-10)
Large (11-25)
Very large (>26)

Land within the character areas		**Land outside the Executive Area**	
Single turbine	**M-H**	Single turbine	**M-H**
<5 turbines	**H**	<5 turbines	**M-H**
6-10 turbines	**H**	6-10 turbines	**H**
11-25 turbines	**H**	11-25 turbines	**H**
>26 turbines	**H**	>26 turbines	**H**

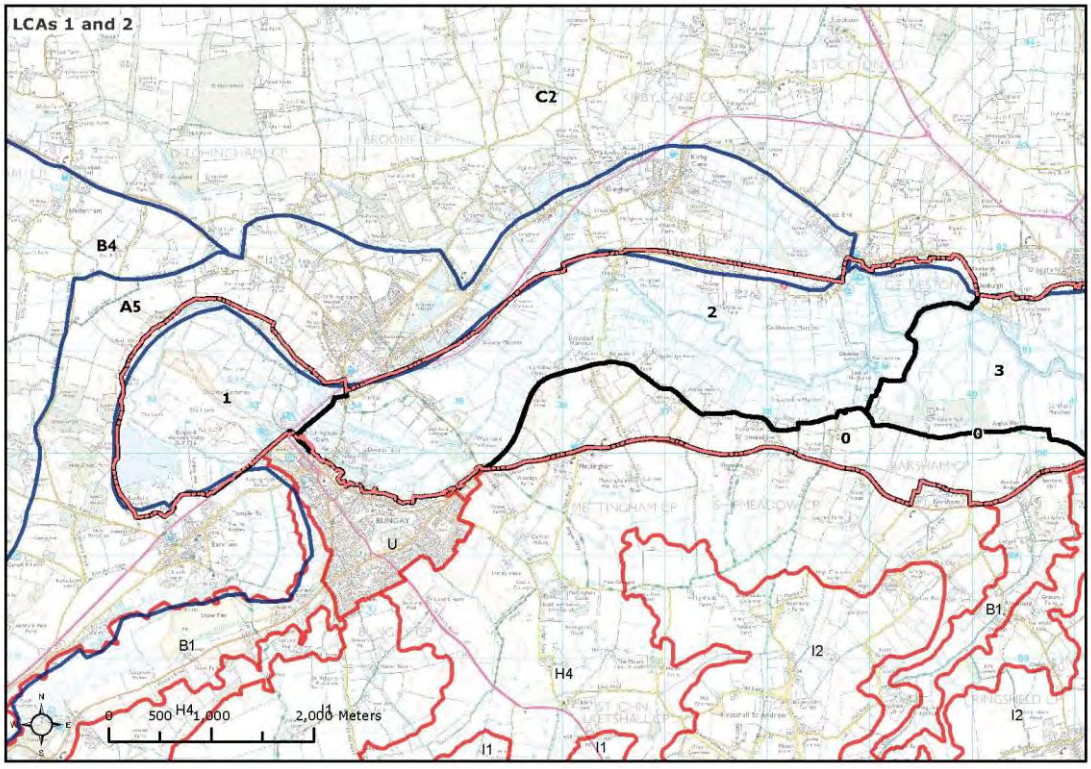
Commentary:

Single turbines would potentially contain impacts on the area's skyline character, subject to siting (careful consideration would be needed in relation to historic elements which contribute to skyline character, such as windmills). This results in a marginally lower sensitivity judgement for this typology of moderate-high. However, this landscape would be highly sensitive to all other multiple turbine typologies. This is due to the fact that such turbines would create potential for confusion in terms of landscape scale, and domination of existing landscape elements and of skyline character. This also applies to off shore turbines affecting these areas and associated on shore development such as pylons, substation and land fall infrastructure.

	Landscapes outside the Executive Area Relevant character areas and sensitivities are: Great Yarmouth Borough G1: East Flegg Settled Farmland: Fieldwork confirmed that the wooded landscape of the Broads, notably the carr woodlands at Ormesby Broad, form a prominent backdrop which contains views. North Norfolk District Coastal Plain CP2: Open, undeveloped skylines are sensitive. Settled Fen SF1: Fieldwork confirmed that filtered views between this area and the Broads are sensitive. The same sensitivity judgements apply to the adjacent landscape character areas for the largest turbine clusters. This is due to the level of intervisibility these have with the Broads character areas and the associated potential impact the larger wind turbine typologies would have on skylines, and perception and experience, as well as on landscape scale of the area. This also applies to off shore turbines affecting these areas and associated on shore development such as pylons, substation and land fall infrastructure.

LCA 1: Waveney Valley - Outney Common and Bath Hills Area: LCA 2: Waveney Valley – Bungay/Ditchingham to Shipmeadow/Geldeston

Location and landscape character context



Landscape Sensitivity Assessment for Solar PV Development

Criteria	Lower sensitivity ⟷ Higher sensitivity
1.Scenic and special qualities	The character areas display a number of the Broads special qualities which are sensitive to solar PV development. Specifically these include the sense of tranquillity and the range and diversity of habitats associated with woodland, hedgerows and winding waterways which are particularly sensitive to solar PV and its associated footprint. Sensitivity is locally reduced close to Bungay due to large scale development on the perimeter of character area 1. However, overall the areas have a moderate-high sensitivity to solar PV development in these terms.
2.Sense of openness / enclosure	Character area 1 is defined by a medium scale field pattern and more open areas of landscape which would indicate a lower sensitivity, while character area 2 has a small scale enclosed (hedgerow) field pattern where the river meanders through the area. This small scale pattern indicates a higher sensitivity to solar PV development due to land take. Both areas display similar characteristics such as rising valley sides with an enclosed landscape pattern, where hedgerows and tree cover filter views. Containment is provided by undulating landform, particularly in character area 1. Elsewhere this is enhanced by landscape elements such as wooded ridges and hedgerows. The areas, when combined, have a moderate sensitivity. This is due to the sense of enclosure and containment provided by hedgerows and landform, although the small scale field pattern increases sensitivity as a result of the likely field boundary loss.
3.Landscape and land cover pattern and scale	The smaller scale field pattern of character area 2 would indicate a higher sensitivity to solar PV due to the potential of the development footprint to dilute the existing landscape pattern. However the medium scale landscape of character area 1 with its undulating topography and greater degree of screening provided by rising topography and wooded valley sides, reduces sensitivity. The areas have a moderate sensitivity to solar PV development in landscape pattern/scale terms.
4.Perception and experience of the landscape	There is a strong sense of tranquillity and remoteness within both character areas although this is diluted somewhat closer to the settlement of Bungay where large scale development is apparent in area 1. This intrusion is however localised and the areas as a whole retain a sense of remoteness. This indicates a higher sensitivity to solar PV development due to the perceptual changes the development would introduce to an undeveloped area. The areas have a moderate-high sensitivity in perceptual terms.
5.Historic landscape character	These areas retain a sense of historic character which is reflected in features such as the distinct medieval dole pattern and the traditional 17th century grazing marsh pattern which are of higher sensitivity to solar PV development due to vulnerability of such features to land take. This is primarily due to the potential effects of solar PV on the coherence of such landscape features. Also sensitive are the malting complexes and historic settlements (Geldeston, Bungay and Ellingham Mill) within character area 2 which have a strong association with the former water mills and the vernacular of the area which would be highly sensitive to solar farm development. Additional historic features such as the historic commons (The Hards) and the Bath Hills which are closely associated with the

	Ditchingham Estate are also sensitive to dilution of historic landscape pattern from solar PV development. When combined, these features indicate a clear sense of historic landscape character and as a result the areas are considered to be highly sensitive to solar PV development.
6.Visual sensitivities and intervisibility	An enclosed landscape, defined by rising valley topography and surrounded by wooded skylines, providing a degree of containment, indicating a lower sensitivity to solar PV development in visual terms. Although contained, there is some intervisibility with adjacent character areas outside the Broads Executive Area (namely, areas A5 and B4 in South Norfolk District and area H4 in Waveney District). This is particularly evident where adjacent character areas are on higher ground (A5 and B4). This elevation provides a greater degree of visibility and as such these areas are more prominent in views. Although there is a level of structural screening provided by rising landform, the filtered views of elevated land in adjacent areas increase sensitivity, and therefore the sensitivity of the area is moderate-high in visual terms.
Discussion on landscape sensitivity	Overall the landscape sensitivity to solar PV development is moderate-high. This is primarily due to the representation of special qualities within the areas including the sense of tranquillity and the diversity of nature. These characteristics are highly sensitive to solar PV development due to the potential of development footprint to impact upon the diversity of habitats and to create a developed landscape in an otherwise remote and tranquil area, resulting in a perceptual change to landscape character. Also sensitive to solar PV development is the historic landscape and settlement pattern which is vulnerable to change as a result of development footprint. It is however noted that the structural screening provided by landform and tree cover indicates a lower sensitivity and therefore the landscape has an overall moderate-high sensitivity to solar PV development.

Sensitivity to different sizes of solar PV development

Land within the character areas		Land outside the Executive Area	
Roof mounted requiring planning permission	**H**	Roof mounted requiring planning permission	**M-H**
Roof mounted - < 1 hectare	**H**	Roof mounted - < 1 hectare	**M-H**
Field mounted: Small - < 1 hectare	**M-H**	Field mounted: Small - <1 hectare	**M-H**
Field mounted: Medium - 1 to 5 hectares	**H**	Field mounted: Medium - 1 to 5 hectares	**H**

Commentary:

Although the character areas are sensitive to the majority of solar PV development, the landscape is less sensitive to small scale solar PV (less than one hectare) where field size can accommodate schemes of this size. However, this is subject to careful siting and avoidance of intervisibility where consideration should be given to landform and tree cover. The sensitive characteristics set out above must also be given close consideration so as to reduce any potential impacts, particularly on the tranquil character and the historic settlement and landscape pattern.

Landscapes outside the Executive Area

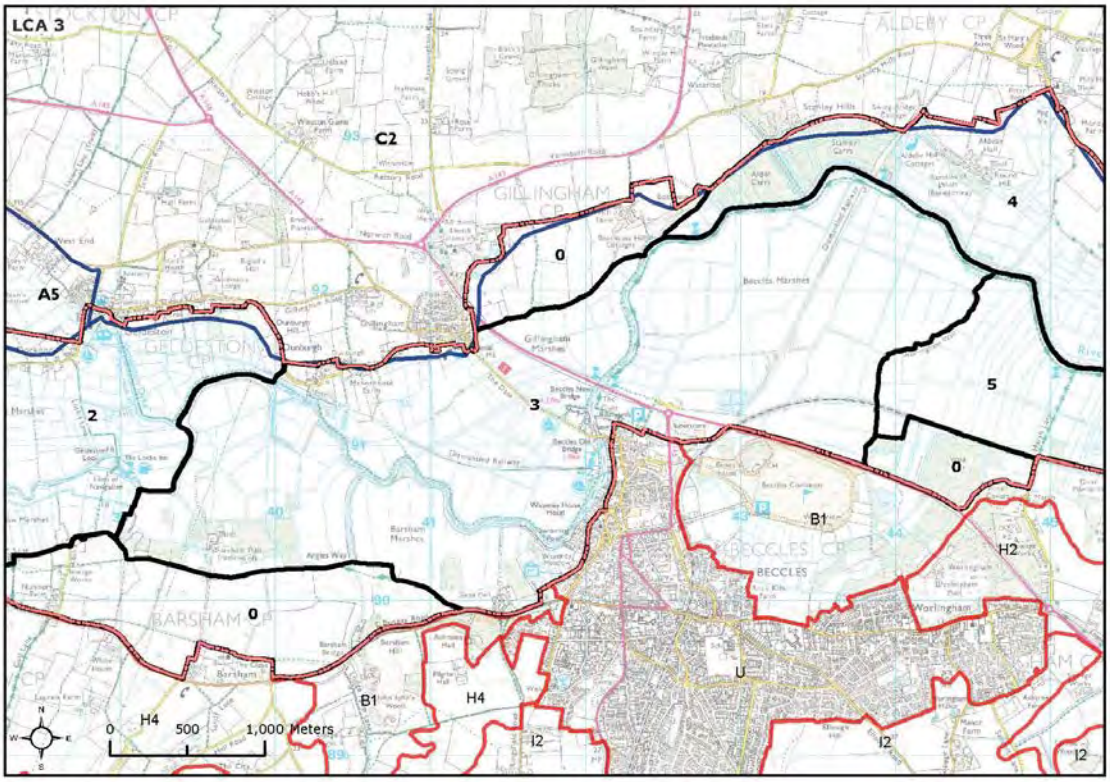
The relevant character areas and sensitivities are:

South Norfolk–
A5: Waveney Rural River Valley: Rising valley sides to the Broads which provide intervisibility.

	B4: Waveney Tributary Farmland: Elevated land close to the Broads in the north. Waveney District - H4: Mettingham Tributary Farmland: Steeply rising valley sides (10-15m AOD) to the north and forms part of the landscape setting of the Broads abutting the Broads Authority boundary along much of its length. Fieldwork confirmed that sensitivity ratings for these areas for medium scale solar PV are high. Due to the elevated nature of the surrounding character areas, impacts upon skylines and views are of critical importance. However, these areas have a lower sensitivity to roof mounted and small scale field mounted solar PV development (up to one hectare) and this would depend entirely on siting (orientation of such development) and intervisibility in relation to the Broads.

LCA 3: Waveney Valley - Barsham, Gillingham & Beccles Marshes

Location and landscape character context



Landscape Sensitivity Assessment for Solar PV Development

Criteria	Lower sensitivity ⟷ Higher sensitivity
1.Scenic and special qualities	Special qualities sensitive to solar PV in this area relate mainly to aesthetic and perceptual character - the traditional vernacular valley town core at Beccles with associated prominent medieval stone built church tower, which would be sensitive in terms of materials to solar PV development. Also sensitive are the sense of tranquillity to the wider river valley floodplain and associated meandering course of the River Waveney and wetland habitat network, and the sense of space which would be vulnerable to solar PV development footprints.
2.Sense of openness / enclosure	Areas of open floodplain in this character area would be sensitive to solar PV, due to impact of development footprint on this sense of openness. Areas where a more intimate character persists, with containment created by valley floor vegetation including pollard willows, and by valley topography, woodlands to the southern area boundary and the ridges in adjacent character areas beyond the Executive Area, would have a lower sensitivity. This is due to the potential of such landscape frameworks to assimilate solar PV, as smaller scale solar PV could potentially fit within such frameworks. Taking the above into account sensitivity to solar PV is moderate.
3.Landscape and land cover pattern and scale	A mosaic landscape due to the interplay of grazing pasture, river and riparian habitat, flood meadow and historic valley settlements, in addition to small areas of carr woodland and orchards. The landscape contains a number of small scale references such as the landscape pattern near the settlements and the quayside at Beccles, together with the varied pattern of landscapes associated with the flood meadows. Such features would be vulnerable to solar PV development footprints. However, larger scale elements and erosions of the landscape pattern which create intrusions in character, such as pylons, reduce sensitivity to moderate-high.
4.Perception and experience of the landscape	Areas of tranquil landscape within the valley floor such as flood meadows would be sensitive to solar PV due to their potential effect on cohesion of perceptual landscape character. Settlements are mostly of contained, compact and historic character. However intrusions such as the A146 corridor within the area, reduce landscape sensitivity, as do settlement edge influences – moderate-high sensitivity to solar PV in perceptual terms.
5.Historic landscape character	A number of elements with this area would be sensitive to solar PV e.g. areas of fragmented dole patterns and traditional vernacular settlement such as historic valley towns. This is due to the effect that solar PV would potentially have on the cohesion and perception of such historic elements. Much of the landscape of this area is also defined by boundary loss which reduces historic landscape sensitivity, as do areas where more modern settlement fringe influences persist. Taking all of the above into account, sensitivity of historic landscape character to solar PV is moderate.
6.Visual sensitivities and intervisibility	This area has intervisibility with a small part of the Waveney River Valley outside the Broads Authority Executive Area, and associated tributary valley farmlands which form the valley slopes (Waveney LCA H4: Mid Waveney Tributary Farmland), although a degree of visual filtering is provided by the woodland blocks on the southern boundary of the character area. Similarly the area is intervisible with the valley crests in South Norfolk District character area C2 Thurlton Tributary Farmland, with a more open visual character in this direction. The valley crests are therefore visually prominent and important. In places, views are filtered by the presence of

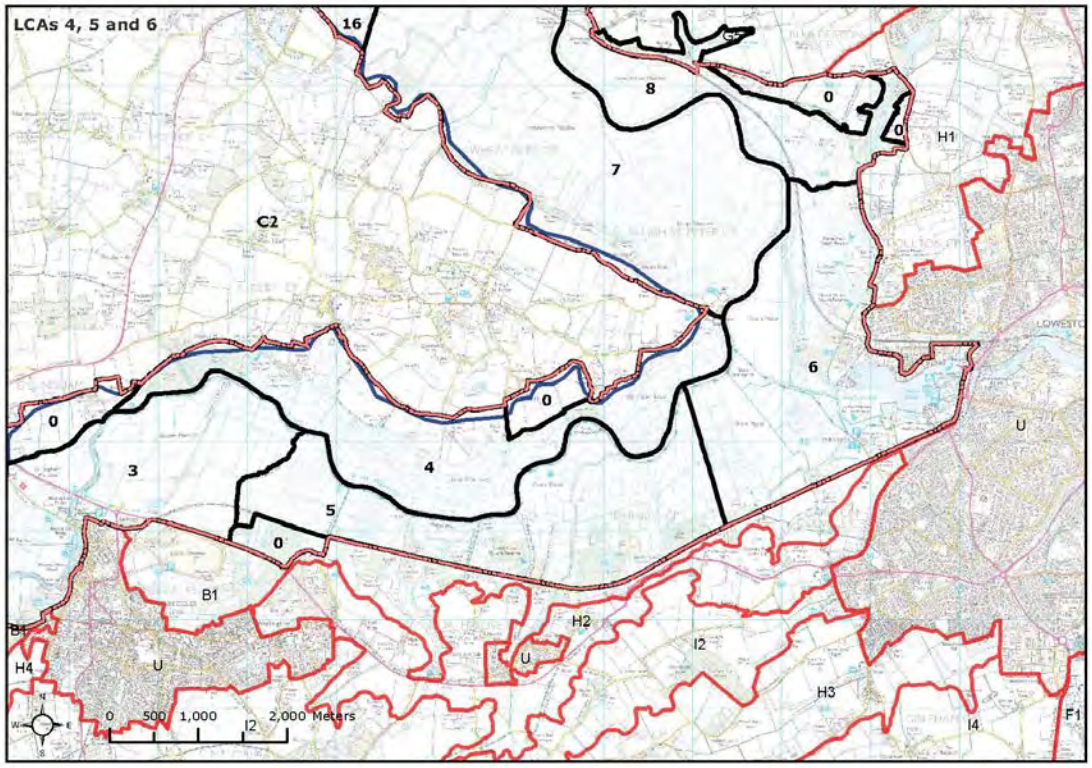
	pollard willows lining water courses, creating visual foiling in relation to other Broads character areas within the Waveney Valley. Given the above and taken together, the area has a moderate sensitivity to solar PV in visual terms, although the more open areas of floodplain would be more sensitive in visual terms.

Discussion on landscape sensitivity	Overall landscape sensitivity of the Waveney Valley – Barsham, Gillingham and Beccles Marshes to solar PV development is moderate. Whilst a number of scenic and special qualities sensitive to solar PV are present in this area, such as vernacular settlements and areas of open skies, overall landscape sensitivity is slightly reduced by intrusions such as the A146 corridor and line of pylons in the valley floor. The erosion of aspects of historic landscape character, such as boundary loss also influence this sensitivity judgement, as do areas of filtered visual character, to a degree. However, areas of more open floodplain landscape would have higher sensitivity to solar PV, given increased intervisibility.				

	Land within the character areas		**Land outside the Executive Area**	
Sensitivity to different sizes of solar PV development	Roof mounted requiring planning permission	**M-H**	Roof mounted requiring planning permission	**M-H**
	Roof mounted - < 1 hectare	**M-H**	Roof mounted - < 1 hectare	**M-H**
	Field mounted: Small - < 1 hectare	**M**	Field mounted: Small - < 1 hectare	**M**
	Field mounted: Medium - 1 to 5 hectares	**M-H**	Field mounted: Medium - 1 to 5 hectares	**M-H**
	Commentary: The landscape of this area would be more sensitive to medium scale (multi field) solar arrays due to potential effect they would have on field patterns and landscape structure. ***Landscapes outside the Executive Area*** Relevant character areas and sensitivities are: Waveney District character area H4: Mid Waveney Tributary Farmland: Framed views to the Broads. South Norfolk District character area C2: Thurlton Tributary Farmland: Open views to the Broads. Fieldwork has confirmed that sensitivity ratings for this area would be the same as those set out for the Broads area above, due to level of visual containment, although much would be subject to siting, topography and level of intervisibility. The ridges in these adjacent character areas are visually prominent, as described above.			

LCA 4: Waveney Valley – Aldeby to Burgh St Peter: LCA 5: Waveney Valley - Worlingham Wall to Boundary Dyke, Barnby: LCA 6: Waveney Valley - Boundary Dyke Barnby to The Fleet, Oulton

Location and landscape character context



Landscape Sensitivity Assessment for Solar PV Development

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities	Areas 4, 5 and 6 have a high proportion of special qualities which are sensitive to solar PV development footprint. Specifically these are the diversity of nature and habitats of carr woodland, freshwater fen, marsh and reed ronds which are all potentially vulnerable to solar PV. Also the relative sense of tranquillity and more open landscape evident in central parts of the character areas could be interrupted by solar PV development.		
2.Sense of openness / enclosure	Large areas of open marsh (i.e. Castle Marsh and Peto's Marsh) are sensitive due to their sense of openness and increased level of visibility. However, areas of carr woodland in the south of character area 5 (i.e. North Cove Nature Reserve and Barnby Broad) and areas of intimate scale in area 6 (i.e. Carlton Marshes) would indicate a lower sensitivity to solar PV development due to the sense of containment provided by landscape features, although overall the character areas are considered to have a moderate-high sensitivity.		
3.Landscape and land cover pattern and scale	Areas 4, 5 and 6 are defined by their varied and intricate land cover pattern which forms a mosaic of carr woodland, open marshland and meandering waterways with reed fringed edges. Due to the variation in texture and the complex nature of the individual elements, the areas are considered to have a higher sensitivity to solar PV development. Landscape pattern is characterised by a mix of regular 20th century rectilinear enclosures indicating lower sensitivity, while 16th and 17th century grazing marshes and small scale field patterns on the perimeter of the area indicate higher sensitivity due to vulnerability to solar PV footprint.		
4.Perception and experience of the landscape	A relatively tranquil and naturalistic character - areas 4, 5 and 6 retain a strong sense of remoteness away from settlement edges (Lowestoft) and communication corridors. As a result the areas are sensitive to solar PV development as their introduction would detract from the sense of tranquillity and remote character. Evidence of human influences and modern development is not particularly apparent; aside from localised visibility of Lowestoft, pylons and sand and gravel pits within South Norfolk and as such the area has an overall high sensitivity to solar PV development.		
5.Historic landscape character	The landscape within areas 4, 5 and 6 comprise numerous historic features which are sensitive to solar PV development. For example, area 6 retains some 16th and 17th century grazing marshes which are vulnerable to changes in their perceived coherence and therefore considered more sensitive to solar PV development. In addition, enclosed areas of smaller broads (i.e. Barnby Broad) could also be vulnerable to any changes in perceptual character due to solar PV. Elsewhere however, there are some areas which are less sensitive, particularly where field boundaries have been removed as a result of 20th century agriculture practices (e.g. central marshes within area 4 and eastern edge of area 5 near Barnby Broad).		
6.Visual sensitivities and intervisibility	Due in part to the sense of openness and ability for greater visibility, the marshes are more sensitive to solar PV development than the more enclosed areas of carr woodland which provide localised screening. The		

	sloping valley sides of adjacent character areas (i.e. South Norfolk District C2 and Waveney District B1 and H2) are visible from within the Executive Area and as such have a higher sensitivity to solar PV. The more locally contained areas created by carr woodland on the edges filter views and are less sensitive, although overall the area has a high sensitivity to solar PV.
Discussion on landscape sensitivity	Areas 4, 5 and 6 have a high overall sensitivity to solar PV development in general. This is primarily due to the representation of the Broads special qualities (i.e. diversity of nature, sense of tranquillity and wide, open landscapes). The intricate land cover and mixed pattern of elements, the perceived sense of remoteness and the Edwardian settlement at Oulton Broad are also sensitive to solar PV development.

Sensitivity to different sizes of solar PV development

Land within the character areas		Land outside the Executive Area	
Roof mounted requiring planning permission	**H**	Roof mounted requiring planning permission	**M**
Roof mounted - < 1 hectare	**H**	Roof mounted - < 1 hectare	**M**
Field mounted: Small - < 1 hectare	**H**	Field mounted: Small - < 1 hectare	**M-H**
Field mounted: Medium - 1 to 5 hectares	**H**	Field mounted: Medium - 1 to 5 hectares	**H**

Commentary:

Character areas 4, 5 and 6 have a high sensitivity to solar PV development of all types and scales, particularly within the larger areas of marshland where visibility is increased. The relatively undeveloped nature of the area and the perceived sense of remoteness also indicate higher sensitivity. These areas would also be sensitive to roof mounted PV due to the potential visual prominence of such structures and potential effects on historic settlement character in area 6. Overall however, areas 4, 5 and 6 are considered sensitive to most types of solar PV.

Landscapes outside the Executive Area:
Relevant character areas and sensitivities are:

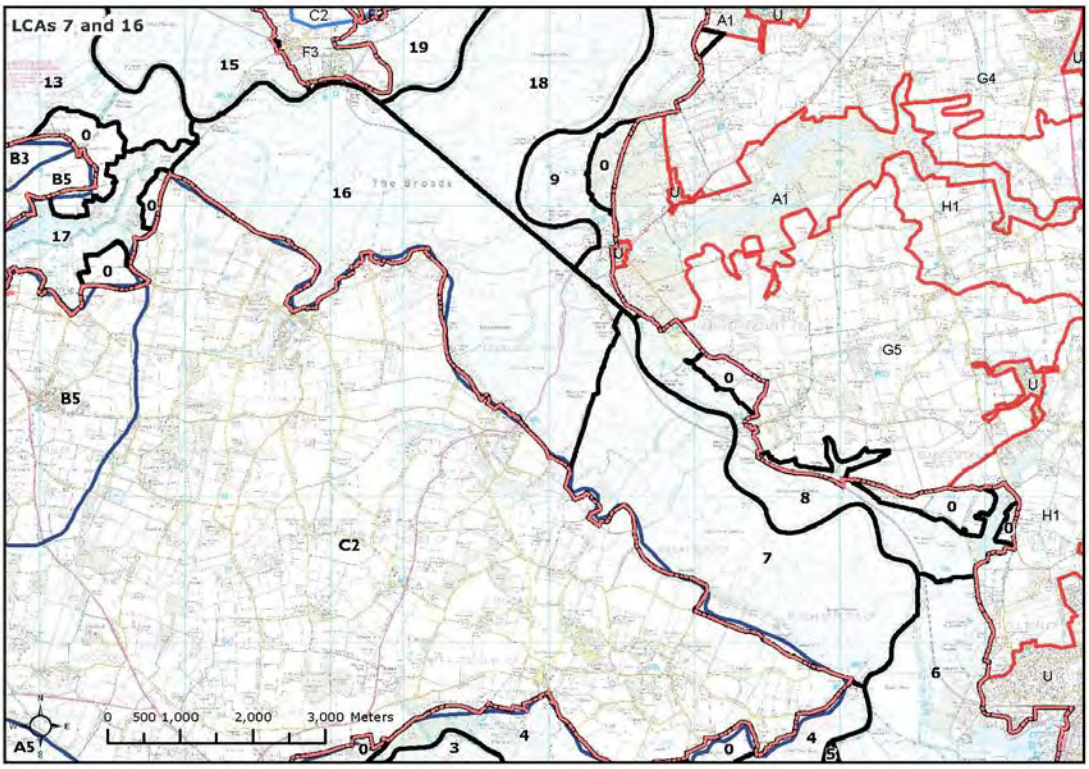
South Norfolk -
C2 Thurlton Tributary Farmland with Parkland: Views open out to the Broads where land rises up from the low lying Waveney Valley.

Waveney -
B1 Waveney Valley: Rising valley sides (15-20m AOD) evident in views from the Broads.
H2 Waveney Tributary Valley Farmland: Gently sloping valley sides providing views out into the Broads with some smaller blocks of woodland

Due to the extent of intervisibility of adjacent valley sides, the adjoining character areas have a high sensitivity to medium scale field mounted solar PV development. Landscape sensitivity to small scale field mounted solar PV in relation to the Broads would be moderate high, although this would depend on siting and orientation in relation to the Broads. Careful siting and design of <1 hectare roof mounted schemes will be required to ensure they do not influence the uninterrupted skylines from within the Broads.

LCA 7: Waveney Valley – Burgh St. Peter to Haddiscoe Marshes: LCA 16: Yare and Waveney Valley - Norton Marshes to Haddiscoe Dismantled Railway

Location and landscape character context



Landscape Sensitivity Assessment for Solar PV Development

Criteria	Lower sensitivity ⟷ Higher sensitivity
1.Scenic and special qualities	The character areas in this grouping are representative of the Broads special qualities which would be sensitive to solar PV. For example, both areas are defined by a wide, open landscape of big skies. This and the associated sense of space would potentially be affected by the introduction of solar PV development. There are however areas which reduce sensitivity where visual clutter is already apparent (pylons at Thurlton Marshes). Both areas have a sense of tranquillity, which solar PV would affect through development footprint, land take and introduction of additional man-made elements resulting in further visual intrusion. The potential perceptual impacts on recreational users of the river also indicate a degree of sensitivity due to the interest users have in their landscape. As a result the character areas have a high sensitivity to solar PV with regard to special qualities.
2.Sense of openness / enclosure	The open visual character created by the marshland landscapes would be highly sensitive to solar PV in view of the potential for visual intrusion of such structures and impacts on sense of space which would be sensitive to solar PV. The large scale field pattern where areas of extensive field boundary removal has taken place (e.g. surrounding the New Cut) indicate a lower sensitivity. However, without any visual filtering being provided by vegetation, development in these areas would be highly apparent, and as such these marshes are sensitive to solar PV. As a result of the above, these areas are considered to have a high sensitivity to solar PV development.
3.Landscape and land cover pattern and scale	Both character areas for the most part have a simple character, particularly in area 7, where the presence of open marshland provides little variation in land cover or pattern. There is however some variation on the southern edges of the area where the wooded valley edges provide greater visual interest and as such create a more sensitive landscape to solar PV in terms of pattern. Overall the areas have a moderate sensitivity to solar PV development due to the potential of development footprint to change the cohesiveness of the curvilinear dyke pattern found within area 16, although the simple character of both areas reduces sensitivity in terms of land cover and pattern.
4.Perception and experience of the landscape	The tranquil character created in these areas by expansive, open and predominantly undeveloped marshland would be highly sensitive to solar PV, due to the perceptual change such structures would introduce. Localised intrusions such as the Cantley Factory complex and pylons on Thurlton Marshes reduce sensitivity although the area as a whole is judged to have a moderate-high sensitivity.
5.Historic landscape character	The small scale 17th century enclosures created by the network of curvilinear dykes within area 7 would be sensitive to solar PV developments due to the potential effect on the coherence of this historic landscape pattern. However there are large areas where the historic pattern has been eroded and this reduces sensitivity. Area 16 possesses some notable historic features which are visually prominent and whose visual and cultural setting would be sensitive to introduction of further development such as

	solar PV, e.g. church tower at St Peter's Staithe and steam engine house at Burgh Marshes. Given the above, these areas have a moderate-high sensitivity to solar PV in historic landscape character terms.
6.Visual sensitivities and intervisibility	The areas of open marshland character and the level of intervisibility with areas within the Broads (6, 8 and 16) and those in adjacent districts (areas A1, G4 and G5 in Waveney District and area C2 in South Norfolk District) would indicate a higher sensitivity to solar PV development. Although views towards adjacent areas are often contained by wooded ridges (i.e. north and south of area 7 and to the east of area 16) these adjacent areas influence the character of the Broads and this degree of intervisibility indicates a higher sensitivity to solar PV development. The areas have an overall high sensitivity as a result of the degree of intervisibility, distant views and the potential of adjacent character areas to influence the visual character of the Broads areas.
Discussion on landscape sensitivity	Overall landscape sensitivity of this area grouping to solar PV development is high. This is due to the representation of special qualities sensitive to solar PV in these areas, specifically the sense of tranquillity, wide open landscape, sense of space and big skies which characterise many parts of the areas. Other important characteristics of these landscapes which contribute to this sensitivity rating in relation to solar PV, are the open visual character of the marshland landscapes in these areas, and associated intervisibility with adjacent landscapes, including with those in adjacent local authorities beyond the Executive Area. Also important in relation to this sensitivity judgement are the historic landscape pattern, such as small scale curvilinear dykes, and prominent historic assets such as wind pumps at Herringfleet, the church tower at St Peter's Staithe and steam engine house at Burgh Marshes.

Sensitivity to different sizes of solar PV development

Land within the character areas		Land outside the Executive Area	
Roof mounted requiring planning permission	**H**	Roof mounted requiring planning permission	**M-H**
Roof mounted - < 1 hectare	**H**	Roof mounted - < 1 hectare	**H**
Field mounted: Small - < 1 hectare	**H**	Field mounted: Small - <1 hectare	**M-H**
Field mounted: Medium - 1 to 5 hectares	**H**	Field mounted: Medium - 1 to 5 hectares	**H**

Commentary:

Roof mounted and field mounted solar PV of all sizes in the typology would have the potential to exacerbate impacts on perceptual characteristics of these areas and associated special qualities such as sense of space and tranquillity, and in terms of views and intervisibility across these landscapes. Therefore landscape sensitivity of these character areas to all solar PV typologies is high.

Landscapes outside the Executive Area

Relevant character areas and sensitivities:

South Norfolk -

C2 Thurlton Tributary Farmland with Parkland: Views open out to the Broads where land rises up from the low lying Waveney Valley.

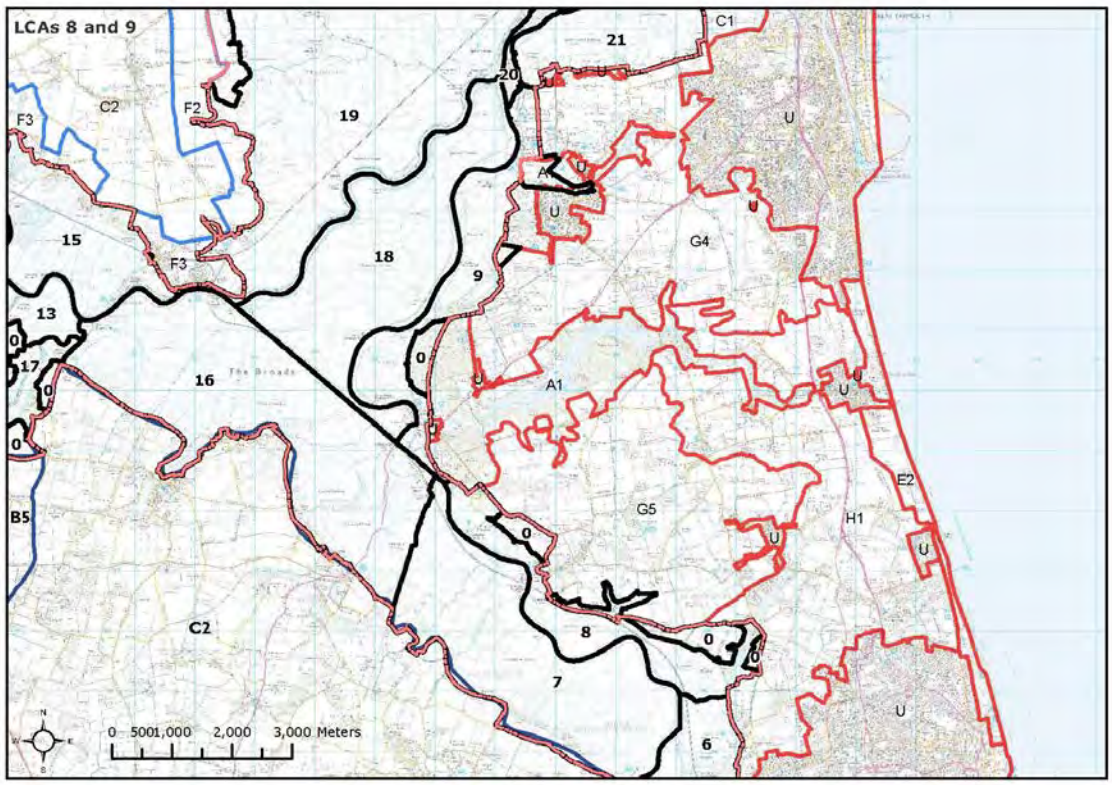
Great Yarmouth and Waveney -

G4: Hobland Settled Farmland: Site work confirmed that the escarpment at Burgh Castle is a prominent ridge which provides views out into the Broads.

	G5: Somerleyton Settled Farmland: Some long views across the adjacent low lying pasture and wetland landscape of the Broads and reciprocal views back with this area. Due to levels of intervisibility, sensitivity ratings for larger scale solar PV schemes are generally the same as for the Broads. There would however be slightly lower sensitivity to the smallest scale (roof mounted) and small scale field mounted solar arrays, although this would depend entirely on orientation in relation to the Broads.

LCA 8: Waveney Valley - Flixton to Herringfleet Marshes: LCA 9: Waveney Valley – St Olaves to Burgh Castle

Location and landscape character context



Landscape Sensitivity Assessment for Solar PV Development

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities			
	The Broads special qualities reflected in the character areas results in a high sensitivity in relation to solar PV development. Specifically this relates to the sense of tranquillity and wildness, the wide open landscapes with big skies and the sense of space which is perceived within these areas. The landscape has a high sensitivity due to the affect solar arrays could have on the wide, open skyline and the potential of solar array footprint to impinge on the sense of space.		
2.Sense of openness / enclosure			
	Although locally distinctive elements occur (i.e. carr woodland and rising landform to the north of area 8 and east of area 9), both areas are similar in character and have a sense of openness with expansive areas of marshland. This would indicate a highly sensitive landscape in relation to solar PV due to the prominence of development in an open landscape. However, where pockets of woodland and enclosure provide a degree of screening (northern extents of area 8) the landscape is less sensitive due to the potential for the development to be filtered and less easily perceived in distant views, thus indicating a lower sensitivity. Overall however the landscape, due primarily to its wide open character has a high sensitivity.		
3.Landscape and land cover pattern and scale			
	The varied pattern of elements (mixed and coniferous woodland and reed ronds) combines to create an intricate pattern which is sensitive to solar PV due to the potential of development footprint to impinge on the pattern and dilute the character of the landscape. The sinuous dyke pattern associated with the Caldecott Marshes in area 9 is also sensitive to changes in pattern. Although sensitive to solar PV, there are areas of grazing marsh which exhibit a simple landscape pattern and are therefore less sensitive, although overall the areas have medium-high sensitivity to solar PV development.		
4.Perception and experience of the landscape			
	The sense of remoteness and tranquillity created by the expansive marshes and lack of development results in a landscape which is highly sensitive to solar PV. This is due to the potential of development footprint to disrupt the sense of remoteness by introducing uncharacteristic features which may detract from the rural character. This perception of tranquillity is somewhat reduced closer to settlement of Belton and Great Yarmouth's character areas G4 and G5 which exhibit a greater deal of intrusion (pylons, boatyards and Kingfisher and Wild Duck caravan parks) and therefore have a negative effect on area 9, reducing sensitivity. Overall however the landscape has a medium-high sensitivity to solar PV development.		
5.Historic landscape character			
	The landscape over time has undergone a series of changes which have resulted in field boundary removal due to the intensification of agricultural practices. Although there are areas of rectilinear 20th century grazing marsh which are less sensitive to solar PV development, there are also areas of 17th century rectilinear enclosures and curvilinear marsh boundary patterns which are sensitive to solar PV. The landscape also retains a number of elements of historic significance (drainage mills, Burgh Castle, the Augustinian Priory at St. Olaves and Wicker Well and Summerhouse Water gardens) which are sensitive to solar PV development due to the potential of development to affect the coherence of these features and the ability to appreciate them. Overall the area has a medium-high sensitivity to solar PV development due to the potential of development footprint to affect the coherence of historic landscape and cultural features.		
6.Visual sensitivities and			
	There are expansive views from within the marshes although these views		

intervisibility	are contained within the Broads character areas. Rising ridges (10m) to the north of area 8 and east of area 9 provide containment, thus limiting views into adjacent areas. The wooded ridge of Great Yarmouth's G5: Somerleyton Settled Farmland character area is apparent in views and filters views in this direction. The wooded nature of this ridge also influences the perception of views from character area 8 and as a result this creates a landscape which is more sensitive to wind turbine development. Views to the east of area 9 are of a similar nature, defined by the ridge of the adjacent Great Yarmouth G4: Hobland Settled Farmland character area. Overall, this degree of containment indicates a lower sensitivity due to the lack of intervisibility to adjacent character areas outside the Broads and as a result the landscape has a medium sensitivity to solar PV.
Discussion on landscape sensitivity	These character areas combine to create a landscape of medium-high sensitivity to solar PV development. This is due to the representation of special qualities sensitive to solar PV, specifically the sense of tranquillity, wide open landscape, sense of space and big skies which characterise many parts of the areas. Other important characteristics of these landscapes which contribute to this sensitivity rating in relation to solar PV is the open character of the marshland landscapes and the associated intervisibility with prominent ridges in adjacent local authorities beyond the Executive Area. Also important in relation to this judgement is the sensitivity of the historic landscape pattern, such as small scale curvilinear dykes and 17th century enclosure marshes, and prominent historic assets such as drainage mills, the Augustinian Priory of St Olaves and Burgh Castle.

Sensitivity to different sizes of solar PV development

Land within the character areas		Land outside the Executive Area	
Roof mounted requiring planning permission	**M-H**	Roof mounted requiring planning permission	**M-H**
Roof mounted - < 1 hectare	**H**	Roof mounted - < 1 hectare	**H**
Field mounted: Small - < 1 hectare	**H**	Field mounted: Small - < 1 hectare	**M-H**
Field mounted: Medium - 1 to 5 hectares	**H**	Field mounted: Medium - 1 to 5 hectares	**H**

Commentary:

Roof mounted and field mounted solar PV in the majority of these typologies would have the potential to exacerbate impacts on perceptual characteristics of these areas and associated special qualities such as sense of space and tranquillity, and in terms of views and intervisibility across these landscapes. There are however some areas of enclosed landscape which are of a lower sensitivity to solar PV development. These areas of lower sensitivity relate to the edges of the character areas where appropriate landform and land cover screening is provided. Careful siting will be an important consideration, particularly in relation to skylines and historic features.

Landscapes outside the Executive Area

Relevant character areas and sensitivities are:

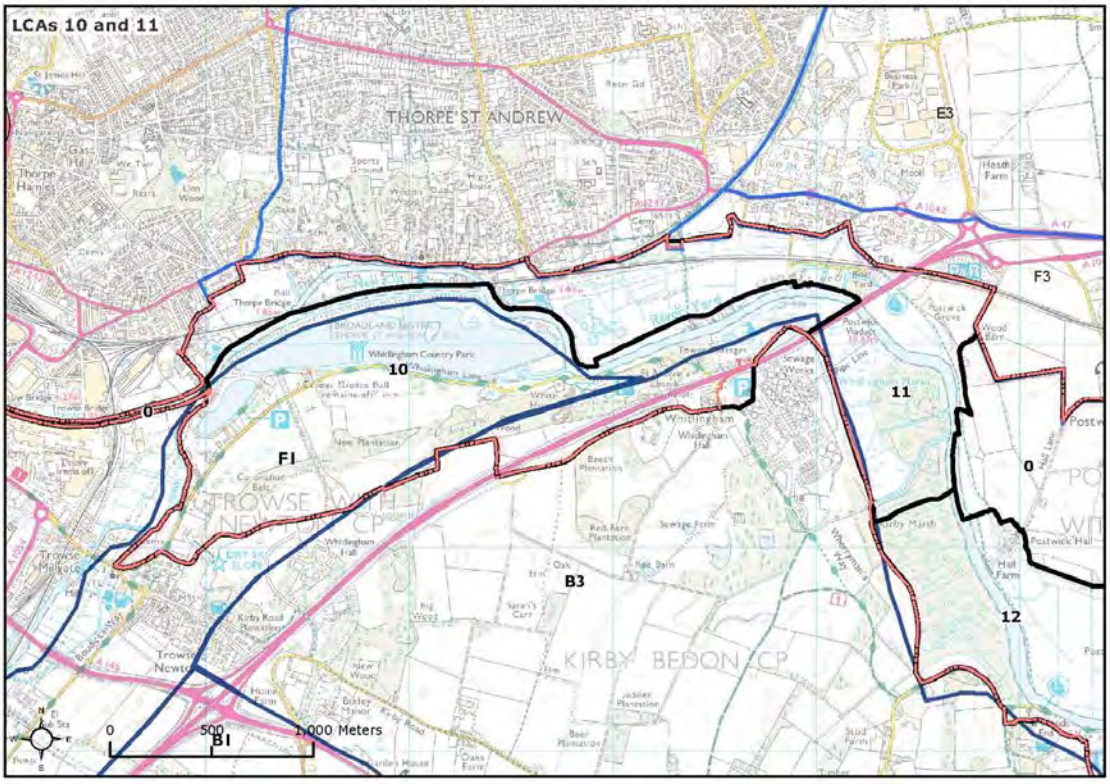
Great Yarmouth/Waveney -
A1: Waveney Rural Wooded Valley: Fieldwork has confirmed that the wooded ridge to the edge of area A1 which incorporates Waveney Forest is prominent and therefore sensitive in relation to the Broads.

G4: Sensitive elements of this area in relation to the Broads and revealed through field survey are the low wooded ridge which adjoins the north eastern part of Broads LCA 9 and Burgh Castle Roman Fort, which occupies

	the top of the ridge. These are prominent features in relation to the Broads. G5: The wooded parkland fringes on the plateau to the edge of the Waveney Rural Wooded Valley form undeveloped skyline elements to the east of the Broads which contribute to the Broads setting and are therefore sensitive. Due to the degree of intervisibility with prominent ridges, sensitivity ratings are generally the same as for the Broads although there would be a slightly lower sensitivity to the smallest scale (roof mounted) and field mounted solar arrays although this would depend entirely on orientation in relation to the Broads and particularly careful consideration of intervisibility.

LCA 10: Yare Valley - Whitlingham Lane and Country Park, LCA 11: Local Character Area 11 - Yare Valley Cary's Meadow, Thorpe Island and Marshes, Postwick Grove and Whitlingham Marshes

Location and landscape character context



Landscape Sensitivity Assessment for Solar PV Development

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities	Relatively few special qualities sensitive to solar PV development are represented in this character area grouping, although the diversity of habitats in area 10 relates to a landscape pattern which would be sensitive in terms of cohesiveness to footprints introduced by solar PV development. The recreational use of both areas for boating also indicates a degree of recreational user interest in the landscape and therefore also some sensitivity to solar PV in these terms. Taking the above into account, these areas have a moderate overall landscape sensitivity to solar PV development in terms of the special qualities.		
2.Sense of openness / enclosure	Both areas in this cluster are of medium scale and with a degree of enclosure provided by woodland within and surrounding the character areas (e.g. wood fringed broad in area 10 plus wooded south facing ridge and the wooded parklands to the south, and, in area 11, by relatively steep, well wooded valley sides). This level of enclosure decrease the sensitivity of the landscape to solar PV development, due to the potential to absorb perception of such development.		
3.Landscape and land cover pattern and scale	Area 10 lacks cohesion in terms of landscape pattern, due to severances created by transport corridors and urban edge development, whilst a diverse and more naturalistic pattern is created in area 11 due to the presence of river and riparian vegetation, areas of scrub, grassland and the nature reserve near Postwick Viaduct, albeit with contrast created by aggregate extraction, industrial sites and boatyards. Due to this mixed and partly eroded landscape pattern, landscape sensitivity to solar PV is moderate. Human scale elements introduced by the presence of features such as recreational sailing boats would be sensitive.		
4.Perception and experience of the landscape	Area 10 is defined by significant intrusions which affect experiential landscape character, such as urban fringe development at Norwich (including the bypass and Thorpe). However sense of tranquillity here is locally enhanced by the wetland environment of Whitlingham Country Park including relict parkland and Whitlingham Great Broad. The situation is similar within area 11 – sense of tranquillity and perceptual landscape character is disjointed due to the proximity to large scale settlement at Norwich, including the Postwick Viaduct which forms part of the A47 bypass.		
5.Historic landscape character	Aspects of relict historic landscape character such as parkland features associated with Trowse Newton and Whitlingham Hall would be sensitive to solar PV development footprints, as the cohesiveness of such features would potentially be vulnerable to such development. Other historic processes such as gravel extraction (which have created the Great Broad) have eroded aspects of historic landscape pattern and therefore reduced sensitivity. Some aspects of the historic character of area 11 would also be sensitive to solar PV development footprints, such as areas of 17th-20th century rectilinear grazing marsh, although sensitivity is reduced by areas of boundary loss north east of the river. Given the above, sensitivity of the historic landscape pattern is moderate overall, due to its level of fragmentation.		
6.Visual sensitivities and intervisibility	Views out from area 10 are often framed due to the wooded nature of the parkland and the embankments to the edge of Whitlingham Great Broad, although large scale development associated with the urban edge is visible from within the area (pylons and taller buildings within Norwich).		

	Some views are available to the settled wooded ridge to the north (within the Norwich urban area, with Broadland District character area E3 Spixworth Estate Lands beyond) and to the rising parklands to the south - intervisibility with South Norfolk District character area B3 Rockland Tributary Farmlands. Within area 11, many views are framed due to the meandering course of the river, the valley topography and woodland, particularly to the south. However, there is intervisibility with other landscapes outside the Broads from this area, notably to the north of the river, the wooded skylines within Broadland District character areas E3 and E4 (Spixworth Wooded Estatelands and Rackheath and Salhouse Wooded Estatelands respectively), and area F3: Reedham to Thorpe Marshes Fringe are visible. As such whilst there is a degree of intervisibility, due to the filtered visual character, sensitivity to solar PV in visual terms is judged moderate.

Discussion on landscape sensitivity					
	Overall landscape sensitivity of this character area grouping to solar PV development is judged to be moderate. This is in view of disjointed landscape pattern and historic character (severances created by large scale settlement edges and by transport corridors such as the Norwich Bypass), the degree of visual containment created by valley sides and woodlands and the presence of large scale settlement edge influences to area 10 in particular. Against this are balanced sensitive features such as relict historic landscape patterns created by parkland as at Whitlingham and Trowse Newton, the coherence of which would potentially be affected by solar PV development footprints, and the sense of tranquillity within Whitlingham Country Park and the Great Broad.				

Sensitivity to different sizes of solar PV development	**Land within the character areas**		**Land outside the Executive Area**	
	Roof mounted requiring planning permission	**M**	Roof mounted requiring planning permission	**M-H**
	Roof mounted>1 hectare	**M-H**	Roof mounted>1 hectare	**M-H**
	Field mounted: Small - >1 hectare	**M**	Field mounted: Small - >1 hectare	**M**
	Field mounted: Medium - 1 to 5 hectares	**M-H**	Field mounted: Medium - 1 to 5 hectares	**M-H**

Commentary:

Landscape sensitivity to larger scale solar PV developments in the typology (e.g. roof mounted schemes up to 1 hectare) and field schemes of 1- 5 hectares would be higher due to potential visual prominence and the effect they may have on the cohesiveness and perception of the landscape pattern. Whilst sensitivity has been assigned moderate for domestic scale roof mounted PV, this would be entirely dependent on siting.

Landscapes outside the Executive Area

Relevant landscape character areas and sensitivities are:

Broadland District –
E3 Spixworth Estate Lands: Only a small part of this area is intervisible with the Broads due to urban fringe development at Norwich. The wooded skylines which form the hinterland are sensitive in relation to the Broads.

E4 Rackheath and Salhouse Wooded Estatelands: Lightly settled, part wooded skylines which are intervisible with the Broads.

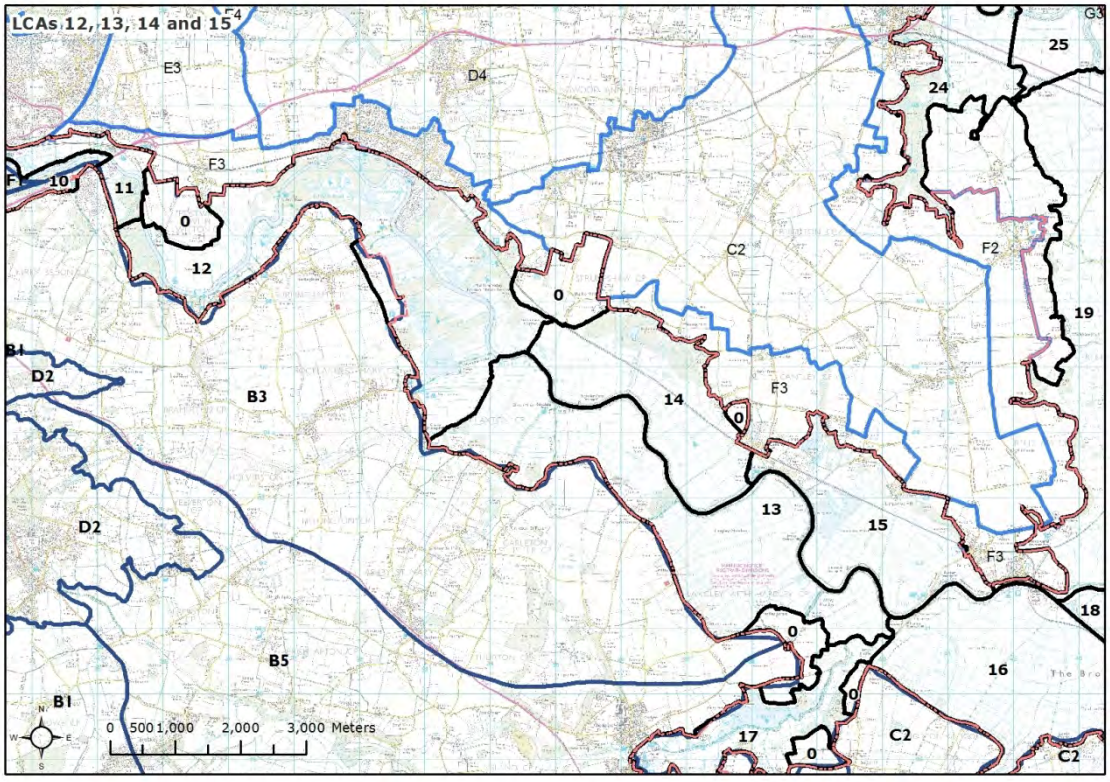
F3: Reedham to Thorpe Marshes Fringe: Fieldwork has identified few sensitive features due to low lying character.

South Norfolk District -
B3 Rockland Tributary Farmlands: Fieldwork confirmed the valley sides on

	which Whitlingham Hall and parklands are sited, together with the mostly undeveloped, part wooded ridge, are sensitive. Field mounted schemes of less than 1 hectare could potentially be absorbed with landscape structure, subject to siting, reducing landscape sensitivity slightly in relation to the Broads. However, due to the visual prominence of the more elevated areas in relation to the Broads, and the potential visual prominence of the larger/more elevated solar PV typologies, landscape sensitivity of these areas in relation to the Broads would be moderate-high.

LCA 12: Yare Valley -Kirby/Postwick to Rockland/Strumpshaw, LCA 13: Yare Valley - Claxton to Hardley Marshes, LCA 14: Yare Valley – Buckenham and Cantley Marshes and Carrs, LCA 15: Yare Valley – Cantley to Reedham

Location and landscape character context



Landscape Sensitivity Assessment for Solar PV Development

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities	Special qualities sensitive to solar PV and which are represented in these areas are as follows – wide open landscapes, big skies and sense of space represented in area 13. This and the associated sense of tranquillity are also represented in area 14 and 15. The habitat diversity in area 12 is indicative of an intricate landscape mosaic which would be sensitive to solar PV development footprint. All of the special qualities set out above would be vulnerable to the introduction of solar PV – high sensitivity.		
2.Sense of openness / enclosure	Much of area 12 is of an enclosed, wooded character, although local contrast is created by the wide flat valley floor around Postwick Marsh and Strumpshaw Fen. The sense of enclosed areas would be less sensitive to solar PV, due to the potential to assimilate such development. Other areas where a more open character persists would have higher sensitivity e.g. area 13 and 14, although this also has localised enclosure and finer grain landscape scale – Langley Staithe. Within area 15, the sense of enclosure created by valley sides and carr woodlands decreases sensitivity to solar PV in these terms. Taking all of the above into account, sensitivity to solar PV in terms of enclosure and scale is judged moderate-high.		
3.Landscape and land cover pattern and scale	Many of the areas in this grouping exhibit a varied landscape mosaic and landcover pattern which would be sensitive to solar PV due to the potential effect they would have on the cohesiveness of such landscape patterns. For example, the network of dykes and rectilinear grazing interspersed with carr woodland blocks and fens in area 12, the wetland vegetation and contrast created by carr woodland in the arable landscape of area 13 and carr woodlands and water bodies in area 14. A more discontinuous and disjointed landscape pattern characterises part of area 15 – industrial uses associated with the Cantley Factory and associated settling basins. These would locally reduce the landscape sensitivity of this area, in these terms, to moderate-high, although the presence of human scale influences such as sailing boats, would be sensitive. Given all of the above, sensitivity of the whole area group to turbines is high.		
4.Perception and experience of the landscape	Many parts of the areas which make up this group are of tranquil rural character which would be sensitive to solar PV. Aspects which would locally reduce sensitivity are transport corridors and communications routes in the western part of area 12 and settlement edge influences such as the Cantley Sugar Beet Factory, the presence of which influences areas 13, 14 and 15. Considering the above, the area group has a moderate-high landscape sensitivity to solar PV in perceptual terms.		
5.Historic landscape character	Aspects of historic landscape character in these areas which would be sensitive to solar PV development include the wind pumps/drainage mills and aspects of the historic functional landscape such as the historic staithes in area 13, plus intact areas of rectilinear dyke patterns as in areas 14 and 15. Such aspects would be sensitive due to the effect that solar PV footprints could have on the on the coherence of these historic landscape features.		
6.Visual sensitivities and intervisibility	The presence of carr woodlands in a number of these areas would provide visual containment although areas of more open marshes with higher levels of intervisibility would have greater sensitivity to solar PV in visual terms,		

	e.g. Postwick Marsh within area 12 and the largely open areas of landscape in area 13 and area 14. Area 15 has strong intervisibility with adjacent areas in South Norfolk District (character area B3 Rockland Tributary Farmland), whilst area 12 is intervisible with parts of the Reedham to Thorpe Marshes Fringe (area F3) within Broadland District. Overall, given the level of intervisibility across these areas, sensitivity to solar PV in visual terms is judged to be high.
Discussion on landscape sensitivity	Overall landscape sensitivity of these areas to solar PV development is judged to be high. This is due to the sensitive special qualities represented in the areas such as sense of tranquillity and areas where a wide open landscape of big skies persists, together with related aspects such as areas of undeveloped skylines. Other factors important to this sensitivity judgement are the varied landscape and historic landscape patterns, the coherence of which would be vulnerable to solar PV development footprints, as well as the areas of open landscape which provide greater intervisibility with adjacent areas and therefore potentially increase the influence of solar PV.

Sensitivity to different sizes of solar PV development	**Land within the character areas**		**Land outside the Executive Area**	
	Roof mounted requiring planning permission	**H**	Roof mounted requiring planning permission	**M-H**
	Roof mounted - < 1 hectare	**H**	Roof mounted - < 1 hectare	**H**
	Field mounted: Small - < 1 hectare	**H**	Field mounted: Small - < 1 hectare	**M-H**
	Field mounted: Medium - 1 to 5 hectares	**H**	Field mounted: Medium - 1 to 5 hectares	**H**

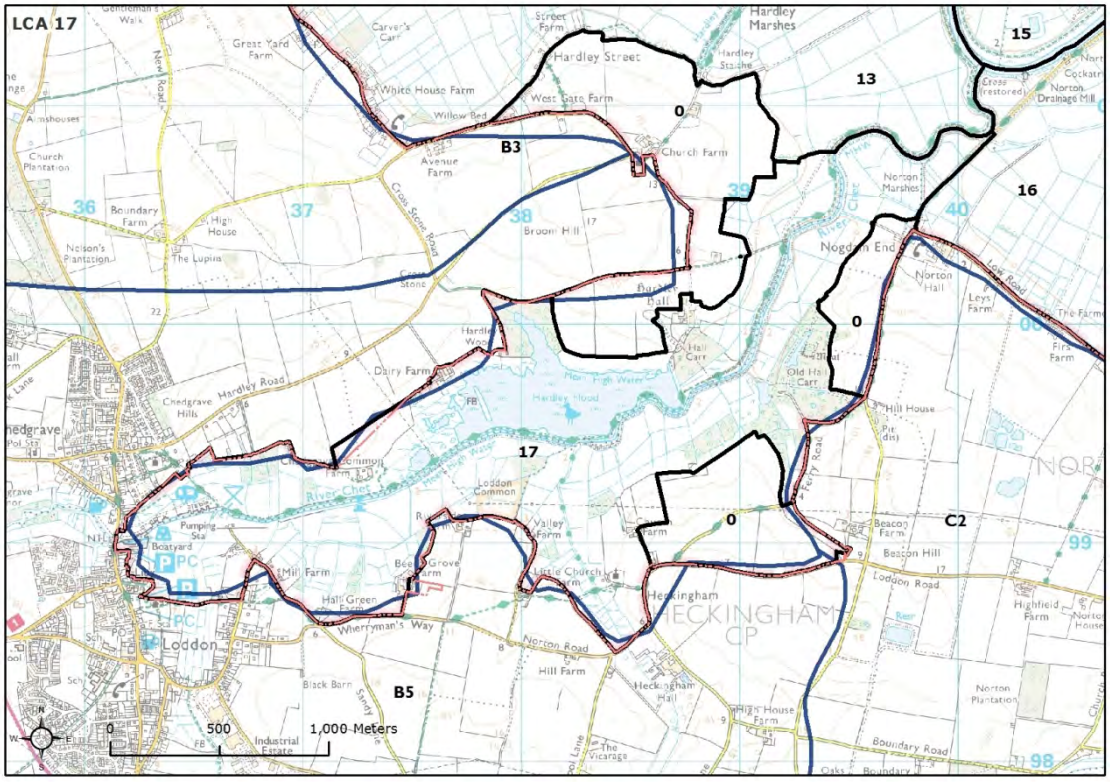
Commentary:
Due to the level of intervisibility and the predominantly open visual character of these areas, sensitivity of the landscape to all solar PV typologies is high throughout, for the reasons outlined in the overall sensitivity judgement above.

Landscapes outside the Executive Area
Relevant landscape character areas and sensitivities are:

South Norfolk -
B3 Rockland Tributary Farmland: Fieldwork confirmed distant views out over the Yare Valley and into the Broads indicating a greater vulnerability to visual intrusion.
Broadland District –
F3 Reedham to Thorpe Marshes Fringe: Fieldwork confirmed intervisibility between the valley sides in this area and Broads character area 12.
The level of intervisibility would render this landscape sensitive to solar PV due to the visual setting this area creates to the Broads. Whilst sensitivity to smaller (domestic) roof mounted schemes and in field schemes (sub 1 hectare, where field boundaries could be retained) may be lower (moderate-high), siting in relation to the Broads would be critical here.

LCA 17: The Chet Valley

Location and landscape character context



Landscape Sensitivity Assessment for Solar PV Development

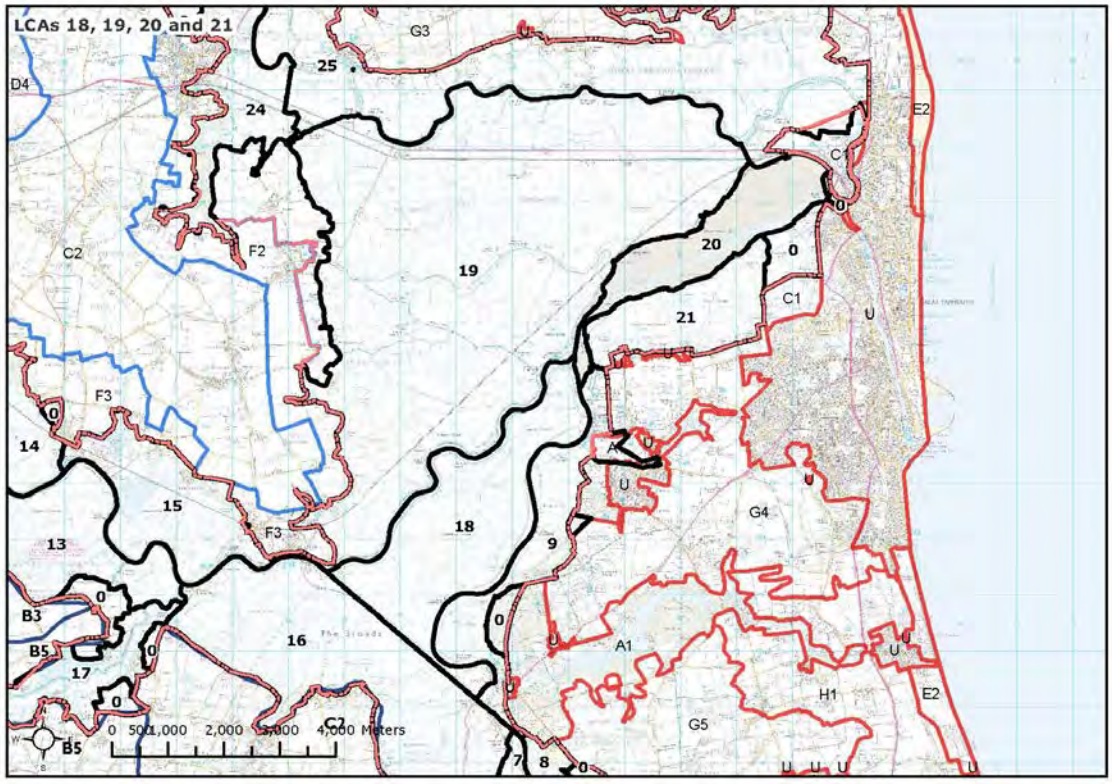
Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities	Special qualities sensitive to solar PV and which are represented in this area are the wide open landscape created by the expansive open water at Hardley Flood, and the habitat diversity associated with the area's landscape mosaic. The latter in particular would potentially be vulnerable to solar PV development footprints. All of the special qualities set out above would be vulnerable to the introduction of solar PV – high sensitivity.		
2.Sense of openness / enclosure	Within this area, the sense of enclosure created by valley sides and carr woodlands decreases sensitivity to solar PV in these terms. Taking all of the above into account, sensitivity to solar PV in terms of enclosure and scale is judged moderate-high.		
3.Landscape and land cover pattern and scale	Much of the area exhibits a varied landscape mosaic and landcover pattern which would be sensitive to solar PV due to the potential effect they would have on the cohesiveness of such landscape patterns. For example, the intricate mix of wetland landscape elements such as open water, reed, wet fen, grazing and carr woodland. The presence of human scale influences such as sailing boats, would also be sensitive. The landscape of this area is highly sensitive to turbines with regard to landscape and landcover pattern and scale.		
4.Perception and experience of the landscape	Many parts of this area are of tranquil rural character which would be sensitive to solar PV. The settlement edge within Loddon locally reduces sensitivity, although this affects only a small proportion of the area. Considering the above, the area has a high landscape sensitivity to solar PV in perceptual terms.		
5.Historic landscape character	Aspects of historic landscape character in this area which would be sensitive to solar PV development include the historic staithe at Loddon plus intact areas of rectilinear dyke patterns in the valley floor. Such aspects would be sensitive due to the effect that solar PV footprints could have on the coherence of these historic landscape features.		
6.Visual sensitivities and intervisibility	The presence of carr woodlands in a number of these areas would provide visual containment although the filtered intervisibility with adjacent South Norfolk District landscapes would increase sensitivity to solar PV in visual terms, to moderate-high.		
Discussion on landscape sensitivity	Overall landscape sensitivity of this area to solar PV development is judged to be high. This is due to the sensitive special qualities represented in the areas such as sense of tranquillity, the habitat mosaic and areas where a wide open landscape of big skies persists (Hardley Flood), together with related aspects such as areas of undeveloped skylines. Other factors important to this sensitivity judgement are the varied landscape and historic landscape pattern, the coherence of which would be vulnerable to solar PV development footprints.		

Sensitivity to different sizes of solar PV development	**Land within the character area**		**Land outside the Executive Area**	
	Roof mounted requiring planning permission	**H**	Roof mounted requiring planning permission	**M-H**
	Roof mounted - < 1 hectare	**H**	Roof mounted - < 1 hectare	**H**

	Field mounted: Small - < 1 hectare	**H**	Field mounted: Small - < 1 hectare	**M-H**
	Field mounted: Medium - 1 to 5 hectares	**H**	Field mounted: Medium - 1 to 5 hectares	**H**
	Commentary: Sensitivity of the landscape to all solar PV typologies is high throughout, for the reasons outlined in the overall sensitivity judgement above. ***Landscapes outside the Executive Area*** Relevant landscape character areas and sensitivities are: South Norfolk - B3 Rockland Tributary Farmland: Fieldwork confirmed distant views out over the Yare Valley and into the Broads indicating a greater vulnerability to visual intrusion. B5 Chet Tributary Farmland: Fieldwork confirmed the visual relationship with the Broads where views of the area's rising ridges are evident. The partial intervisibility would render these landscapes sensitive to solar PV due to the visual setting these areas create to the Broads. Whilst sensitivity to smaller (domestic) roof mounted schemes and in field schemes (sub 1 hectare, where field boundaries could be retained) may be lower (moderate-high), siting in relation to the Broads would be critical here.			

LCA 18: Haddiscoe Island; LCA 19: Halvergate Marshes (excluding Bure Loop and the west of Tunstall Dyke), LCA 20: Breydon Water; LCA 21: Yare Valley – Church Farm, Burgh Castle, Fisher's and Humberstone Marshes

Location and landscape character context



Landscape Sensitivity Assessment for Solar PV Development

Criteria	Lower sensitivity ⟷ Higher sensitivity
1.Scenic and special qualities	Sensitive special qualities are represented by the sense of openness and simple skylines in areas 18 and 19, and the sense of space evident in both areas 19 and 20. These characteristics are also reflected in area 21. The sense of space and openness and of big, simple skies in these areas would be highly sensitive to the introduction of features such as solar PV, due to land take and associated impact on this character. Other special qualities which would be sensitive to solar PV are the habitat mosaics associated with the marshes and riparian edges, which would potentially be vulnerable to solar PV land take.
2.Sense of openness / enclosure	These areas are generally expansive, largely open marshland landscapes. A degree of wider context enclosure is provided in area 18 by the presence of the wooded ridge at St Olaves on which Waveney Forest is sited and by the low carr woodland fringed ridge to the west of the Halvergate Marshes, which is also reflected in area 19. Similarly some wider enclosure is provided to area 21 by the low cliffs on which Burgh Castle is located. Breydon Water (area 20) is an entirely open estuary and mudflats. The predominantly open character of these areas would be vulnerable to solar PV land take and therefore sensitive.
3.Landscape and land cover pattern and scale	These are mainly open marshland landscapes of simple pattern, although variation is introduced by riverside reed ronds in areas 18 and 21 and by rectilinear dyke networks, which create variations in scale within the areas. Similarly in area 19, occasional variations are created by intermittent trees/tree lines, domestic buildings to the edges (e.g. within Halvergate village) and occasional World War II Pill Boxes on the marshes. Within area 20, variations in landscape pattern are primarily formed by the sinuous creeks visible in the mudflats at low tide. These and the localised variations in landscape pattern described above, increase the sensitivity of the landscape to solar PV to moderate-high.
4.Perception and experience of the landscape	These are a series of remote, isolated marshland landscapes of often vast scale, and with few obvious modern human influences, and which have a strong sense of remoteness and tranquillity, with few intrusions. All of these factors indicate a high sensitivity to solar PV in perceptual terms, as they would be vulnerable to change introduced by such structures and development footprints. Specific relevant aspects of the areas in this group are: the mostly tranquil character of area 18, albeit with localised intrusions created by adjacent developments outside the Broads and by the influences of St Olaves Marina and the large number of pylons crossing the area. Area 19 is largely isolated with only movement and aural effects from the A47 and the railway line affecting tranquillity. The greatest level of intrusion is provided by the settlement edge and A47 at Great Yarmouth on the eastern edge of Breydon Water (area 20) and area 21, indicating slightly lower landscape sensitivity, although this is localised. Given the general level of remoteness and isolation, this area group would be highly sensitivity to solar PV in perceptual terms.
5.Historic landscape character	The setting of scheduled archaeological features such as Burgh Castle on the ridge which overlooks areas 18, 20 and 21, would be sensitive to solar PV development. Areas of boundary loss associated with the A47 in area 19 and 21 create erosions in historic landscape pattern which decrease sensitivity to solar PV. However, Breydon Water is an important and ancient relic of a formerly much more expansive coastal landscape and is therefore sensitive for this reason – the coherence of such landscapes and

	adjacent area could be affected by solar PV. Other sensitive aspects would be components of Broads vernacular such as wind pumps, whose cohesiveness as historic landscape features could be vulnerable to solar PV. Taking the above into account, sensitivity to solar PV in historic terms is judged to be moderate-high.
6.Visual sensitivities and intervisibility	These predominantly exposed, open marshland landscapes have exceptionally high levels of intervisibility with adjacent landscapes within and outside the Broads. This open visual character means that this landscape character group would be highly sensitive to solar PV in visual terms. Within area 18, wider views are truncated by the Waveney Forest, which lies on the edge of the adjacent Great Yarmouth/Waveney character area A1: Waveney Rural Wooded Valley. Area 19 has high levels of intervisibility with adjacent marshland character areas in the Broads, as far as Breydon Water to the east and to the edge of Great Yarmouth, beyond the Executive Area. The low ridge to the west of area 19 (within Broadland District) is visually prominent and important in containing more widely views in a westerly direction. The Burgh Castle ridge within Great Yarmouth character area G4 is important in providing visual containment to parts of areas 20 and 21, with Burgh Castle a visually sensitive historic feature. Taking the above into account, the area has a high sensitivity to solar PV due to its often open visual character.
Discussion on landscape sensitivity	Overall landscape sensitivity of this area grouping to solar PV is high. This is due to the representation of sensitive special qualities such as the sense of openness/wide open landscapes, simple skylines and big skies, the sense of which would be vulnerable to solar PV development footprints. Other factors important to this sensitivity judgement are the open visual character and level of intervisibility with adjacent landscapes in the Broads, and the largely tranquil perceptual character, the perception of which would again be vulnerable to solar PV.

Sensitivity to different sizes of solar PV development

Land within the character areas		Land outside the Executive Area	
Roof mounted requiring planning permission	H	Roof mounted requiring planning permission	M-H
Roof mounted - < 1 hectare	H	Roof mounted - < 1 hectare	H
Field mounted: Small - < 1 hectare	H	Field mounted: Small - < 1 hectare	H
Field mounted: Medium - 1 to 5 hectares	H	Field mounted: Medium - 1 to 5 hectares	H

Commentary:

Due to the sense of openness and visual character, landscape sensitivity to all of the solar PV typologies would be high throughout.

Landscapes outside the Executive Area

Relevant landscape character areas and sensitivities are:

Great Yarmouth/Waveney character area A1: Waveney Rural Wooded Valley: Fieldwork has confirmed the low wooded ridge at Waveney Forest to be visually important/sensitive in relation to the Broads.

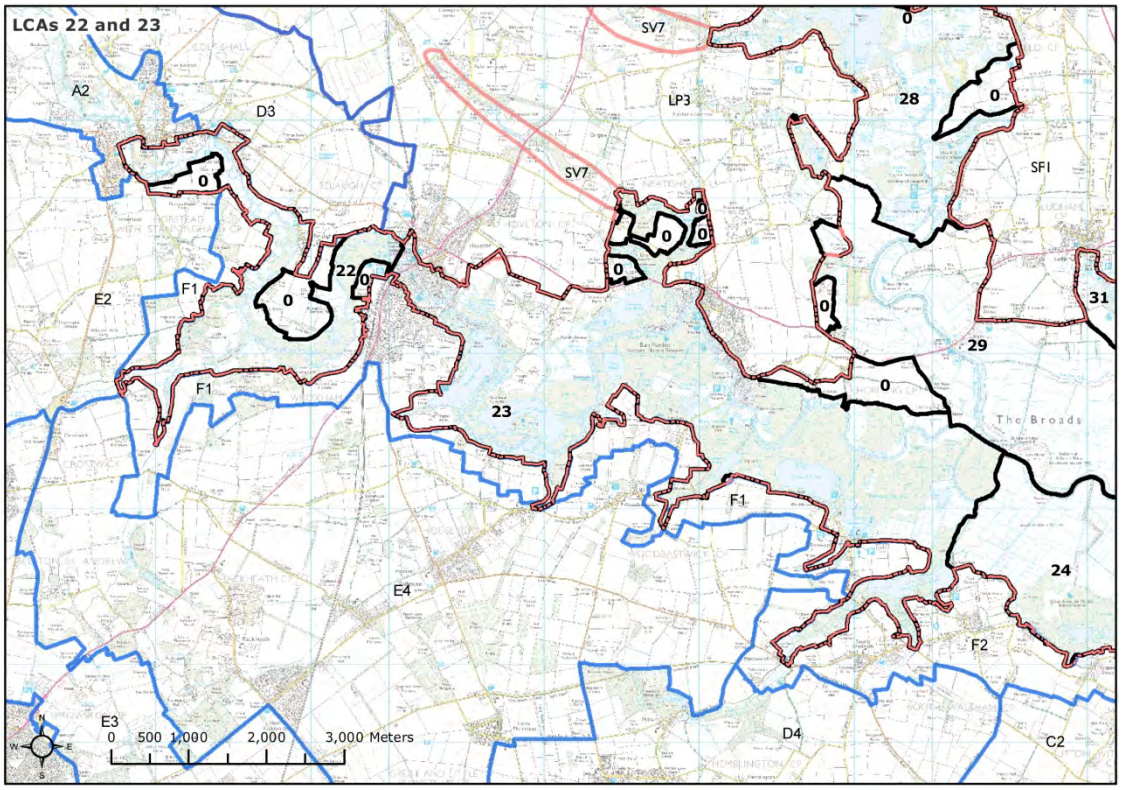
Great Yarmouth character area G4: Hobland Estate Farmland. Fieldwork confirms the prominent ridge on which Burgh Castle is sited to be sensitive in relation to the Broads.

Broadland District character area F2: South Walsham to Reedham Marshes Fringe: Survey has confirmed the low ridge to the west of Halvergate Marshes and on which Halvergate Village is sited, as being sensitive in relation to the Broads.

	Landscape sensitivity to small scale roof mounted solar PV in relation to the Broads would be moderate high, although this would depend on siting and orientation in relation to the Broads. Due to the visual prominence of the ridges and topographic features noted above in relation to the Broads, landscape sensitivities to solar PV are otherwise the same as for the Broads.

LCA 22: Bure Valley – Upstream Wroxham to Horstead: Area 23: Bure Valley – Wroxham to Fleet Dyke, South Walsham

Location and landscape character context



Landscape Sensitivity Assessment for Solar PV Development

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities			
	This character area grouping represents a number of the Broads special qualities which are sensitive to solar PV development, specifically in relation to the diversity of nature and habitats vulnerable to land take. Also the sense of tranquillity and wildness evident in both character areas which could be interrupted by solar PV development. Overall the area has a high sensitivity to solar PV development.		
2.Sense of openness / enclosure			
	The majority of this landscape has an intimate and enclosed character which indicates a relatively lower sensitivity to solar PV due to the containment afforded. However areas of open fen and grazing marsh which appear in parts (e.g. surrounding Ranworth and Coltishall) would have a higher sensitivity to solar PV, due to the fact that such development would be more readily perceived in such locations. Due to this variation in enclosure and scale, the area as a whole has a moderate sensitivity to solar PV development.		
3.Landscape and land cover pattern and scale			
	Due to the distinct and intricate pattern of elements defined by carr woodland, reed ronds, marsh and grazing pasture, fen and open water, the areas are considered to have a high sensitivity to solar PV. Such landscape patterns would be vulnerable to dilution by solar PV development. Although the landscape pattern is partially eroded surrounding Hoveton and Wroxham due to modern development, the complex landscape texture remains intact throughout the rest of the area. Overall however the landscape has a high sensitivity to solar PV development.		
4.Perception and experience of the landscape			
	A tranquil, rural character is evident in both areas, particularly away from the settlements of Hoveton and Wroxham which display some elements of modern development (boatyards, chalets and busier roads). The perception of the landscape is one of tranquillity and rurality, and due to the potential of solar PV to introduce new uncharacteristic features which may detract from this sense of tranquillity, the areas are judged to have a high sensitivity to solar PV.		
5.Historic landscape character			
	Both areas display characteristics of historic significance. The principal HLC types within both areas are regenerated carr woodland interspersed with freshwater fen and small broads. Areas of 17th century grazing marsh (at Coltishall) and the vernacular of the area's settlement pattern (particularly Horning Conservation Area) are sensitive to solar PV development. This higher sensitivity is due to the potential of solar PV to affect the coherence of this pattern as a result of development land take. Other aspects of historic landscape character sensitive to solar PV are traditional vernacular settlement at Horstead, Belaugh, Woodbastwick, Horning and Crabbett's Marsh. Overall the areas have a high sensitivity to solar PV development.		
6.Visual sensitivities and intervisibility			
	Landscapes of intimate spatial scale and of contained visual character which define much of areas 22 and 23 would have the lowest sensitivity to solar PV in visual terms. However, areas of open fen and grazing marsh which are found at Coltishall and Ranworth have higher sensitivity due to the potential visibility of solar PV in an open landscape. There is some intervisibility with adjacent areas beyond the Executive Area boundary in Broadland District (D3: Coltishall Tributary Farmland, E2: Marsham and Hainford Wooded Estatelands and E4: Rackheath, Salhouse Wooded		

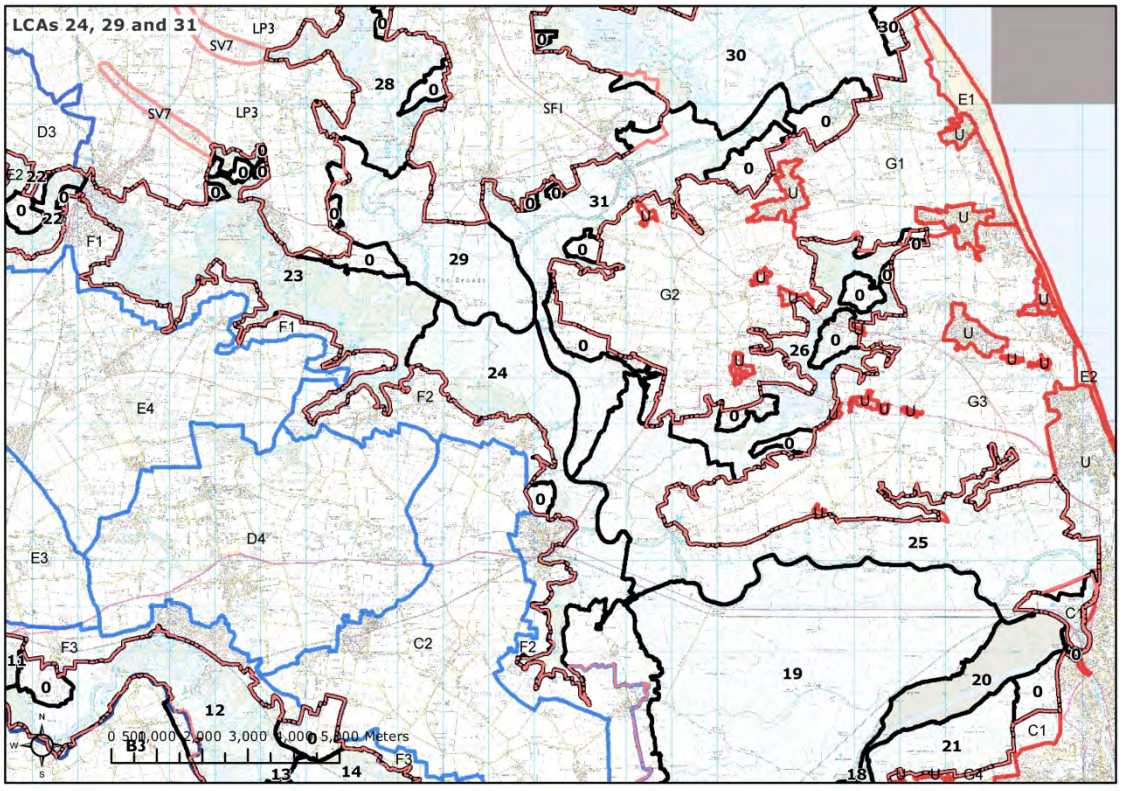
	Estatelands and F1: Wroxham to Ranworth Marshes Fringe) and North Norfolk's LP3: Worstead, Coltishall, Hoveton and Smallburgh Area, which increases sensitivity. Due to this degree of intervisibility with adjacent areas, the areas have potential to be influenced in visual terms by solar PV development and this would indicate overall moderate-high sensitivity to solar PV.
Discussion on landscape sensitivity	This grouping of character areas has a high overall landscape sensitivity to solar PV development. This is due to the representation of special qualities (i.e. sense of tranquillity and diversity of habitats) in the areas which would be sensitive to such development. Also the landscape pattern and scale, historic character and integrity, the sense of remoteness, as well as areas of vernacular settlements. Sensitivity is reduced due to intrusion associated with Hoveton and Wroxham and the ability of this enclosed landscape to screen and filter views. Thus the overall sensitivity judgement is high, taking the above into account.

Sensitivity to different sizes of solar PV development	**Land within the character areas**		**Land outside the Executive Area**	
	Roof mounted requiring planning permission	**H**	Roof mounted requiring planning permission	**M**
	Roof mounted - < 1 hectare	**H**	Roof mounted - < 1 hectare	**M-H**
	Field mounted: Small - < 1 hectare	**H**	Field mounted: Small - <1 hectare	**H**
	Field mounted: Medium - 1 to 5 hectares	**H**	Field mounted: Medium - 1 to 5 hectares	**H**

	Commentary: This grouping of character areas would have a high sensitivity to field and roof mounted solar PV irrespective of size, due to the potential effects on vernacular settlement character and on landscape pattern. As such, sensitivity of both character areas to all types of solar PV would be high overall in landscape terms. ***Landscapes outside the Executive Area*** Relevant character areas and sensitivities are: Broadland District - D3: Coltishall Tributary Farmland: Wide expansive views and uninterrupted skyline although views into the Broads are filtered due to tree cover. E2: Marsham and Hainford Wooded Estatelands: Close to the edges small-scale woodlands and copses reflects its proximity to the Broads. E4: Rackheath, Salhouse Wooded Estatelands: Characteristic northerly views over descending wooded slopes to the Broads, and associated wooded horizon. F1: Wroxham to Ranworth Marshes Fringe: Forms a fringe to the lower-lying flat landscapes of the Broads and has a strong association with the area. North Norfolk - LP3: Worstead, Coltishall, Hoveton and Smallburgh: Closely adjoining and infiltrated by the Broads and contributing to their setting. Fieldwork has confirmed that sensitivity ratings for this area would be the same at the upper end of the typology as those set out for the Broads areas above, although aspects of the landscape may be less sensitive to smaller scale roof mounted solar PV where there is a degree of visual containment. This however would be subject to siting, topography and level of intervisibility. The ridges in these adjacent character areas are visually prominent, as described above and are therefore highly sensitive.

LCA 24: Bure Valley – South Walsham to Acle Marshes and Fens; 29:Ant and Bure Valleys – Ludham, Horning and Neatishead Grazing Marshes; 31: Thurne and Bure Valley – Martham Ferry to Oby

Location and landscape character context



Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities	The three character areas in this grouping all display special landscape qualities which would be sensitive to solar PV. For example area 24 is defined by a wide open landscape of big skies, as is area 29. This and the associated sense of space would potentially be affected by introduction of solar PV development. The diversity of habitat in areas 24 and 31 in particular, as represented by carr woodland, wooded broads at Upton Broad in area 29 and wooded fen at Womack Water in area 31 would also potentially be vulnerable to solar PV land take. All three areas have a sense of tranquillity, which solar PV would affect through development footprint, land take and introduction of additional man made elements – visual intrusion. The fact that all three areas afford riverine access and are well used by recreational boating traffic also indicates a degree of sensitivity due to the interest users have in their landscape. Given the above, the character areas have a high sensitivity to solar PV with regard to special qualities.		
2.Sense of openness / enclosure	The open visual character created by the marshland landscapes in all three areas would be highly sensitive to solar PV in view of the potential for visual intrusion of such structures and impacts on sense of space. Whilst sensitivity in these terms is locally decreased by locations which have a stronger sense of enclosure, such as the wooded landscapes around Upton Broad (area 24) and Womack Water/Horse Fen (area 31), the overall sense is of an open landscape (particularly in area 29), which would be sensitive to solar PV.		
3.Landscape and land cover pattern and scale	Although these three character areas for the most part have a simple character due to the presence of open marshland, much local variation in pattern is evident. This is due to the mosaic of carr woodland and broads at Upton Broad in the southern part of area 24, the subtlety of the dyke pattern and reeded river edges to all three areas and the woodland fringed tributaries and fens (Womack Water/Horse Fen) in area 31. The intricacy of these areas of woodland landscape would be highly sensitive to solar PV development due to the potential effect of development footprint, although these are variations in a landscape of otherwise relatively simple pattern. Overall sensitivity of the area grouping to solar PV is moderate-high.		
4.Perception and experience of the landscape	The tranquil character created in these areas by expansive, open and predominantly undeveloped marshland, and by wooded broads such as Upton Broad and wooded fens at Horse Fen would be highly sensitive to solar PV, due to the perceptual change such structures would introduce. Localised intrusions such as larger buildings outside the Executive Area in Upton and which form part of the southern skyline to area 24, and the Somerton Windfarm which is intervisible with area 29, reduce sensitivity. This is due to introduction of developed elements, although sensitivity is judged moderate-high overall for these three character areas.		
5.Historic landscape character	The small scale early enclosures (17th century and later) created by the network of boundary dykes within all three areas and particularly areas 24 and 29 would be sensitive to solar PV developments due to their potential effect on the coherence of this landscape pattern, and due to the effects of land take. Also sensitive are areas of carr woodland and small scale wooded broads such as area 24 (Upton Broad), for the same reasons. Area 29 possesses some notable scheduled historic archaeological resources which are visually prominent and whose visual and cultural setting would be sensitive to introduction of further development such as solar PV, e.g. St		

	Benet's Abbey. This increases landscape sensitivity in historic terms. Within area 31, remnant medieval landscapes such as Womack Water (former medieval broad) would also be sensitive due to the cohesiveness of the landscape pattern. Given the above, this area cluster has a high sensitivity to solar PV in historic landscape character terms.
6.Visual sensitivities and intervisibility	The areas of open marshland character and the level of intervisibility with adjacent landscapes to the north and south of area 24 and in area 29 (views to farmland within Great Yarmouth Borough to the north and, specific to area 24, to Broadland District to the south) would be highly sensitive to solar PV due to potential issues of visual influence. Intervisibility is less in area 31 (the western part of the area in particular) due to the intermittent blocks of carr woodland to the area's boundaries (including the valley tributaries at Womack Water). However, the more open landscape and visual character to the east creates greater intervisibility with adjacent landscapes in Great Yarmouth Borough and North Norfolk District, and therefore high sensitivity to solar PV in visual terms.
Discussion on landscape sensitivity	Overall landscape sensitivity of this area grouping to solar PV development is high. This is due to the representation of special qualities sensitive to solar PV in these areas, specifically the sense of tranquillity, the wide open landscape, sense of space and big skies which characterise many parts of all three areas. Also the diversity of habitat mosaics in areas 24 and 31, which would be vulnerable to solar PV development footprints. Other important characteristics of these landscapes which contribute to this sensitivity rating in relation to solar PV are the open visual character of the marshland landscapes in all three areas. Also important are the historic landscape pattern, such as small scale rectilinear dykes, medieval broads and Womack Water (area 31) and wooded broads at Upton Broad (area 24), and prominent historic assets such as St Benet's Abbey and causeway within area 29.

Land within the character areas		**Land outside the Executive Area**	
Roof mounted requiring planning permission	**H**	Roof mounted requiring planning permission	**M-H**
Roof mounted - < 1 hectare	**H**	Roof mounted - < 1 hectare	**H**
Field mounted: Small - < 1 hectare	**H**	Field mounted: Small - < 1 hectare	**M-H**
Field mounted: Medium - 1 to 5 hectares	**H**	Field mounted: Medium - 1 to 5 hectares	**H**

Sensitivity to different sizes of solar PV development

Commentary:

Roof mounted solar PV of all sizes in the typology would have the potential to exacerbate impacts on perceptual characteristics of these areas and associated special qualities such as sense of space and tranquillity, and in terms of views and intervisibility. Accordingly, landscape sensitivity of this character area grouping to all solar PV typologies set out in this study, is high.

Landscapes outside the Executive Area

Relevant character areas and sensitivities are:

Great Yarmouth Borough:

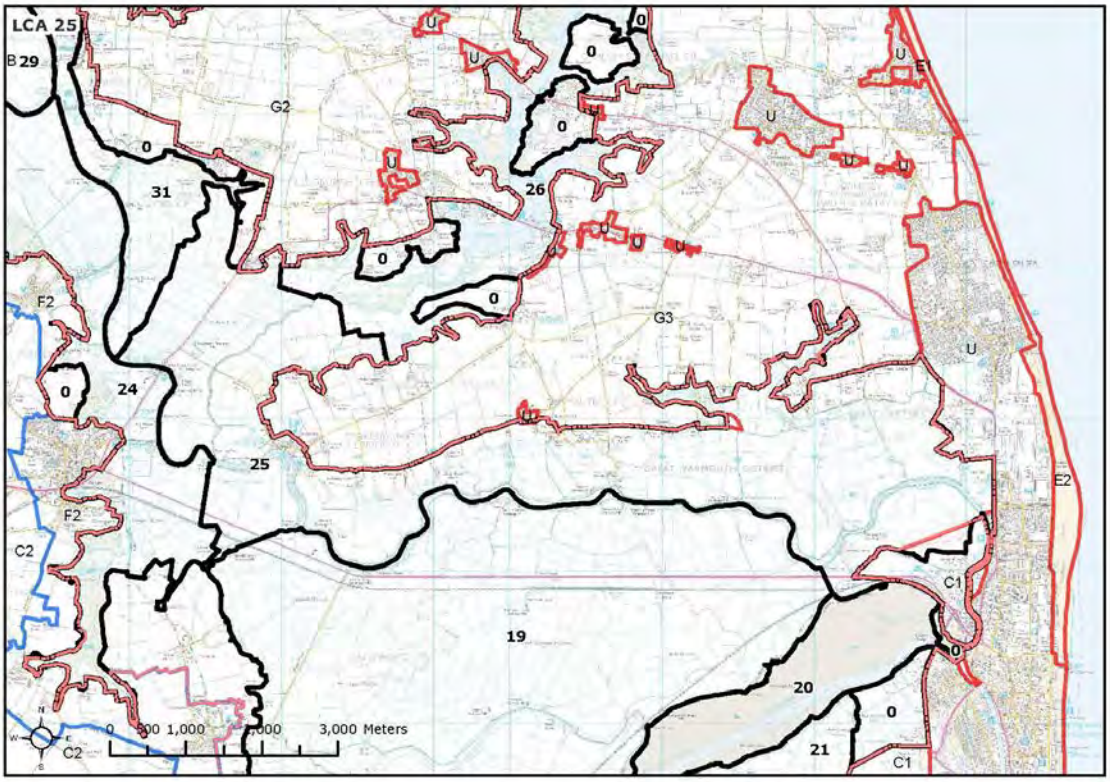
GI East Flegg Settled Farmland: The wooded landscape of the Broads, notably the carr woodlands at Ormesby Broad, forms a prominent backdrop which contains views in that direction.

G2 West Flegg Settled Farmland: Small scale field pattern persists around villages and on the edges of the Broads where woodland and areas of

	parkland occur. Also evident are views across the lowland wetlands of the Broads. G3 Ormesby and Filby Settled Farmland: Shares similar characteristics with the area but views from the Broads are filtered by woodland. Broadland District: C2 Freethorpe Plateau Farmland: Partial views over descending wooded slopes to the Broads, and associated strong but low horizon. D4: Blofield Tributary Farmland: the rising farmland forming the valley side is visually sensitive. F2 South Walsham to Reedham: Horizons wooded in places, but some areas facilitate views over adjacent broads, lowland rivers and marshes. North Norfolk: SF1 Stalham, Ludham and Potter Heigham: The sense of enclosure is increased by the woodland fringe of adjoining Broads. There would be slightly lower landscape sensitivity to smallest scale (roof mounted) and 'in field' solar PV, although this would depend entirely on orientation in relation to the Broads.

LCA 25: Bure Valley – Lower Bure Arable Marshlands

Location and landscape character context



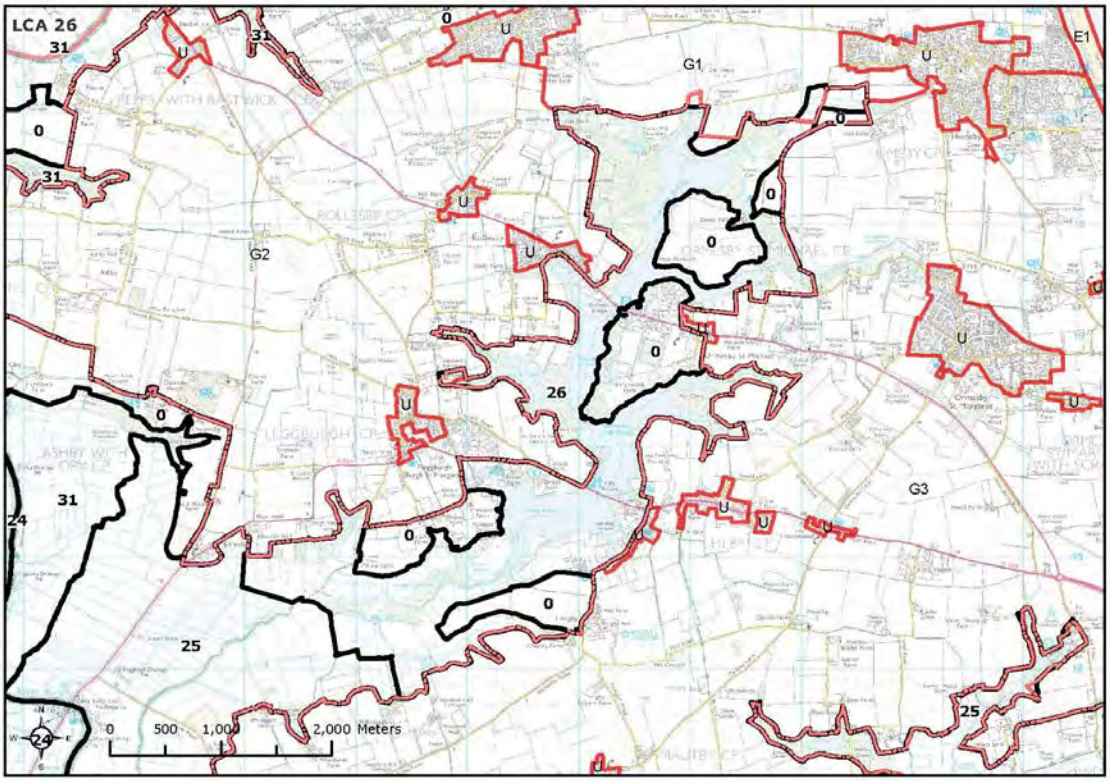
Landscape Sensitivity Assessment for Solar PV Development

Criteria	Lower sensitivity ⟷ Higher sensitivity
1.Scenic and special qualities	This character area displays a number of special qualities which would be sensitive to solar PV, notably the wide open landscape character and big skies and associated sense of space (the perception of which could be altered by land take and infrastructure associated with solar PV). Similarly, the area's remote and empty character (which relates to the special quality 'sense of tranquillity') would also be vulnerable to introduction of solar PV due to land take/footprint, although this would be locally reduced in proximity to the settlement edges at Great Yarmouth and Caister. Taking account of the above, the character area is highly sensitive to solar PV with regard to scenic and special qualities.
2.Sense of openness / enclosure	Much of this landscape is of extremely open character (marshland) and this would be sensitive to solar array development footprints. Local enclosure created by carr woodlands and reed ronds would potentially lower landscape sensitivity, but the overall impression is of an open landscape which would be sensitive to solar PV.
3.Landscape and land cover pattern and scale	The landscape pattern is relatively simple, being defined mostly by large scale rectilinear marshes and arable fields, albeit with localised complexity and variation provided by the presence of carr woodland fringed tributary valleys such as at Caister Castle. The wide bands of reed associated with the course of the Bure create textural variation, whilst human scale elements are introduced by small scale settlement such as Stokesby and also seasonally by sailing boats using the Bure. The generally simple landscape pattern would be less likely to be affected by solar PV development footprints, although elements such as carr woodlands and reed ronds would be more sensitive – moderate sensitivity to solar PV overall in terms of landscape/landcover pattern and scale.
4.Perception and experience of the landscape	The generally tranquil landscape and remote landscape character, and sense of space and openness across much of the area, together with the mostly undeveloped skylines, would be sensitive to solar PV development. This would however be locally reduced in the eastern part of the character area, where the landscape is influenced by large scale coastal settlement edge influences. Overall, the landscape has a high sensitivity to solar PV in perceptual terms.
5.Historic landscape character	Many of the historic landscape types and features of this area have been affected by boundary loss and resultant erosion of landscape pattern. However, historic features of this character area which would be sensitive to solar PV development are areas of small scale vernacular settlement such as Stokesby and the traditional wind pumps, together with the ruins of Caister Castle. These elements locally increase landscape sensitivity to solar PV to moderate-high in historic terms.
6.Visual sensitivities and intervisibility	The expansive nature of views across the area and to the adjacent Halvergate Marshes mean that this landscape is visually sensitive to the introduction of elements such as solar PV (due to development footprint and potential visual impact on sense of openness). This is reinforced by the part intervisibility with adjacent character areas beyond the Broads Authority Executive Area (Great Yarmouth Borough character area G3: Ormesby and Filby Estate Farmland), albeit partly filtered by carr woodland. Given the visual influence on and of the Halvergate Marshes, this landscape character area is highly sensitive to solar PV in visual terms.

Discussion on landscape sensitivity					
	Overall landscape sensitivity to solar PV development is judged to be high. This is in view of the representation of special qualities sensitive to solar PV development, such as the sense of tranquillity, sense of space and the wide open landscape of big skies. The predominantly open and undeveloped skyline character and the level of intervisibility with other remote landscapes such as the Halvergate Marshes are also important to this sensitivity judgement.				
Sensitivity to different sizes of solar PV development	**Land within the character areas**		**Land outside the Executive Area**		
	Roof mounted requiring planning permission	**H**	Roof mounted requiring planning permission	**M-H**	
	Roof mounted - < 1 hectare	**H**	Roof mounted - < 1 hectare	**M-H**	
	Field mounted: Small - < 1 hectare	**H**	Field mounted: Small - < 1 hectare	**M-H**	
	Field mounted: Medium - 1 to 5 hectares	**H**	Field mounted: Medium - 1 to 5 hectares	**H**	
	Commentary: Within the character area, landscape sensitivity to solar PV of all identified typologies would be high, due to the reasons outlined in the overall landscape sensitivity judgement above. As described above, roof mounted schemes of all sizes would have a greater sense of visual prominence in relation to the sense of openness of this character area. ***Landscapes outside the Executive Area*** Relevant landscape characteristics and key landscape sensitivities are: Great Yarmouth Borough G3: Ormesby and Filby Settled Farmland: Panoramic views albeit with carr woodlands providing filtering in relation to the Broads. Whilst the landscape would have slightly reduced (moderate-high) sensitivity in relation to the Broads, to roof mounted and smaller in field (sub 1 hectare) solar PV schemes, siting would be critical in relation to this judgement (avoidance of intervisibility issues in relation to the Broads). Landscape sensitivity to medium scale field solar PV would be higher due to potential impacts on landscape structure which may provide visual foiling in relation to the Broads.				

LCA 26: Muck Fleet Valley and the Trinity Broads

Location and landscape character context



Landscape Sensitivity Assessment for Solar PV Development

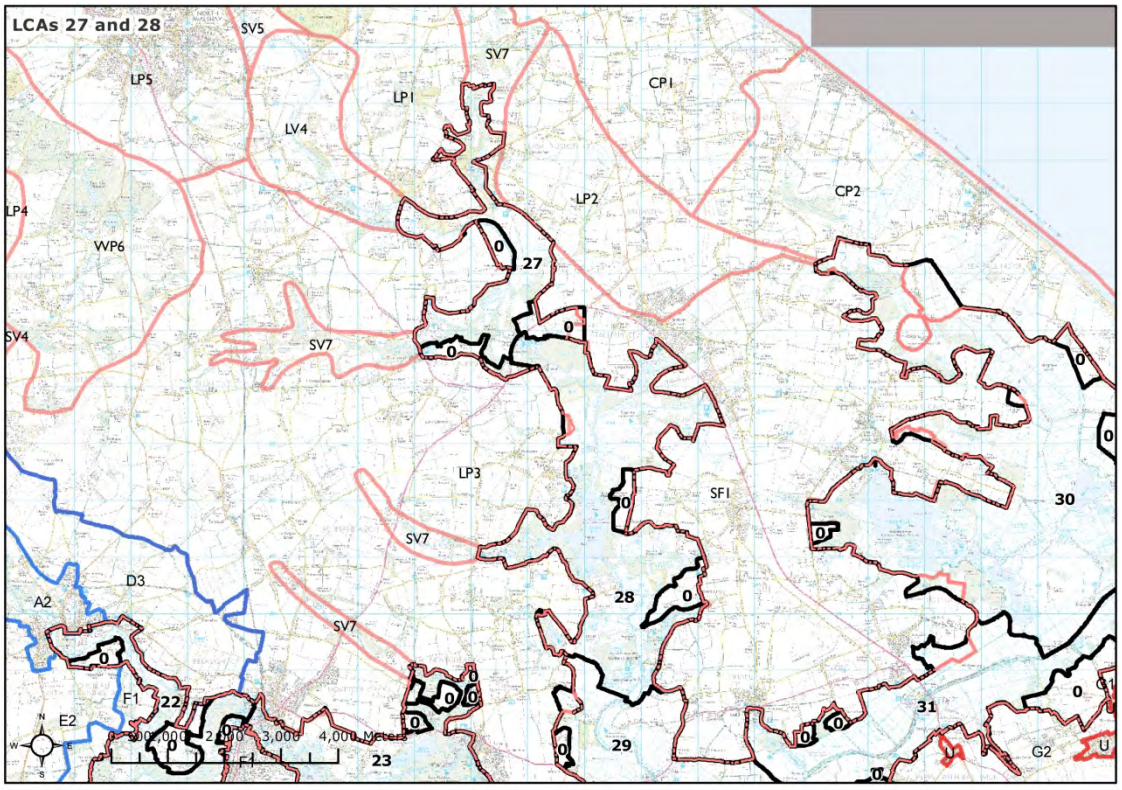
Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities			
	The sense of tranquillity and wildness is reflected in the quiet, rural and largely undeveloped character of this area. This sense of tranquillity would be highly sensitive to the introduction of structures such as solar PV. This because of the effect that such elements could have upon the perception of these special qualities.		
2.Sense of openness / enclosure			
	This landscape has a strong sense of enclosure due to the almost continuous presence of carr woodlands which would mean that solar PV development would not be readily perceived.		
3.Landscape and land cover pattern and scale			
	The richly varied small scale landscape pattern created by waterways, sinuous broads, reed ronds and carr woodland, together with associated fine grain appearance, would be highly sensitive to solar PV, due to the difference in scale and the effect they would have on perception/coherence of this landscape pattern.		
4.Perception and experience of the landscape			
	The relative absence of human influence and the associated tranquil, rural character associated with the experience of this area would be sensitive to the introduction of structures such as solar PV, due to the effect they could have on this perception.		
5.Historic landscape character			
	This area exhibits a number of historic landscape types whose coherence would potentially be affected by solar PV development, and which would therefore be sensitive, such as broads/reservoirs fringed by carr woodland and regenerated carr, and small scattered areas of 17th-20th century rectilinear grazing marsh.		
6.Visual sensitivities and intervisibility			
	A high degree of visual filtering is created by the valley sides and the presence of carr woodlands, which create almost continuous visual foiling and results in very little intervisibility with landscapes beyond the area. This level of visual containment reduces sensitivity to relatively low level structures such as solar PV. Considering the above, this landscape has a moderate-low sensitivity to solar PV in visual terms.		
Discussion on landscape sensitivity			
	Overall landscape sensitivity of this area to solar PV is high. This is in view of the sense of tranquillity and wildness (one of the special qualities of the Broads) of the area which would be sensitive to the introduction of such development. Other aspects important to this sensitivity judgement are the fine grain historic pattern and intricate landscape mosaic, as the coherence of both of these would potentially be affected by solar PV development.		

	Land within the character areas		Land outside the Executive Area	
Sensitivity to different sizes of solar PV development	Roof mounted requiring planning permission	**H**	Roof mounted requiring planning permission	**M-H**
	Roof mounted - < 1 hectare	**H**	Roof mounted - < 1 hectare	**M-H**
	Field mounted: Small - < 1 hectare	**H**	Field mounted: Small - < 1 hectare	**M-H**
	Field mounted: Medium - 1 to 5 hectares	**H**	Field mounted: Medium - 1 to 5 hectares	**M-H**

	Commentary: The landscape of this area would have a high sensitivity to solar PV in all typologies, for the reasons outlined in the overall sensitivity judgements above. ***Landscapes outside the Executive Area*** Relevant landscape character areas and sensitivities: Great Yarmouth Borough - G1: East Flegg Settled Farmland: Fieldwork confirmed the prominence of Somerton Windfarm in addition to the wooded landscape backdrop created by carr woodlands at the Trinity Broads. G2: West Flegg Settled Farmland: Views are punctuated by vertical features such as wind pumps, turbines (Somerton and offshore) with views to and from the Broads, although there is a degree of enclosure associated with the edge of the Broads. G3: Ormesby and Filby Settled Farmland: Panoramic views albeit contained by the wooded backdrop of the Broads. Vertical elements such the turbines at Somerton are visible, and the interface with the wetland landscapes of the Executive Area provide localised textural variation and interest. Views of adjacent character areas are generally filtered from view due to the density of carr woodland at the edges of the Executive Area. Although the sensitivity of these landscapes to solar PV and in relation to the Broads is therefore slightly lower overall (moderate-high), this is entirely dependent on siting with regard to topography and vegetation.

LCA 27: Ant Valley upstream of Wayford Bridge: LCA 28: Ant Valley downstream of Wayford Bridge

Location and landscape character context



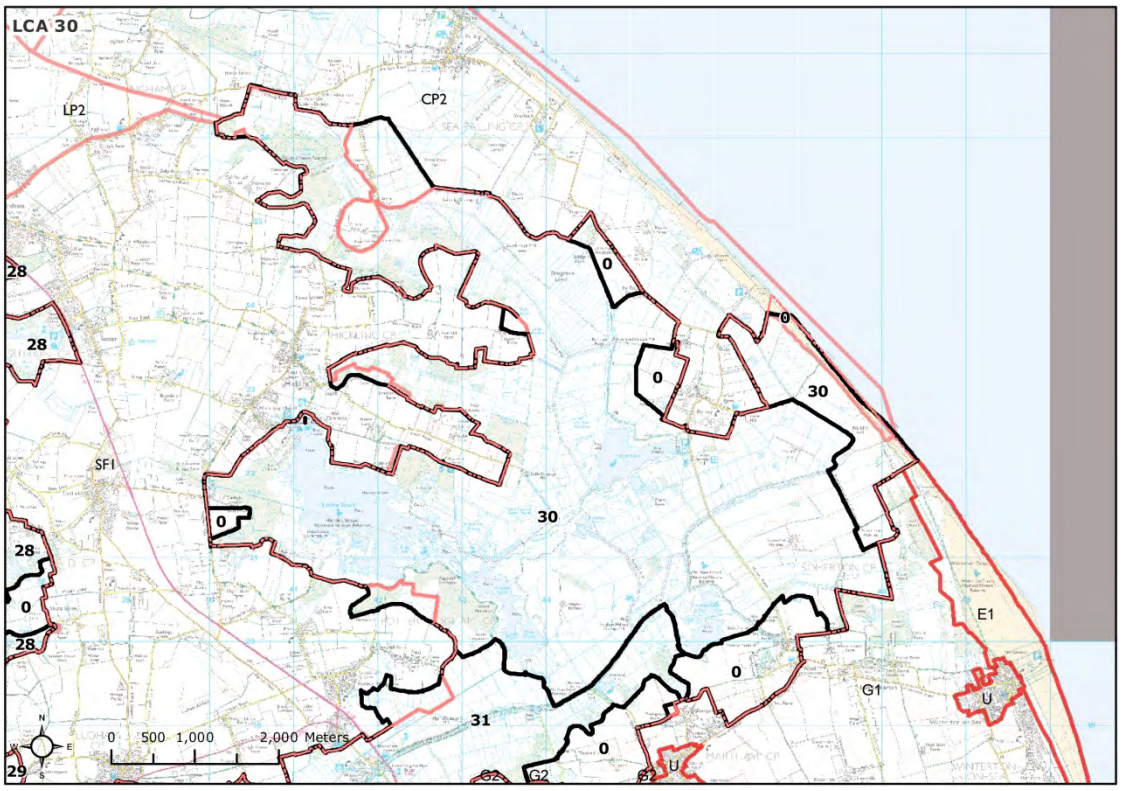
Landscape Sensitivity Assessment for Solar PV Development

Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities			Both areas 27 and 28 have a high proportion of the special qualities which would be sensitive to solar PV development. Specifically these are the diversity of nature and habitats created by juxtaposition of ancient woodland (area 27), carr woodland, fen, marsh and reed ronds, which are all potentially vulnerable to solar PV land take. Also the sense of tranquillity and wildness evident in both character areas, and which could be interrupted by solar PV development.
2.Sense of openness / enclosure			The majority of the landscape of areas 27 and 28 has an intimate and enclosed character which indicates a relatively lower sensitivity to solar PV due to the containment afforded. However areas of open fen and grazing marsh/pasture which appear in both areas 27 and 28 would have a higher sensitivity to solar PV, due to the fact that such development would be more readily perceived in these locations.
3.Landscape and land cover pattern and scale			Both areas 27 and 28 are defined by a fairly complex, intricate landscape pattern which is created by the interplay of woodland/carr woodland, reed ronds, marsh and grazing pasture, fen and open water. Such landscape patterns would be vulnerable to dilution by solar PV development. Whilst parts of area 28 have a larger landscape scale due to the presence of Barton Broad and Sutton Fen to the north east, landscape texture remains intricate throughout and therefore sensitive for the above reasons.
4.Perception and experience of the landscape			A tranquil, rural character is evident in both areas 27 and 28. This is particularly the case in area 28, which, aside from the boatyard at Stalham, displays none of the more modern human interventions and intrusions which affect localised parts of area 27 (e.g. modern settlement edges in parts of Dilham and East Ruston). As such, the landscape of the two areas is highly sensitive overall to solar PV in terms of perception and experience.
5.Historic landscape character			A strong distribution of sensitive historic landscape types is apparent in both areas 27 and 28. For example ancient woodland within area 27 at Potter's Grove, plus areas of freshwater fen and 17th century and later rectilinear grazing marshes of often small scale. Within area 28, the medieval broads and areas of freshwater fen would also be sensitive to solar PV as this could affect the coherence of such features. Other aspects of historic landscape character in area 28 are closely related to human scale indicators which would be sensitive to solar PV, such as areas of small, traditional vernacular settlement at Neatishead, Barton Turf and Irstead.
6.Visual sensitivities and intervisibility			Landscapes of intimate spatial scale and of contained visual character which define much of areas 27 and 28 would have the lowest sensitivity to solar PV in visual terms. However, open fen within area 27 and which have higher intervisibility with adjacent landscapes beyond the Executive Area (North Norfolk landscape character type Coastal Plain CP1/CP2 to the east and the Low Plains Farmland type to the west – area LP1), and small parts of area 28 which are intervisible with North Norfolk District landscape types Settled Fen (area SF1) and Low Plain Farmland (area LP3), would be more sensitive. This would particularly be the case where the skyline is formed by valley sides in these areas. This results in a moderate overall sensitivity to solar PV in visual terms.

Discussion on landscape sensitivity					
	Areas 27 and 28 have a high overall landscape sensitivity to solar PV development in general. This is due to the representation of special qualities in the areas which would be sensitive to such development. Also the landscape pattern and scale, historic character and integrity, the sense of remoteness, and the areas of vernacular settlement in area 28 which would be sensitive to such modern development.				
Sensitivity to different sizes of solar PV development	**Land within the character areas**		**Land outside the Executive Area**		
	Roof mounted requiring planning permission	**H**	Roof mounted requiring planning permission	**M**	
	Roof mounted - < 1 hectare	**H**	Roof mounted - < 1 hectare	**M-H**	
	Field mounted: Small - < 1 hectare	**H**	Field mounted: Small - < 1 hectare	**H**	
	Field mounted: Medium - 1 to 5 hectares	**H**	Field mounted: Medium - 1 to 5 hectares	**H**	
	Commentary: Character areas 27 and 28 would have a high sensitivity to roof mounted solar PV irrespective of size, due to the potential prominence of such structures and potential effects on vernacular settlement character. As such, sensitivity of both character areas to all types of solar PV would be high overall in landscape terms. ***Landscapes outside the Executive Area:*** Relevant character areas and sensitivities are: North Norfolk – CP1/CP2 Coastal Plain: Open, undeveloped skylines are sensitive. LP1 Edingthorpe to Honing Area: Evidence of some intervisibility with the Broads although some larger woodlands provide screening (Bacton and Honing Hall). LP3 Worstead, Coltishall, Hoveton and Smallburgh: The area is intervisible with the Broads landscape with views available from rising valley landform. SF1 Stalham, Ludham and Potter Heigham: Sense of enclosure is increased by the woodland fringe of adjoining Broads. Landscape sensitivity to roof mounted soar PV (which requires planning permission) would be moderate, whilst that to small scale roof mounted solar PV would be moderate high, although this would depend on siting and orientation in relation to the Broads. Due to the visual prominence of the valley landform and topographic features noted above in relation to the Broads, landscape sensitivities to larger scale solar PV are otherwise the same as for the Broads.				

LCA 30: Upper Thurne Open Marsh, Broads and Fens

Location and landscape character context



Criteria	Lower sensitivity	⟷	Higher sensitivity
1.Scenic and special qualities			
	A considerable number of special qualities sensitive to solar PV development are presented in this area. These are namely the sense of tranquillity and wildness created by open marshes and coastal landscapes, and wide open landscape and sense of space evident at Hickling Broad and associated eastern marshes. Perception of tranquillity would be vulnerable to solar PV. Similarly the perception of the wide, open landscape and sense of space would be potentially vulnerable to such structures, hence the high sensitivity rating.		
2.Sense of openness / enclosure			
	The mostly open character of this marshland landscape would be extremely sensitive to solar PV development, due to the potential impact such development would have on the perception of this characteristic of the landscape. Whilst localised enclosure is provided by carr woodland and dunes, the general impression is of openness, which results in a high sensitivity rating to solar PV in these terms.		
3.Landscape and land cover pattern and scale			
	The variation in pattern and texture created by the intricate, fine grain dyke network and the mix of land cover elements such as grazing marsh, arable fields, reed ronds, rush pasture and areas of reed fringed open water create a landscape sensitive to solar PV development. This is in light of the potential impact that land take and footprint could have on such elements, resulting in a high sensitivity to solar PV development in these terms.		
4.Perception and experience of the landscape			
	This landscape is sensitive to solar PV in perceptual terms. This is due to the tranquil rural and part coastal character of this landscape, and the scant presence of modern human development and influence, save for localised intrusions such as Somerton Windfarm and perception of settlement edges in southernmost parts of the area. This is due to the potential of solar PV to introduce further intrusion.		
5.Historic landscape character			
	The area has a distribution of historic landscape types such as peat broad at Hickling and unimproved freshwater fen (including associated small scale landscape mosaic which would be sensitive to solar PV, due to development footprint and the effect that solar PV would have on the coherence of such historic landscapes). This results in a high sensitivity to solar PV in historic landscape character terms. .		
6.Visual sensitivities and intervisibility			
	This is a landscape of mostly open visual character, with expansive views across the more locally elevated 'holmes' and from the Winterton Dunes, and with intervisibility both with the coast and adjacent character areas in Great Yarmouth Borough (G1: East Flegg Settled Farmland) and North Norfolk District (Coastal Plain landscape type – area CP2), with more filtered and framed views into the North Norfolk District Settled Fen landscape type (area SF1). Given the above, the landscape of this area is sensitive in visual terms to solar PV.		
Discussion on landscape sensitivity			
	This character area has a high overall landscape sensitivity to solar PV development in general. This is due to the diversity of special qualities sensitive to solar PV in the area, notably the sense of tranquillity and wildness created by grazing marsh, fen and coastal landscapes, and the wide open character of the landscape and associated sense of space. Other		

	factors which are important in contributing to this sensitivity judgement are elements of historic landscape character such as freshwater fens and windmills, the coherence of which would potentially be vulnerable to introduction of solar PV development footprints. These could also potentially affect elements of landscape pattern in general, such as the intricacy of the dyke pattern. Also the visual character and the extent of visibility across the area and intervisibility with adjacent landscape character areas within Great Yarmouth Borough and North Norfolk District.

Sensitivity to different sizes of solar PV development

Land within the character areas		Land outside the Executive Area	
Roof mounted requiring planning permission	**H**	Roof mounted requiring planning permission	**M-H**
Roof mounted <1 hectare	**H**	Roof mounted <1 hectare	**H**
Field mounted: Small - <1 hectare	**H**	Field mounted: Small - <1 hectare	**M-H**
Field mounted: Medium - 1 to 5 hectares	**H**	Field mounted: Medium - 1 to 5 hectares	**H**

Commentary:

Within the character area, overall landscape sensitivity remains high to all the solar PV typologies defined in this assessment, due to the potential impact of development footprints on intricate landscape patterns and due to the open visual character of the area. This sensitivity judgement is particularly the case in relation to roof mounted solar PV of any scale, due to these reasons and particularly the potential for visual prominence.

Landscapes outside the Executive Area

Relevant character areas and sensitivities are:

Great Yarmouth Borough
G1: East Flegg Settled Farmland: Fieldwork confirmed that the wooded landscape of the Broads, notably the carr woodlands at Ormesby Broad, form a prominent backdrop which contains views.

North Norfolk District
Coastal Plain CP2: Open, undeveloped skylines are sensitive.

Settled Fen SF1: Fieldwork confirmed that filtered views between this area and the Broads are sensitive.

The landscape has a marginally lower sensitivity (moderate-high) in relation to the Executive Area for small scale roof mounted solar PV requiring planning permission, although this is dependent on siting and orientation in relation to intervisibility with the Executive Area. In addition, the landscape has a moderate-high sensitivity to small (sub 1 hectare) field scale solar PV, where this could be contained within field boundaries and in areas of stronger landscape structure, counteracting intervisibility issues. For all other typologies outside the Executive Area, overall landscape sensitivity remains high, due to potential intervisibility and perception issues.