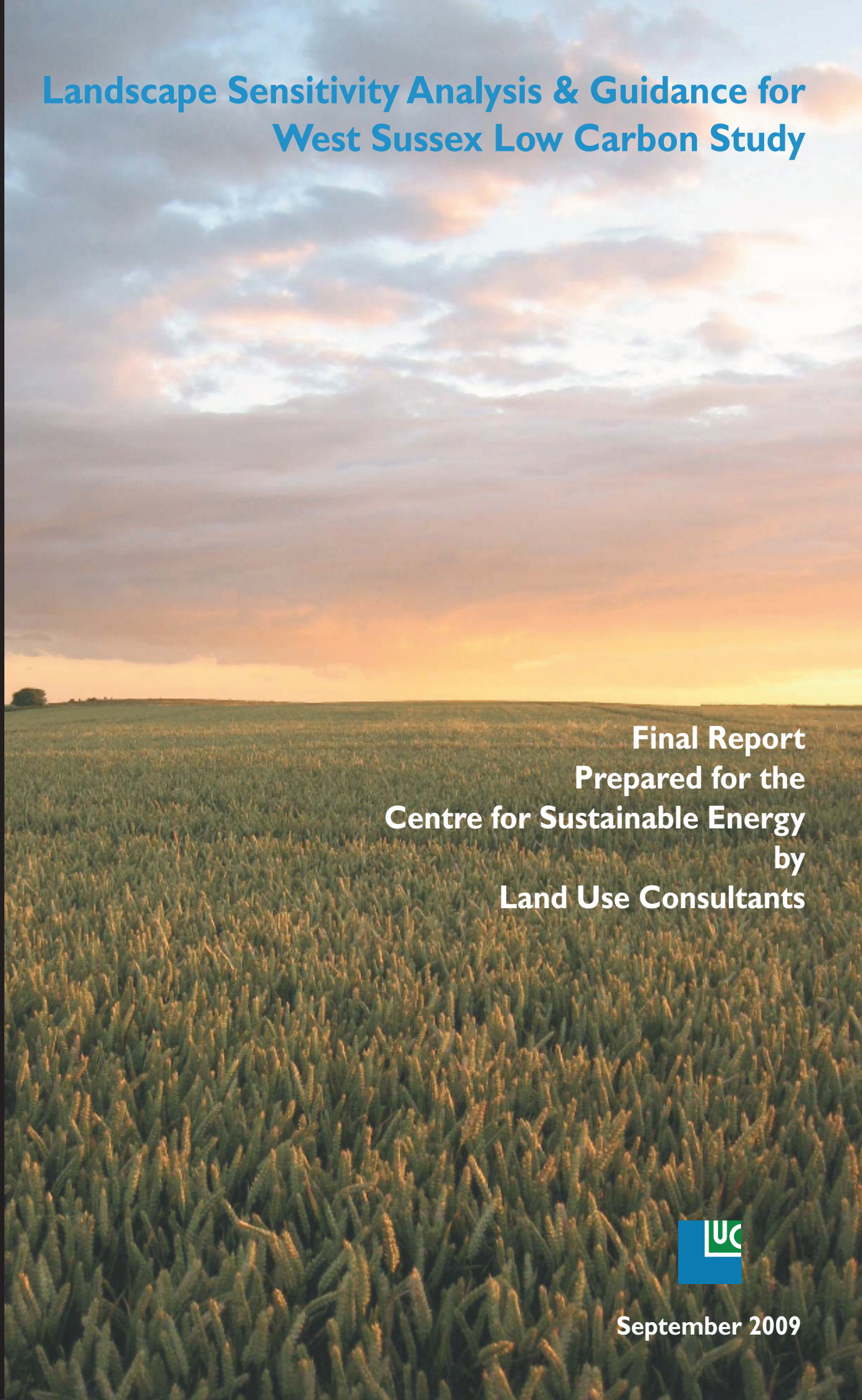
Land Use Consultants

# Landscape Sensitivity Analysis & Guidance for West Sussex Low Carbon Study



**Final Report**
**Prepared for the**
**Centre for Sustainable Energy**
**by**
**Land Use Consultants**

**September 2009**

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# 1. APPROACH TO THE LANDSCAPE SENSITIVITY ANALYSIS & GUIDANCE FOR WEST SUSSEX LOW CARBON STUDY

1.1. This landscape sensitivity study forms part of a wider study to inform the opportunities and spatial planning requirements for renewable and low carbon energy in five West Sussex authorities being led by the Centre for Sustainable Energy.

1.2. A primary reason for undertaking this landscape sensitivity study is that PPS22 notes that planning policies that place constraints on all or specific types of renewable energy should have sufficient reasoned justification.

1.3. The landscape sensitivity assessment is focussed on those technologies that have the potential, in the wrong location, to have significant impact on landscape character – namely wind energy developments and biomass planting. However generic guidance on other renewable energy techniques has also been provided.

***Wind energy developments***

1.4. Three different scales of wind energy developments have been considered as follows:

- small scale turbines (under 25m to blade tip) that are likely to be proposed by consumers and businesses interested in generating their own renewable energy (i.e. microgeneration);
- medium scale turbines (25-90m to blade tip) that may be proposed by larger consumers and businesses, form part of neighbourhood scale renewable schemes, or form part of a commercial enterprise; and
- commercial scale wind turbines (usually in the region of 90-125m to blade tip) that are likely to be proposed by the wind industry.

1.5. All turbines are assumed to be the standard horizontal-axis 3 bladed type like the one shown below.

***Biomass planting and harvesting***

1.6. The two most common types of biomass planting have been considered - short rotation coppice and miscanthus crop. The assessment has also considered the harvesting operations associated with both crops, but not the biomass plant building which is addressed in the generic guidance in Chapter 3.

1.7. Miscanthus is a woody rhizomatous grass species which originated in SE Asia and was initially imported to Europe as an ornamental. It is a perennial plant that is propagated by rhizomes with an estimated productive life of 15 years. It grows to 3-4 m in height and the stems and leaves can be harvested annually.

1.8. Short Rotation Coppice (SRC) consists primarily of densely planted, high yielding varieties of willow, and occasionally poplar planted as 20cm stem cuttings and harvested every three years. The rootstock or stool is left in the ground and after each harvest new shoots emerge, as in traditional coppice. It is currently expected that an SRC plantation should be viable for up to 30 years before it needs replanting.

1.9. Miscanthus is harvested every year - each plantation will grow from clear fell to 4 metres in height each year. Miscanthus harvesting requires typical forage harvesters and the window for optimum harvesting is much wider than for SRC. With SRC there will be several age classes at different heights which can reduce the uniformity of the crop. The window of availability for harvesting SRC in the UK is relatively small.

*Miscanthus*

*SRC Willow*

*Harvesting SRC (courtesy of Strawsons Energy)*

## Approach to Landscape Sensitivity Assessment

1.10. There is currently no agreed method for evaluating sensitivity or capacity of different types of landscape. However, the approach taken in this study builds on current guidance published by the Countryside Agency and Scottish Natural Heritage including the Landscape Character Assessment Guidance[1] and Topic Paper 6 that accompanies the Guidance[2], as well as LUC's considerable experience from previous and ongoing studies of a similar nature.

1.11. Para 4.2 of Topic Paper 6 states that:

'*Judging landscape character sensitivity requires professional judgement about the degree to which the landscape in question is robust, in that it is able to accommodate change* ***without adverse impacts on character****. This involves making decisions about whether or not significant characteristic elements of the landscape will be liable to loss... and whether important aesthetic aspects of character will be liable to change*'

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

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

1.12. In this study the following definition of sensitivity has been used:

**Sensitivity is the extent to which the character of the landscape is susceptible to change as a result of the proposed renewable energy generation.**

1.13. This landscape sensitivity assessment is based on an assessment of landscape character using carefully defined criteria, and assumes that it is desirable to conserve existing landscape character (as set out in existing landscape strategies for the study area).

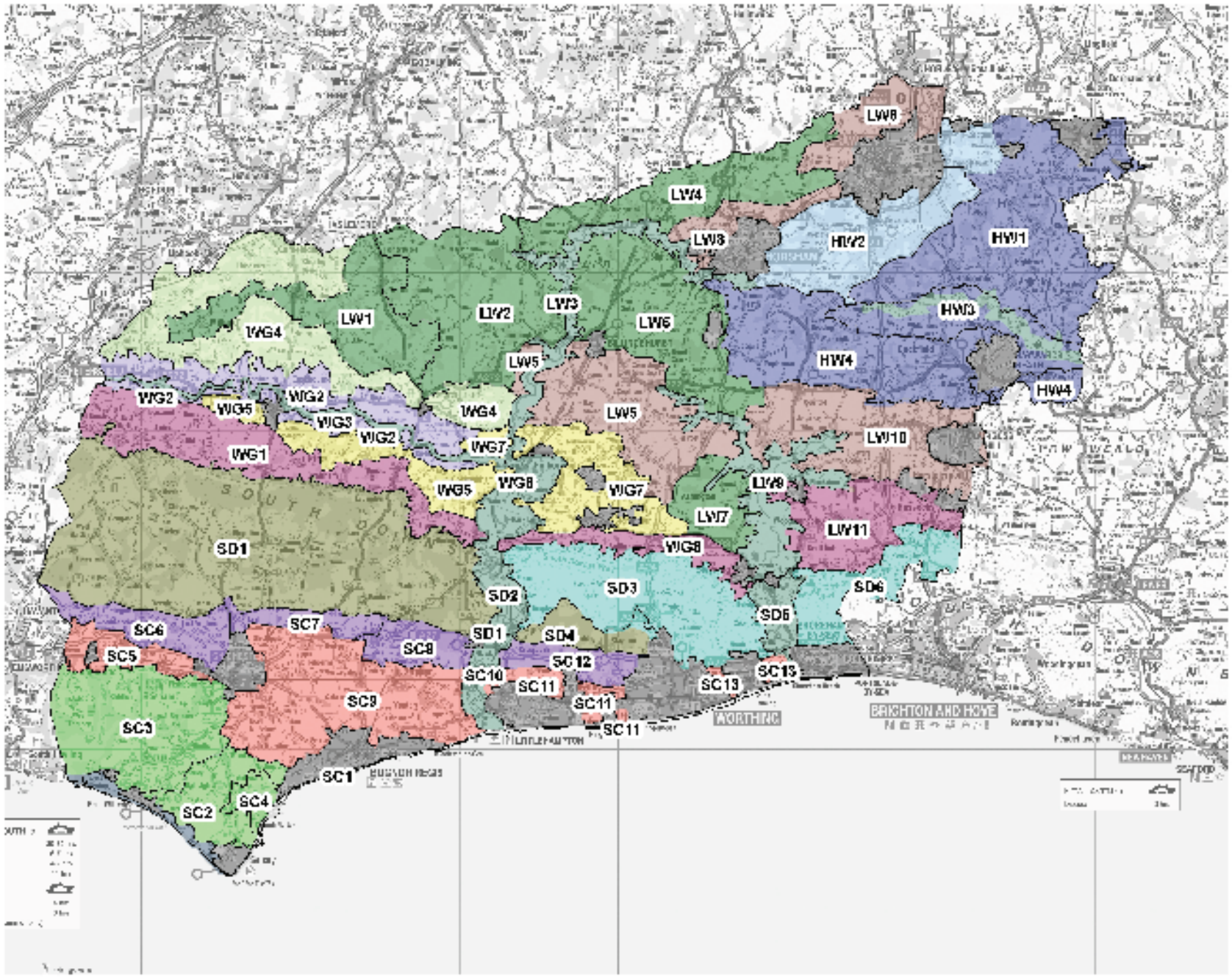
### Landscape Character Baseline

1.14. Since landscape character forms the basis of the approach to the landscape sensitivity assessment, this work is based on the data contained in the West Sussex Character Project. The West Sussex Character Project divides the County into 16 landscape types and 42 landscape character areas. **Figure 1.1** shows the location of landscape character types/areas across the study area.

1.15. This sensitivity assessment has been carried out at the type level, breaking the assessment down into character areas where necessary. In most cases there is a great degree of consistency between character areas of the same landscape type giving rise to the same levels of sensitivity, however in the case of Chichester Harbour/Manhood Peninsula and the River Valleys the types have been broken down into character areas for the assessment of sensitivity. **Table 1.1** details the landscape types assessed, their component character areas, local authorities they fall within and presence or otherwise within a designated landscape.

1.16. The assessment also draws on information contained within the protected area landscape character assessments and management plans. Within the High Weald AONB the landscape character assessment has been superseded by the AONB Management Plan 2004, reviewed 2009. **Figure 2.1** shows the designated landscapes in the study area in relation to landscape character areas.

# Figure 1.1: West Sussex Landscape Character Types and Areas

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***WEST SUSSEX SUSTAINABLE ENERGY STUDY 2009***

## Legend

County Character Areas

Landscape types

- A Coastal Foreshores
- B Coastal Harbours
- C Open Coastal Plain
- D Enclosed Coastal Plain
- E Wooded Downs
- F Open Downs
- G Scarp Landslopes
- I Mixed Farmland/Woodland Patch Mosaic
- I Sandy Arable Farmlands
- J Wooded Ridges
- K Undulating Wooded Farmlands
- L Clay Vale Farmlands
- M Wooded Ridges and Valleys
- N Forest Plateau
- O River Valleys
- T Urban Areas

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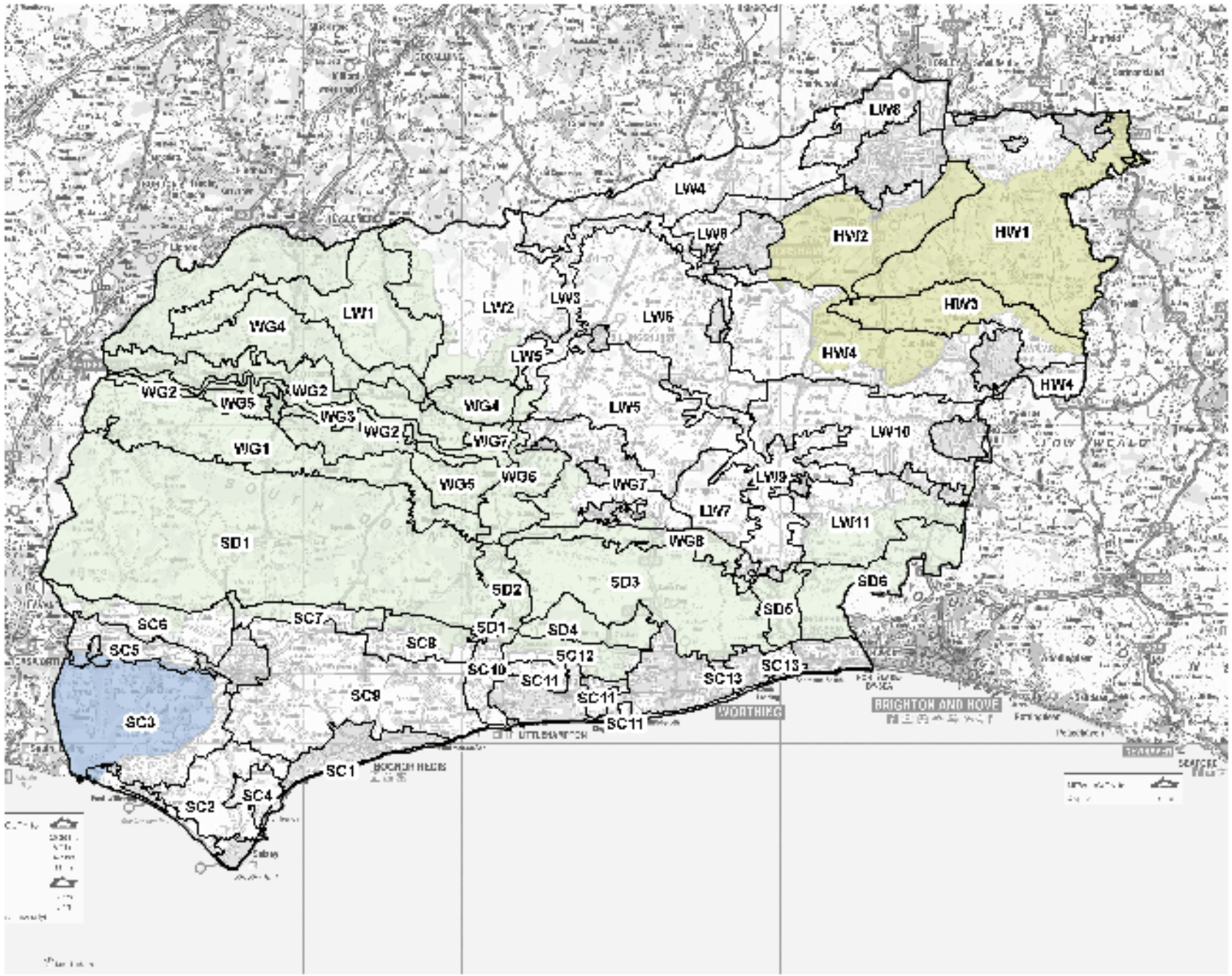
# Figure 1.2: Landscape Designations in relation to Landscape Character Areas

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***WEST SUSSEX SUSTAINABLE ENERGY STUDY 2009***

## Legend

- County Character Areas
- South Downs National Park
- Chichester Harbour AONB
- High Weald AONB

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**Table 1.1: Landscape types forming the basis of the sensitivity assessment**

| Landscape Type | Component Character Areas | District / Authority | Part / all within a designated landscape |
|---|---|---|---|
| A: Coastal Foreshores | SC1: South Coast Shoreline | Chichester | Small part of SC1 in Chichester Harbour AONB |
| B: Coastal Harbours and Peninsulas | SC2 Manhood Peninsula<br>SC3 Chichester Harbour<br>SC4 Pagham Harbour | Chichester<br>Arun | SC3 almost entirely within the Chichester Harbour AONB boundary |
| C: Lower Coastal Plain | SC5 Southbourne Coastal Plain<br>SC9 Chichester to Yapton Coastal Plain<br>SC11 Littlehampton & Worthing Fringes<br>SC13 Worthing & Adur Fringes | Chichester<br>Arun<br>Worthing<br>Adur | Very small part of SC5 in Chichester Harbour AONB |
| D: Upper Coastal Plain | SC6 Ashlings Upper Coastal Plain<br>SC7 Halnaker Upper Coastal Plain<br>SC8 Fontwell Upper Coastal Plain<br>SC12 Angmering Upper Coastal Plain | Chichester<br>Arun<br>Worthing | Northern parts of these areas in South Downs National Park |
| E: Wooded Downs | SD1 Western Downs<br>SD4 Angmering Park | Chichester<br>Arun<br>Adur | Entirely within South Downs National Park |
| F: Open Downs | SD3 Central Downs<br>SD6 Eastern Downs | Arun<br>Worthing<br>Adur<br>Mid Sussex | Entirely within South Downs National Park |
| G: Scarp Footslopes | WG1 Western Scarp Footslopes<br>WG8 Central Scarp Footslopes<br>LW11 Eastern Scarp Footslopes | Chichester<br>Horsham<br>Mid Sussex | All of WG1 and WG8 and part of LW11 within South Downs National Park |

| Landscape Type | Component Character Areas | District / Authority | Part / all within a designated landscape |
|---|---|---|---|
| H: Mixed Farmland/Woodland/Heath Mosaic | WG5 Rother Woods and Heaths<br>WG7 Storrington Woods & Heaths | Horsham | WG5 mostly within South Downs National Park<br><br>Small part of WG7 in South Downs National Park |
| I: Sandy Arable Farmlands | WG2 Rother Farmlands | Chichester | Entirely within South Downs National Park |
| J: Wooded Ridges | WG4 North Western Ridges | Chichester | Entirely within South Downs National Park |
| K: Undulating Wooded Farmlands | LW1 North Western Valleys<br>LW2 North Western Low Weald<br>LW4 Low Weald Hills<br>LW6 Central Low Weald<br>LW7 Wiston Low Weald | Chichester<br>Horsham | LW1 entirely within South Downs National Park<br><br>LW2 partly within South Downs National Park |
| L: Clay Vale Farmlands | LW5 Southern Low Weald<br>LW8 Northern Vales<br>LW10 Eastern Low Weald | Chichester<br>Horsham<br>Mid Sussex<br>Crawley | None |
| M: Wooded Ridges and Valleys | HW1 High Weald<br>HW4 High Weald Fringes | Mid Sussex<br>Horsham | HW1 mostly within High Weald AONB<br><br>HW4 partly within High Weald AONB |
| N: Forest Plateau | HW2 High Weald Forests | Mid Sussex<br>Horsham | Mostly within High Weald AONB |

| | | | |
|---|---|---|---|
| O: River Valleys | SC10 Lower Arun Valley<br>SD2 Downland Arun Valley<br>SD5 Downland Adur Valley<br>WG6 Arun Wildbrooks<br>LW3 Upper Arun Valley<br>LW9 Upper Adur Valley<br>HW3 Ouse Valley<br>WG3 Rother Valley | Chichester<br>Horsham<br>Arun<br>Adur<br>Mid Sussex | Northern tip of SC10 in South Downs National Park<br><br>SD2 and SD5 entirely within South Downs National Park<br><br>WG6 entirely within South Downs National Park<br><br>Southern tip of LW3 in South Downs National Park<br><br>HW3 mostly within High Weald AONB<br><br>WG3 entirely within South Downs National Park |

## Assessment Criteria

1.17. The assessment recognises that some aspects of the landscape may be more susceptible to change as a result of wind energy development or energy crops. Criteria for determining landscape sensitivity to wind turbines and energy crop planting (including harvesting operations) are based on attributes of the landscape most likely to be affected by their development. These are detailed in **Tables 1.2 and 1.3** for both wind energy and energy crops (including harvesting operations).

**Table 1.2: Criteria for Assessing Landscape Sensitivity to Wind Turbines**

| **Landscape Sensitivity Assessment Criteria** | | | |
|---|---|---|---|
| **Characteristic/ attribute** | **Aspects indicating lower sensitivity to wind energy development** | ⟷ | **Aspects indicating higher sensitivity to wind energy development** |
| Wind Turbines | | | |
| Scale | Large scale[3] | ⟷ | Small scale[4]<br>Human scale indicators[5] |
| Landform | Absence of strong topographical variety<br>Featureless, convex or flat | ⟷ | Presence of strong topographical variety or distinctive landform features |
| Landscape pattern and complexity | Simple<br>Regular or uniform | ⟷ | Complex<br>Rugged and irregular |
| Settlement and man-made influence | Concentrated settlement pattern[6]<br>Presence of contemporary structures e.g. utility, infrastructure or industrial elements | ⟷ | Dispersed settlement pattern<br>Absence of modern development, presence of small scale, historic or vernacular settlement |
| Skylines | Non-prominent /screened skylines<br>Presence of existing modern man-made features | ⟷ | Distinctive, undeveloped skylines<br>Skyline that are highly visible over large areas or exert a large influence on landscape character<br>Skylines with important historic landmarks |
| Inter-visibility with adjacent landscapes | Little inter-visibility with adjacent sensitive landscapes or viewpoints | ⟷ | Strong inter-visibility with sensitive landscapes<br>Forms an important part of a view from sensitive viewpoints |
| Perceptual aspects (sense of remoteness, tranquillity) | Close to visible or audible signs of human activity and development | ⟷ | Physically or perceptually remote,<br>peaceful or tranquil |

[3] Large scale landscapes may include, for example, the large scale rolling hills of Scotland or open Fenlands in the east of England where an absence of features makes it difficult to perceive scale.

**Table 1.3: Criteria for Assessing Landscape Sensitivity to Energy Crops & Harvesting**

| **Landscape Sensitivity Assessment Criteria** | | | |
|---|---|---|---|
| **Characteristic/ attribute** | **Aspects indicating lower sensitivity to energy crops & harvesting development** | ⟷ | **Aspects indicating higher sensitivity to energy crops & harvesting** |
| Energy Crops and Harvesting Operations | | | |
| Landform | Flat landform – less opportunity to view the geometric crops in plan form, and from a distance | ⟷ | Steep landform – increased opportunity to view the geometric crops in plan form, and from a distance |
| Landscape pattern | Simple, large scale | ⟷ | Complex or small scale e.g. historic field patterns |
| Enclosure | Enclosed landscapes with short views | ⟷ | Open landscapes with long views |
| Land cover/ land use and sense of 'naturalness' | Existing cropping systems (Miscanthus)<br>Large scale rectilinear field systems (Miscanthus)<br>Woodland and forestry (Short Rotation Coppice (SRC) | ⟷ | Pastoral landscapes<br>Semi-natural landcover<br>Unenclosed landscapes e.g. coasts and moorlands |
| Inter-visibility with adjacent landscapes | Little inter-visibility with adjacent sensitive landscapes or viewpoints | ⟷ | A landscape over-looked by sensitive viewpoints |
| Perceptual aspects (sense of remoteness, tranquillity) | Close to visible or audible signs of human activity or existing harvesting operations | ⟷ | Physically or perceptually remote,<br>peaceful or tranquil |

1.18. It is the combination of the criteria that determines landscape sensitivity – some criteria might be weighted more heavily in some landscapes, for example if they contribute strongly to character. This weighting process forms part of the sensitivity judgement and the reasoning is set out in the third column of the sensitivity tables.

[4] Small scale landscapes may include, for example, landscapes with small scale field patterns or including small scale elements.
[5] Human scale indicators are those landscape features that provide some indication of human scale in the landscape, for example domestic dwellings or trees.
[6] Concentrated settlement refers to larger urban areas of concentrated development.

## Undertaking the Landscape Sensitivity Assessment

1.19. The above criteria have been used to assess the sensitivity of each landscape character type to wind energy development and energy crops/harvesting operations.

1.20. Since the study area contains a number of landscape designations (South Downs National Park, Chichester Harbour AONB and High Weald AONB), consideration has also been given to the fundamental characteristics[7] or special qualities[8] of the landscapes that underpin these national designations, as described in their Management Plans. The following text boxes highlight the special qualities of the South Downs National Park and Chichester Harbour AONB, and the fundamental characteristics of the High Weald AONB [NB attributes in bold are those that are particularly relevant to the assessment criteria for wind developments and biomass]:

**South Downs National Park – special qualities** (from pages 30-32 of the South Downs Management Plan 2008-2013)

- A range of unique, distinctive but interlinked landscapes, from the open flowing downland of the eastern South Downs to the magnificent estates of the central South Downs, the landscape mosaic of Western Downs, the complexity of the Greensand, and the intimate wooded landscapes of the Low Weald. A landscape of different 'places' each with their own distinct identity but interlinked visually and culturally.
- A **dramatic and distinctive topography** that reflects the diversity of underlying geology, including the dramatic north-facing Chalk scarp of the South Downs, which forms the horizon for thousands living in the central Weald; the double scarp of the Chalk and Greensand stepping eastward off the Hampshire Downs; the whale–back ridges, coombes and dry valleys of the South Downs; the steeply incised river valleys that cut north-south through the Chalk; and the rugged Greensand Hills, which include the highest point in the protected landscape.
- **Strong skylines** on the downland and Greensand Hills with a sense of elevation, expansive views and big open skies.
- A contrast between **expansive open downland** and **intimate wooded landscapes**, with the open smooth curving downland of the eastern South Downs contrasting with the densely wooded character of the central South Downs, Greensand, and Weald, which together have nearly 30% woodland cover including **extensive tracts of ancient woodland**.
- A collection of habitats of international importance, including remaining **ancient chalk grassland** – the defining habitat of the South Downs; remnant **flood-plain pastures of the river valleys** of which the best known is Amberley Wildbrooks; the chalk rivers of the Meon and Itchen; the **lowland heathlands of the Greensand**; the magnificent '**hanging' woodlands of the Chalk scarp and Upper Greensand**; and the **coastal habitats** found between Seaford and Eastbourne.
- A landscape imbued with history, with the very surface etched with the effects of human habitation over millennia, including internationally important archaeological sites; **funerary monuments; ancient field systems** and settlements; differing forms of field enclosure reflecting different periods in history; **ancient sunken lanes** and **trackways**; **water meadows** and **dewponds**; and more recent reminders of the last two World Wars, with the South Downs having a deep-rooted association with the allied invasion forces of the Second World War.
- A **serene and peaceful landscape** providing the opportunity to enjoy peace and quiet and the natural sounds of the countryside, with 26%6 of the protected area classified as either **very tranquil or remote** in the last Tranquil Areas study undertaken in 1997.

[7] Fundamental characteristics that contribute to the natural beauty of the High Weald AONB are described in the High Weald AONB Management Plan (adopted March 2004)

[8] The 'special qualities' of the landscape of Chichester Harbour are listed in the Chichester Harbour AONB Management Plan 2009-2014 and the 'special qualities' of the South Downs are described in the South Downs Management Plan (2008-2013).

- An unspoilt landscape, which across much of its area retains a timeless quality, **lacking the intrusion of modern or inappropriate development**.
- Villages and towns of the highest architectural quality that provide an important complement to the landscapes within which they sit, displaying a range of vernacular styles, from the flints of the Chalk and surrounding area to the brick and sandstones with clay hung tiles of the Greensand and Weald.
- A concentration of **estates and designed parklands** of the highest quality in the central South Downs and on the Greensand, including Goodwood, Cowdray, Uppark, Stanmer Park and Petworth Park, which bring a distinct character to the landscape with their ancient trees, sweeping deer lawns and distinctive tree clumps and estate plantings.
- A range of iconic places that are part of the national consciousness from Alfriston in East Sussex and Selborne the home of the naturalist Gilbert White in Hampshire to Beachy Head and the Jack and Jill Windmills at Clayton West Sussex.
- The resources of air, soil and water which provide the basic building blocks of the natural world. Of particular value within the South Downs are the ground waters of the Chalk and Greensand aquifers, which feed the chalk streams and rivers of the Downs and are a vital source of drinking water for the urban areas of the South Coast plain.
- A very **accessible countryside**, with no less than 3,200 km of public rights of way including the South Downs
- Way National Trail and 15 regional walking routes, linking to a complex of country lanes and new access land provided under the Countryside and Rights of Way Act 2000.
- An area offering immense attractions for recreation with over 39 million leisure trips made to and within the South Downs (2003) (26). This figure is greater than the number of visits to any of the current National Parks in England, and is testimony to the area's enduring attraction and easy accessibility to the highly mobile population of the South East. From visitor surveys it is clear that a primary reason for these visits is the natural beauty of the area as a source of spiritual refreshment and inner peace.

**High Weald AONB – fundamental characteristics** (from p.3 of the AONB Management Plan, 2nd Edition adopted March 2009)

- Geology, landform, water systems and climate: **deeply incised, ridged and faulted landform** of clays and sandstone. The ridges tend east-west, and from them spring numerous gill streams that form the headwaters of rivers. **Wide river valleys** dominate the eastern part of the AONB. The landform and water systems are subject to, and influence, a local variant of the British sub-oceanic climate.
- Settlement: **dispersed historic settlements** of farmsteads and hamlets, and late medieval villages founded on trade and non-agricultural rural industries.
- Routeways: ancient routeways (now roads and Rights of Way) in the form of ridge-top roads and a dense system of radiating droveways. The droveways are often narrow, deeply sunken, and edged with trees, hedges, wildflower-rich verges and boundary banks.
- Woodland: the **great extent of ancient woods, gills, and shaws** in small holdings, the value of which is inextricably linked to long-term management.
- Field and heath: **small, irregularly shaped and productive fields** often bounded by (and forming a mosaic with) hedgerows and small woodlands, and typically used for **livestock grazing; small holdings; and a non-dominant agriculture**; within which can be found distinctive zones of **heaths** and **inned river valleys**.

These fundamental characteristics of the High Weald AONB are enriched by locally distinctive and nationally important details. These include castles, abbeys, historic parks and gardens; **hop gardens and orchards**; oast houses and parish churches; **veteran trees**, a rich and varied biodiversity, and local populations of key threatened species.

**Chichester Harbour AONB – special qualities** (from page 10 of the Chichester Harbour AONB Management Plan 2009-2014)

- The unique blend of land and sea - especially the combination of **large open water areas, narrow inlets and intimate creeks**, threatened by climate change, rising sea levels and inappropriate development.
- The **frequently wooded shoreline** - these are narrow fringes sandwiched between rising sea levels and intensively farmed land, many have their roots already immersed in salt water and have only a limited life left.
- The **flatness of the landform**, unusual among AONBs, accentuates the significance of sea and tide and of **distant landmarks across land and water**. Inappropriate development intrudes into the landscape, seen from long distances, and detracts from the historical features of interest.
- The open water of the central area of the Harbour is a microcosm of the open sea beyond the harbour mouth, reflecting the clouds and sky, the wind and rain.
- An overall **sense of wilderness** within the seascape. The **naturalness** that creates this sense is very dependent on maintaining natural processes and avoiding the dominance of man-made influences and structures.
- Particularly strong historic character and associations. These links with our cultural heritage are not always properly understood and could be used to highlight the importance of protecting the landscape which provides their setting.
- Picturesque harbourside settlements. Careful control of development is required if these harbourside villages are not to lose their character. The trend towards large extensions and rebuilds creates a more urban feel to the landscape.
- **Wealth of flora and fauna**, notably the vast flocks of wading birds, adds to the richness and diversity of the landscape Chichester Harbour is internationally important for its many species and habitats and these must be given priority for protection. The health of the landscape can be measured by the biodiversity the Harbour offers. Surveys and monitoring of species and habitats form a vital part of ensuring the continued well-being of the AONB.
- The **unspoilt character** and unobtrusive beauty. It is important that visitors to the Harbour understand and value its special qualities. The promotion of these special qualities should concentrate on raising visitor's awareness rather than attracting greater numbers.
- The harbour offers a very special sense of **peace and tranquillity**, largely engendered by the gentle way it is used and the closeness to nature that is experienced. Pollution, particularly light and noise, can easily destroy this fragile value as can inappropriate activities.

1.21. The landscape sensitivity assessment began with a desk based assessment using the West Sussex Landscape Character Assessment (2003), supplemented by the landscape character assessments relating to protected landscapes and districts[9] (where available), and using Google Earth as a tool to view the landscape. Information on special qualities was recorded for designated landscapes. Fieldwork was then undertaken to verify the results and add information that was not readily available from the desk based study.

1.22. The landscape strategy for each landscape type (from the West Sussex landscape assessment) also helped to inform the levels of landscape sensitivity to each type of renewable.

1.23. The sensitivity score was based on the following definitions set out in **Table 1.4**:

[9] South Downs Integrated Landscape Character Assessment (2005), Chichester Harbour AONB Landscape Character Assessment 2005, Horsham District Landscape Character Assessment (2003).

**Table 1.4: Definitions of Sensitivity**

| Sensitivity Level | Definition |
|---|---|
| **High** | Key characteristics of the landscape are highly vulnerable to change from the type of renewable energy being assessed. Such development would result in a significant change in character. |
| **Moderate-high** | Key characteristics of the landscape are vulnerable to change from the type of renewable energy being assessed. There may be some limited opportunity to accommodate the renewable energy development without changing landscape character. Great care would be needed in locating turbines/energy crops (as applicable). |
| **Moderate** | Some of the key characteristics of the landscape are vulnerable to change from the type of renewable energy being assessed. Although the landscape may have some ability to absorb some development, it is likely to cause some change in character. Care would be needed in locating turbines/energy crops (as applicable). |
| **Moderate-low** | Few of the key characteristics of the landscape are vulnerable to change from the type of renewable energy being assessed. The landscape is likely to be able to accommodate turbines/energy crops (as applicable) with only minor change in character. Care is still needed when locating turbines/energy crops to avoid adversely affecting key characteristics. |
| **Low** | Key characteristics of the landscape are robust and would not be adversely affected by the turbines/energy crops (as applicable). The landscape is likely to be able to accommodate turbines/energy crops (as applicable) without a significant change in character. Care is still needed when locating turbines/energy crops to ensure best fit with the landscape. |

## Presentation of Results

1.24. The results have been presented in a tabular form, in four columns as follows:

- **1st column**: landscape attributes of the landscape type/character area;
- **2nd column**: special qualities (for areas that fall within designated landscapes);
- **3rd column**: sensitivity judgement and key landscape attributes that would be sensitive to the development of the technology concerned;
- **4th column**: guidance on the factors that are causing this sensitivity and where/ how the technology can be located to minimise adverse impacts.

1.25. A separate comment has also been provided for both wind and bioenergy crops regarding cumulative issues.

1.26. In this format the columns provide a logical sequence by linking the sensitivity 'score' and guidance back to the landscape's key attributes and special qualities. Sensitivity has been determined by identifying which of the landscapes' key attributes and special qualities would be susceptible to change resulting from wind energy developments.

### Limitations

1.27. While this assessment provides an initial indication of the relative landscape sensitivity of different areas to wind turbine development and energy crops and their harvesting operations, it should not be interpreted as a definitive statement on the suitability of a particular landscape for a particular development.

1.28. This landscape sensitivity assessment is based on an assessment of landscape character using carefully defined criteria, and assumes that it is desirable to conserve existing landscape character (as set out in existing landscape strategies for the study area). The landscape sensitivity assessment is unrelated to any Government targets.

1.29. This landscape character sensitivity assessment is based on key characteristics of the landscape across West Sussex and does not cover ecological issues associated with nature conservation designations or bird flight paths, cultural heritage/archaeological issues associated with designated sites, issues such as the suitability of land for the growth of particular crops, or visual amenity issues associated with particular viewpoints and viewers – these are issues that will also need to be taken into account at the time when individual proposals are being put forward.

# 2. RESULTS OF THE SENSITIVITY ANALYSIS FOR WIND TURBINES AND BIOENERGY CROPS

2.1. **Table 2.1** presents a summary of results from the sensitivity analysis – the full results are presented in **Appendix 1**.

**Table 2.1 Summary of Results from the Sensitivity Analysis**

| Landscape Types and Component Character Areas | Large scale wind turbines (90-125m) | Medium scale wind turbines (25-90m) | Small scale wind turbines (under 25m) | Miscanthus crop | Short Rotation Coppice crop |
|---|---|---|---|---|---|
| A: Coastal Foreshores (Area SC1) | High | Moderate-high (moderate in man-modified areas) | Moderate-high (moderate in man-modified areas) | High (moderate-high in farmland areas away from the foreshore) | High |
| B: Coastal Harbours and Peninsulas (Area SC2) | Moderate-high | Moderate | Moderate-low | Moderate | Moderate |
| B: Coastal Harbours and Peninsulas (Areas SC3 and SC4) | High | High | Moderate-high | High (moderate-high on farmland fringes) | High (moderate-high on farmland fringes) |
| C: Lower Coastal Plain (Areas SC5, SC9, SC11 and SC13) | High | Moderate-high | Moderate | Moderate | Moderate-high |
| D: Upper Coastal Plain (Areas SC6, SC7, SC8, SC12) | High | Moderate-high | Moderate | Moderate-low | Moderate-low |
| E: Wooded Downs (Areas SD1 and SD4) | High | High | Moderate-high | Moderate | Moderate |
| F: Open Downs (Areas SD3, SD6) | High | High | Moderate-high on dipslope High on scarp | Moderate-high on dipslope High on scarp | Moderate-high on dipslope High on scarp |
| G: Scarp Footslopes (Areas WG1, WG8, LW11) | High | High | Moderate-high | Moderate-low | Moderate |
| H: Mixed Farmland/Woodland/Heath Mosaic (Areas WG5, WG7) | High | Moderate-high | Moderate | Moderate-high | Moderate |
| I: Sandy Arable Farmlands (Area WG2) | Moderate-high | Moderate-high | Moderate | Moderate | Moderate |

| Landscape Types and Component Character Areas | Large scale wind turbines (90-125m) | Medium scale wind turbines (25-90m) | Small scale wind turbines (under 25m) | Miscanthus crop | Short Rotation Coppice crop |
|---|---|---|---|---|---|
| J: Wooded Ridges (Area WG4) | High | High | Moderate-high | Moderate-high | Moderate |
| K: Undulating Wooded Farmlands (Areas LW1, LW2, LW4, LW6) | High | Moderate-high | Moderate | Moderate | Moderate |
| L: Clay Vale Farmlands (Areas LW5, LW8, LW10) | Moderate-high | Moderate | Moderate-low | Moderate | Moderate |
| M: Wooded Ridges and Valleys (Areas HW1, HW4) | High | Moderate-high | Moderate | Moderate-high | Moderate |
| N: Forest Plateau (Area HW2) | High (except for conifer planted plateau/M23 where sensitivity reduces to Moderate-high) | Moderate-high | Moderate | Moderate-high | Moderate |
| O: River Valleys (Area SC10) | Moderate-high | Moderate | Moderate-low | Moderate | Moderate |
| O: River Valleys (Areas SD2, SD5) | High | High | Moderate-high | Moderate-high | Moderate-high |
| O: River Valleys (Area WG6) | High | High | Moderate-high | Moderate-high | Moderate-high |
| O: River Valleys (Areas LW3, LW9, WG3, HW3) | High | High | Moderate-high | Moderate-high | Moderate-high |

2.2. The results illustrate that most of the landscapes in West Sussex have a high sensitivity to large scale wind turbines (i.e. this scale of turbine could not be accommodated without changing character). This is because of the human scale of the landscapes, the rural/tranquil qualities of much of the area, and the proximity of many areas to designated landscapes with high scenic quality.

2.3. Landscapes also have a relatively high sensitivity to medium scale wind turbines (in the region of 25-90m to tip) because the landscapes of West Sussex are relatively small in scale (for example as compared to those landscapes in Scotland and Wales). Lower sensitivity areas tend to be located in large scale landscapes which are already man-modified e.g. the Manhood Peninsula and the Lower Arun Valley. These results

indicate that a strategy to accept character change in some areas may be needed if large/medium scale wind is to contribute to renewable electricity generation in the study area. This is likely to be most acceptable in the least sensitive landscapes. Also see note on cumulative impact below.

2.4. There is generally lower sensitivity to small turbines under 25m to tip across the study area, due to the human scale of the landscape and the presence of scattered development – this type of wind turbine could form part of farm complexes or business developments.

2.5. There is variable sensitivity to Miscanthus crop across the study area – the more pastoral and open landscapes (e.g. the Open Downs and Coastal Harbours) are particularly sensitive to the crop while more enclosed areas that already contain arable crops have a lower sensitivity – for example the Upper Coastal Plain, Scarp Footslopes, Undulating Wooded Farmlands and Clay Vale Farmlands.

2.6. Sensitivity to short rotation coppice depends on the sense of enclosure and presence of existing woodland/ cropped areas. Many landscapes in West Sussex are well wooded and could therefore integrate some short rotation coppice without substantially changing character, for example the Upper Coastal Plain. This sensitivity study considers sensitivity to planting of new SRC rather than harvesting the existing resource – of course it will be more beneficial in landscape terms to bring existing woodlands back into coppice management (where coppicing is a traditional management technique) before planting new SRC as a crop, although SRC might be considered where it assists in creating a critical mass that helps stimulate the management of existing woodland.

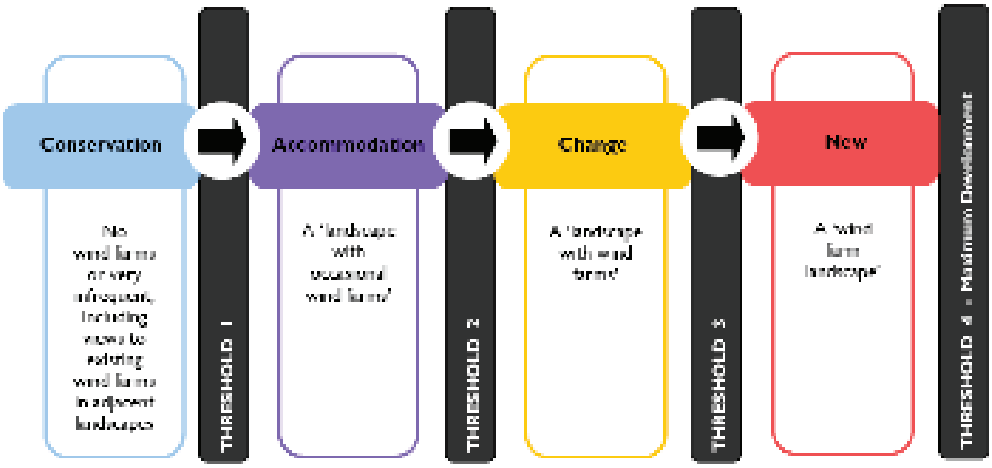
### A Note on Cumulative Impacts Relating to Wind

2.7. Planning policy and the development control process can be used to guide renewable energy proposals so as to either keep them apart to avoid cumulative issues, or to cluster them in certain parts of the landscape to avoid development in more valued areas. A note on cumulative impacts relating to wind energy development is included for each landscape type. This indicates that, in larger scale landscapes that do not lie within designated areas, for example the Lower Coastal Plain (away from the Chichester Harbour AONB) and the Lower Arun Valley, it might be beneficial to have fewer larger turbines rather than a larger number of smaller turbines to minimise cumulative effects. This might also be the case on the top of the conifer planted Forest Plateau. However, in many of the other landscapes a larger number of smaller scale turbines (associated with built development) are likely to be more suitable than fewer larger turbines due to the scale of the landscape and scattered form of development. It will also be important that adjacent turbines/ wind farms respect each other in terms of scale and design to minimise cumulative impacts.

2.8. Since medium and large scale wind turbines are likely to result in a change in character of any landscape within West Sussex, if medium and large scale turbines are to contribute to renewable energy production a policy decision will need to be made as to whether to accept landscape change in some areas. In order to illustrate this, **Figure 2.1** shows, theoretically, how the relationship between different thresholds

of landscape change resulting from commercial wind farm development can vary with different landscape objectives or strategies.

**Figure 2.1: Diagrammatic representation of the relationship between different thresholds of landscape change and landscape objectives**




## A Note on Cumulative Impacts Relating to Bioenergy Crops

2.9. A note on cumulative impacts relating to bio-energy crops is included for each landscape type. This indicates that, although there may be some opportunity for incorporating bioenergy crops into the landscape, many landscapes would become progressively more sensitive to large scale planting. Areas that could absorb greater amounts of the crop than others include the Upper Coastal Plain and Scarp Footslopes. One way to minimise cumulative impacts is to aim for irregular patterns of planting rather than blanket planting across many adjacent fields.

## Climate Change and Landscape Change in West Sussex

2.10. When considering the impact of renewable energy generation technologies on landscape character, it is important to recognise that climate change itself will result in changes to our landscapes.

2.11. The 2008 West Sussex Climate Change Strategy[10] suggests that for West Sussex, climate change probably means that average temperatures will increase and summers will become hotter and drier, creating greater pressure on water resources. Winters are likely to become milder and wetter which, when combined with rising sea levels means there will be an increase in flood risk and coastal erosion. In addition to pressure on water resources, increased flood risk and coastal erosion, some of the impacts of climate change which might affect the area's landscapes:

[10] West Sussex Environment Strategy 2008, prepared by Ecotec for West Sussex County Council, approved January 2008. Accessed online at: http://www2.westsussex.gov.uk/environment/Environment_Strategy/ES01_10Introduction_Index.pdf

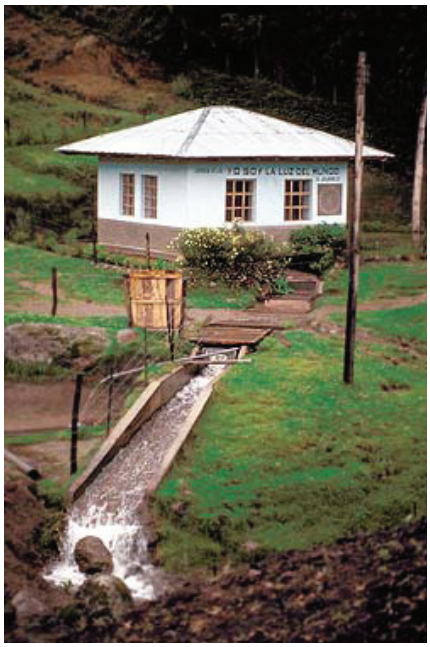
- changes to the growing season, temperature and water availability, which will result in a change in the types of crops farmers can grow in the future;
- increases in flooding, storm damage and coastal erosion affecting the coastlines and character of low lying coastal areas of West Sussex;
- fragmentation and loss of species and habitats, and resultant changes to landscape character;
- water shortages in summer and low river flows, changing the character of West Sussex's river valley landscapes.

# 3. GENERIC GUIDANCE FOR OTHER RENEWABLE TECHNOLOGIES

3.1. For the other renewable technologies (e.g. small scale hydro, biomass plants, energy from waste plants, district heating infrastructure, ground source heat pumps, solar voltaics/solar thermal, building mounted micro wind and forestry/arboricultural residues) generic guidance is provided below. Descriptions and photographs of renewable technologies were provided by the Centre for Sustainable Energy (lead consultants on the project).

### Small scale hydro

3.2. Small scale hydro plants (typically up to 100kW) are all similar in appearance in that they consist of a small enclosure or building, typically about the size of garage or small house, located by a water course and in which a turbine and associated equipment is located. An electricity connection is required, which can be visible if routed overground but can also be hidden underground. Small scale hydro plants in the UK are often located at existing water mill sites, which have been refurbished with a modern turbine generator system.



*Small scale hydro plant*

*Small scale hydro plant at an old mill site*

3.3. Some landscapes will be able to accommodate hydro schemes more easily than others. For example, where rivers are lined with trees it would be possible to conceal hydro schemes.

3.4. The following general guidelines for identifying potential locations for small scale hydro in West Sussex have been developed on the basis of field observations:

- Aim to site hydro schemes in rivers lined with trees where they may be concealed more easily.
- Consider restoration of old water mill sites for hydro power.
- Use local materials for weirs and built structures. Utilise the existing structures and locations relating to past water-powered industry in the area where possible.
- Use should be made of existing features such as weirs, sluices, locks and mill buildings to create a head of water and to house hydro plant and pipes etc. Where possible schemes should incorporate the restoration of historic water features such as weirs, mill ponds, millraces or leats, hammer ponds, sluice gates, tailrace outlets and derelict mill buildings.
- Integrate pipes (penstocks) into the landscape - consider burying pipes (in areas where vegetation is likely to successfully re-establish), or colouring pipes to relate to the shades and hues of the surrounding landscape through the seasons.
- In more open landscapes open channels (leats) may be more appropriate than pipes (penstocks).
- In some locations it is important to screen the modern structures associated with hydro schemes from view, while in other locations the hydro scheme could be a feature of tourist, educational or industrial interest, perhaps relating to the history of an old mill, or to the modern use of an industrial site.
- Where possible, structures relating to hydro schemes should be located on banks with existing development or built structures.
- Archaeological surveys should be undertaken when considering the restoration of historic mills to ensure any important features are protected from the impacts of any new development or excavation.
- Integrate turbine housing into the landscape through careful siting, use of landform (for example partially buried buildings), green roofs, use of existing vegetation or trees, and use of local materials/ architectural features.
- Only use vegetation screening in areas within which vegetation cover is characteristic.
- It will be important to ensure that the construction of a weir will not reduce water levels downstream to the detriment of local amenity and sites of nature conservation importance.
- Aim for a high standard of design in all cases, but particularly in visible locations.
- Ensure fencing is appropriate to the surroundings - stock fencing is more appropriate than industrial style fencing in rural locations.
- Minimise hard surfacing and formal planting associated with any hydro scheme to ensure successful integration into the rural landscape.

- Consider the appearance of hydro schemes in longer distance views, particularly in views from the higher ground and along valleys.
- Ensure structures do not adversely impact on the ecological value of the semi-natural habitats, or the high historical value of industrial features and remains.
- Ensure structures do not adversely impact on the character and appearance of Conservation Areas or the setting of Scheduled Ancient Monuments and Listed Buildings.
- Incorporate environmental and landscape improvements into the development, for example restoration of natural riverside habitats, or replacing riparian woodland in the vicinity of the proposed development.

### Biomass plants

3.5. Smaller scale plants are often incorporated in existing buildings but new stand-alone boiler houses are also common due to the increased space requirement for the larger boilers (when compared to gas or oil equivalents), fuel store and delivery requirements. A flue is required with the height being dependent on size of plant and proximity to buildings. Plants range in size from domestic scale up to multi-MW and are usually combustion plants using conventional boiler technology.

*Small scale wood fired boiler plant*

3.6. The following general guidelines for identifying potential locations for biomass plants in West Sussex have been developed on the basis of field observations:

- Avoid locating installations in prominent locations such as on exposed skylines.
- Use woodland to screen plants where possible.
- Ensure existing landmarks (for example church towers and spires) remain prominent and that installations do not detract from them.
- Ensure installations are not prominent in key views.
- Ensure installations do not affect the historical value of industrial features and remains, or the ecological value of semi-natural habitats.

- Ensure installations do not adversely affect the character and appearance of any Conservation Areas, or the setting of Scheduled Ancient Monuments and Listed Buildings.

- Suitable materials should be used to facilitate the integration of structures with their surroundings, for example, the cladding of buildings and finish colour.

### Energy from waste

3.7. Energy recovery from waste (EfW) provides a double environmental benefit - firstly, the diversion of waste from landfill and, secondly, the recovery of energy, displacing fossil fuel alternatives and reducing greenhouse gas emissions. Waste falls into two main categories: municipal waste from the domestic sector and industrial/commercial waste.

3.8. Waste to energy conversion technologies include incineration, gasification, pyrolysis and anaerobic digestion. Plants can generate electricity, or both electricity and heat (Combined Heat and Power); the generated heat can also be used for to drive a cooling process (Combined Cooling, Heat and Power).

3.9. Energy plants vary in their appearance depending on technology and scale, but normally comprise one or more buildings (can be several storeys high) to house equipment and sufficient surrounding space to accommodate waste transfer vehicles and deliveries. Incineration, gasification and pyrolysis plants are more common at the larger scale and will also incorporate a chimney of varying height depending on the scale of the plant. Anaerobic digestion is more common at the smaller scale and is normally used to process food and agricultural waste.

*Wanlip waste to energy plant (1.4 MWe)*

*Farm scale anaerobic digestion plant*

3.10. The following general guidelines for identifying potential locations for energy from waste plants in West Sussex have been developed on the basis of field observations:

- There may be opportunities for accommodating small scale anaerobic digester plants on or adjacent to existing farm buildings or on existing waste sites.
- Plants may be accommodated in existing commercial/industrial areas or on existing waste sites - avoid locations with no large or modern buildings nearby.
- Make use of existing screening features such as trees, shelterbelts and woodlands.
- Buildings that do not protrude above tree top level can be effectively screened by trees.
- Avoid areas where access will be a problem.
- Suitable materials should be used to facilitate the integration of structures with the surroundings, for example cladding of buildings and finish colour.
- Use should be made of existing business parks and industrial yards, particularly where the energy generated can be used by the adjacent industries.
- Environmental and landscape improvements should be incorporated into the development to avoid potential losses to the quality of the environment. These may include restoration of natural habitats, or replacing hedges and tree plantations in the vicinity of the proposed developments.

### District Heating Infrastructure

3.11. CHP plants are often used to supply a district heating network which consists of a series of underground pipes connecting a variety of buildings, both domestic and non-domestic. Once installed, the network is not visible above ground.

*Installation of district heating pipes under road*

3.12. District heating should be laid alongside existing linear features e.g. roads and paths where possible, and avoid disturbing ground which would be difficult to restore e.g. unimproved grasslands and semi-natural habitats.

### Ground source heat pumps

3.13. Heat pumps are normally used to heat or cool buildings by using the external ambient temperature of the ground or air. Ground source heat pumps consist of a heat pump unit located inside a building and a length of pipe buried in the ground, either in vertical boreholes or horizontal trenches. Once installed, the system is not visible from outside the building.

*Trenched ground loop for ground source heat pump*

3.14. As for district heating infrastructure, the laying of pipes linked to ground source heat pumps should avoid disturbing ground which would be difficult to restore e.g. unimproved grasslands and semi-natural habitats.

### Solar voltaics/solar thermal

3.15. Solar photovoltaic (PV) and solar thermal systems usually comprise of one or more flat modules or panels mounted on roofs or building façades having an unshaded southerly aspect. Freestanding systems (i.e. independent of buildings) are less common in the UK but are mainly small-scale systems used for powering remotely-located specialist equipment such as road signs or meteorological stations.

3.16. PV systems can be retrofitted to the existing building shell or integrated within the building fabric on new developments. Systems can take the form of panels, tiles/shingles or form part of bespoke façades. Most are coloured blue but are also available in different colours and designs depending on the material. Semi-transparent panels are often used for atriums, canopies or façades to allow light to enter a building.

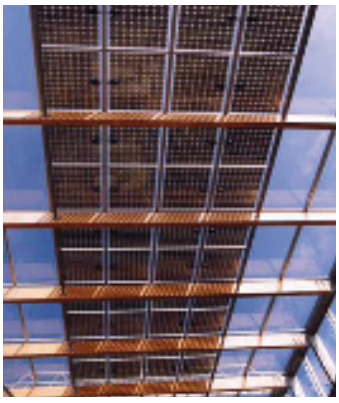
3.17. Solar thermal 'collector' systems comprise of flat panels or a series of evacuated tubes and, like PV, can be mounted on an existing building shell or integrated within the building fabric on new developments.

3.18. For PV, one or more electronic inverter control boxes form part of the system; these are usually located inside the building. For solar thermal, a hot water storage tank is required, also located inside the building.

*PV roof shingles*

*Retrofit PV panels*

*Solar thermal panel*



*Semi transparent panels*

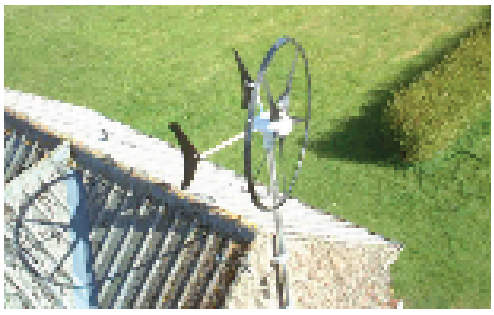
3.19. Solar units on buildings have a 'modernising' effect on character. The following general guidelines for identifying potential locations for solar installations in West Sussex have been developed on the basis of field observations. They do not relate to assessment of individual buildings:

- solar units on listed buildings or in conservation areas should not adversely affect the reasons for their designation;
- consideration should be made of building materials, in particular colour, texture, and reflectivity of roofing materials, which may contrast with the solar panels;
- consideration should be made of the impact of reflective solar panels on long distance or elevated views (e.g. from the South Downs), including the potential cumulative impact of these;
- on old, vernacular buildings such as cottages, farmhouses and field barns solar units may be integrated successfully into rear or side elevations and outbuildings less visible from public view or as free standing ground-mounted structures;

- public buildings such as community halls and schools may be suitable - solar installations may illustrate the community's or school's proactive approach to renewable energy;
- newly built or modern buildings (20th century) can more successfully accommodate solar installations;
- industrial or business buildings are likely to be suitable, given their usually modern architecture;
- modern agricultural buildings may be suitable, as they have large roof areas of metallic materials. However, reflectivity of solar units should be considered.
- old stone field barns are less suitable, due to the contrast in age, material and style;
- buildings with skylights or dormers are more likely to be suitable for solar than other buildings, such as churches, which do not normally have these features, although solar may be accommodated with careful siting;
- the public facing roofs of picturesque rural village main streets or squares may be more sensitive to the introduction of solar units which may alter the character of the settlement;
- flat roof buildings may provide opportunities for solar units, either laid flat or supported at an angle;
- views from adjacent buildings should also be considered;
- scale should be considered (scale of units in relation to the roof area);
- some traffic signs are now available with small solar panels to power lights, these should be used where possible, subject to the guidance above.

### Building mounted micro wind

3.20. Micro-scale wind usually describes building-mounted or rooftop wind turbines up to 6kW. There are two main types: horizontal axis and vertical axis. For best performance, they need to be located in positions with sufficient wind speeds i.e. usually found in rural areas or tall buildings. The turbines usually project several meters above the roofline.



*Horizontal axis rooftop turbine (1kW)*

*Vertical axis rooftop turbine (6kW)*

3.21. Wind turbines on buildings may have a 'modernising' effect on character. The following principles will apply:

- on old, vernacular buildings such as cottages, farmhouses and field barns turbines should be integrated onto parts of the building that are less visible from public view;
- turbines on listed buildings or in conservation areas should not adversely affect the reason for their designation;
- public buildings such as community halls and schools may be suitable - installations may illustrate the community's or school's proactive approach to renewable energy;
- newly built or modern buildings (20th century) can successfully accommodate micro wind generation units;
- industrial or business buildings are likely to be suitable, given modern architecture;
- the public facing roofs of picturesque rural village main streets or squares may be more sensitive to the introduction of micro wind generation units which may alter the character of the settlement;
- views from adjacent buildings should also be considered;
- scale should be considered (scale of units in relation to the size of the building);
- some traffic signs are now available with small micro wind generation units, these should be used where possible, subject to the guidance above.

### Forestry/arboricultural residues

3.22. These resources can be used as woodfuel in biomass CHP or heat-only plants. They include various forms of wood sourced from the sustainable management of woodland and from wood processing operations. Fully exploiting this resource is therefore likely to result in areas of unmanaged woodland being brought back into management.

3.23. Normal forestry management activities are used to sustainably extract the wood resource such as brashing, topping, thinning, etc. Whole tree harvesting for wood fuel is rarely considered to be environmentally sustainable or economically viable. Arboricultural residues are mainly sourced from urban parks, street trees and other urban work typically undertaken by tree surgeons.

3.24. Wood processing usually involves cutting, handling and chipping equipment. In forestry work, logs are often left in situ to dry before collection at a later date. Wood is then usually chipped and stored locally to its end use i.e. on or near the site of an energy plant (see above guidance relating to energy plants).

*Storage of logs in woodland*

*Wood chipping in operation*

3.25. The following principles should apply to any exploitation of the existing woodland resource in West Sussex from a landscape perspective (of course any exploitation of the woodland resource will also need to take account of biodiversity impacts):

- seek opportunities to bring woodlands back into management using traditional woodland management practices characteristic of the local area e.g coppicing in West Sussex;

- seek opportunities to remove conifers from Planted Ancient Woodland Sites (PAWS) and replant with other more suitable species;

- proposals for thinning or removal of trees will need to be carefully reviewed where woodland performs an existing screening function;
- when reinstating traditional management of existing woodland, use historic panels where possible;
- ensure woodlands are continually replanted or managed in such a way that the overall wood fuel resource is never depleted;
- maintain good linkage of trees, woodland and hedgerows across the landscape.

Land Use Consultants

September 2009

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# APPENDIX 1: Results of the Landscape Sensitivity Analysis for Wind Turbines and Bioenergy Crops

# LANDSCAPE TYPE A: COASTAL FORESHORES

## Key Characteristics of Landscape Type (from CBA report[1])

- Linear foreshore of shingle banks and sand;
- Low lying grazing marsh and arable farmland divided by drainage ditches and rifes;
- Dominance of the sea;
- Wooden groynes and rock islands;
- Sea walls;
- Windblown trees and shrubs.

## Component character areas: SC1 South Coast Shoreline

### *SC1: South Coast Shoreline*

### *Key characteristics (directly lifted from West Sussex LCA[2])*

- To the west of Selsey Bill, mainly sandy beaches, dry sand dunes and grassland habitats.
- Influence of extensive linear urban coastal resort development. To the west, notably villages of West Wittering, East Wittering and Bracklesham. Separated by distinctive village of Selsey at Selsey Bill.
- Low sweeping coastline. Open, exposed foreshore.
- Dominance of the sea. Noise of waves, wind and birds.
- Dynamic seascape of constantly changing weather, light and tidal conditions.
- Movement of shingle and sand along the coast, linked to coastal evolution and geomorphology.
- Relatively narrow undeveloped sections of coastline behind beaches. Bounded by low growing scant vegetation and small areas of wind-sculpted scrub and trees. Often

[1] A Strategy for the West Sussex Landscape, Consultant's Technical Report (2003) by Chris Blandford Associates
[2]http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project/

providing separation of urban areas. Areas of both high ecological and landscape importance.

- Shingle and sand dune habitats of national importance, notably at West Wittering, Shoreham and Climping.
- Reed beds, streams and deep drainage ditches known as rifes.
- Frequent wooden and rock groynes and breakwaters.
- Fleets of small fishing boats beached along the shoreline.
- Caravan parks and other built holiday accommodation facilities.
- Yachting, surfing, windsurfing and commercial boat traffic are frequent in seaward views.
- Diving areas off Bracklesham Bay.

| TYPE A: COASTAL FORESHORES<br>SC1: South Coast Shoreline | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **WIND TURBINES** | | | |
| **Scale** – large scale open coastal foreshore dominated by the sea with large scale open arable fields backing the foreshore. Human scale features including wooden groynes, beach huts, onshore fishing boats, resort development and wind-sculpted trees.<br>**Landform** - a flat, sweeping coastal landscape.<br>**Landscape pattern and complexity** – complex pattern of exposed sand and shingle foreshore backed by sand dunes, grazing marsh, scrub, reed beds and trees, broken by linear coastal development and simpler arable farmland behind.<br>**Settlement and Man-made Influence –** extensive resort and urban development, along with caravan sites and other holiday accommodation, particularly at East Wittering. Commercial and recreational boat traffic frequent in seaward views. War time features, such as pillboxes and anti-aircraft batteries, dot the area.<br>**Skylines** – this landscape is defined by its open sea views and important historic landmarks including Selsey windmill, Cakeham Tower and church towers.<br>**Inter-visibility with Adjacent Landscapes** – this landscape creates a coastal backdrop to the Chichester Harbour AONB.<br>**Perceptual Aspects -** Whilst traffic, recreational activities and extensive resort development at East Wittering impact on | Although the majority of the coastal strip is not designated, a small part of the Character Area surrounding West Wittering falls within the **Chichester Harbour AONB** whose special qualities are described as:<br>**The unique blend of land and sea** - especially the combination of large open water areas, narrow inlets and intimate creeks, threatened by climate change, rising sea levels and inappropriate development.<br>**The frequently wooded shoreline** - these are narrow fringes sandwiched between rising sea levels and intensively farmed land, many have their roots already immersed in salt water and have only a limited life left.<br>**The flatness of the landform**, unusual among AONBs, accentuates the significance of sea and tide and of distant landmarks across land and water. Inappropriate development intrudes into the landscape, seen from long distances, and detracts from the historical features of interest.<br>**The open water** of the central area of the Harbour is a microcosm of the open sea beyond the harbour mouth, reflecting the clouds and sky, the wind and rain.<br>**An overall sense of wilderness** within the seascape. The naturalness that creates this sense is very dependent on maintaining natural processes and avoiding the dominance of man-made influences and structures.<br>**Particularly strong historic character** and associations. These links with our cultural | Although a flat landform is theoretically less sensitive than areas with strong topographical variety, the complexity of the landscape (particularly backing the foreshore), the strong dominance of the sea in views, the presence of many elements of human scale, the area's inter-visibility with the Chichester Harbour AONB, and its tranquil, character increase sensitivity to development such as wind turbines. The presence of existing man-made influence (including extensive resort and urban development) reduces sensitivity in these areas.<br>The landscape strategy[3] for character area SC1 is *to conserve the open, distinctive coastal character of the area and maintain tranquillity.*<br>This landscape type is therefore considered to have a **high** sensitivity to development of large scale wind turbines; and a **moderate-high** sensitivity to medium and small scale wind turbines, reducing to **moderate** within man-modified areas.<br>The key landscape attributes that could be sensitive to any scale of wind turbine development are:<br>• the complexity of landscape (particularly the landscape backing the foreshore);<br>• long views and vistas dominated by the sea and broken by historic features such as Cakeham Tower, Selsey windmill and | • Part of this area lies within the Chichester Harbour AONB which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the AONB. These qualities are set out in the AONB Management Plan 2009-2014.<br>• Locate any turbines away from the unenclosed foreshore landscapes of marine water, shingle and sand dune habitats (including at West Wittering beach), saline lagoons, grazing marsh and rifes, reedbeds and coastal scrub.<br>• Areas of existing development or arable farmland could provide locations for small or medium scale turbines, as long as they comply with other guidance below.<br>• Ensure turbines do not detract from landmark skyline features, such as the windmill at Selsey, Cakeham Tower and historic churches.<br>• Ensure landscape retains a human scale where coastal features (e.g. fishing boats, timber groynes, beach huts and wind sculpted trees) contribute to character.<br>• Consider views from the Chichester Harbour AONB, and long-range views from the South Downs National Park, when locating any turbines.<br>• Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, careful |

[3] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE A: COASTAL FORESHORES<br>SC1: South Coast Shoreline | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| levels of tranquillity in some parts, this landscape is characterised by the dominance of the sea; with the noise of waves, wind and birds being particularly distinctive. | heritage are not always properly understood and could be used to highlight the importance of protecting the landscape which provides their setting.<br>**Picturesque harbourside settlements**. Careful control of development is required if these harbourside villages are not to lose their character. The trend towards large extensions and rebuilds creates a more urban feel to the landscape.<br>**Wealth of flora and fauna**, notably the vast flocks of wading birds, adds to the richness and diversity of the landscape Chichester Harbour is internationally important for its many species and habitats and these must be given priority for protection. The health of the landscape can be measured by the biodiversity the Harbour offers. Surveys and monitoring of species and habitats form a vital part of ensuring the continued well-being of the AONB.<br>**The unspoilt character and unobtrusive beauty**. It is important that visitors to the Harbour understand and value its special qualities. The promotion of these special qualities should concentrate on raising visitor's awareness rather than attracting greater numbers.<br>**The harbour** offers a very special sense of **peace and tranquillity**, largely engendered by the gentle way it is used and the closeness to nature that is experienced. Pollution, particularly light and noise, can easily destroy this fragile value as can inappropriate activities. | churches;<br>• its inter-visibility with the Chichester Harbour AONB and presence in views from the South Downs National Park;<br>• the human scale of the landscape;<br>• the tranquil character and relative sense of remoteness, particularly on the coastal edge, with the sound of waves, wind and birds. | location and screening of ancillary buildings or use of existing buildings.<br>• Keep development away from the most tranquil parts of the landscape – this is particularly applicable to the naturalistic coastal edge.<br>• Seek opportunities to achieve wider landscape management objectives identified in the West Sussex landscape assessment and management strategy, as well as other relevant strategies and assessments undertaken by Chichester District Council or Chichester Harbour AONB in association with any proposed development.<br>• In addition, refer to the AONB Planning Guidelines that form Appendix 3 of the Chichester Harbour AONB Management Plan 2009-2014 relating to microgeneration and renewables. |
| **A note on cumulative issues:** Although this landscape may be able to accommodate a number of single small or medium turbines sensitively sited according to the above guidance, the landscape would become progressively more sensitive to development of a large number of turbines. It may be more desirable to have fewer larger turbines rather than a greater number of smaller turbines in larger open, large scale areas. In areas close to human scale features it would be more suitable to have a larger number of smaller turbines. Any development of multiple developments would need to take into account the above guidance, respect the scale of the landscape and be judged on its own merits, being informed by an assessment of cumulative landscape and visual impacts. | | | |

| TYPE A: COASTAL FORESHORES<br>SC1: South Coast Shoreline | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform** - a flat, sweeping coastal landscape.<br>**Landscape pattern** – complex pattern of exposed sand and shingle foreshore backed by sand dunes, grazing marsh, scrub, reed beds and trees, broken by linear coastal development and predominantly arable farmland.<br>**Enclosure** – the exposed coastal foreshore areas are open, unenclosed landscapes of marine shingle, sand dunes, grazing marsh, reed beds and scant vegetation. Backing the foreshore are areas of open mixed agricultural land, dominated by large scale arable fields.<br>**Land Cover/ Land Use** – unenclosed and naturalistic landscapes along the foreshore, backed by large scale irregular fields supporting mixed farmland dominated by arable.<br>**Inter-visibility with Adjacent Landscapes** – this landscape creates a coastal backdrop to the Chichester Harbour AONB.<br>**Perceptual Aspects -** Whilst traffic, recreational activities and extensive resort development at East Wittering impact on levels of tranquillity in some parts, this landscape is characterised by the dominance of the sea; with the noise of waves, wind and birds being particularly distinctive. | A small part of the Character Area surrounding West Wittering falls within the **Chichester Harbour AONB** whose special qualities are described above. | Although the flat landform and presence of large scale arable fields reduces sensitivity to bioenergy crops, the open character of the landscape with wide sea views, lack of woodland cover, presence of valued semi-natural habitats and the tranquil character of the coastal foreshore substantially increases sensitivity to crops and their harvesting operations.<br>The landscape strategy[4] for character area SC1 is *to conserve the open, distinctive coastal character of the area and maintain tranquillity.*<br>Overall, it is considered that the landscape type has a **high** sensitivity to any bioenergy crop planting within the Chichester Harbour AONB, along the coastal foreshore and within the open space immediately backing it. Farmland areas away from the foreshore have a **moderate-high** sensitivity to the growth and harvesting of Miscanthus, although sensitivity to Short Rotation Coppice (SRC) remains **high** in these locations due to a typical absence of woodland cover.<br>The key landscape attributes that could be sensitive to bioenergy crop planting are:<br>• the presence of naturalistic and varied coastal habitats of high biodiversity value, including sand dunes, shingle, grazing marsh and reed beds;<br>• its open character with a lack of woodland cover; | • Part of this area lies within the Chichester Harbour AONB which is protected for its special qualities. Ensure crops do not adversely affect the special qualities of the AONB. These qualities are set out in the AONB Management Plan 2009-2014.<br>• Focus Miscanthus crops only in fields already affected by cropping systems rather than conversion of pastoral areas to cropping.<br>• Plant away from the open foreshore landscapes where crops could obstruct views and harvesting operations would be highly visible.<br>• Maintain the sense of openess that is characteristic of this landscape, or the relationship between land and water – ensure crop planting does not block characterful views out to sea.<br>• Ensure crops and harvesting machinery do not affect the survival of historic features such as military defences, rifes, field patterns or earthworks.<br>• Ensure bioenergy crop planting does not encroach onto areas of semi-natural habitat such as sand dunes, shingle, grazing marsh and reed beds.<br>• Aim for irregular patterns of planting rather than geometric blocks.<br>• Keep planting/harvesting operations away from the most tranquil areas, particularly away from the water's edge and the open |

[4] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE A: COASTAL FORESHORES<br>SC1: South Coast Shoreline | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| | | • the complexity of landscape (particularly the landscape backing the foreshore);<br>• long views and vistas dominated by the sea and broken by historic features such as Cakeham Tower, Selsey windmill and churches;<br>• its inter-visibility with Chichester Harbour AONB and long-range views from the South Downs National Park;<br>• the tranquil character and relative sense of remoteness, particularly on the coastal edge, with the sound of waves, wind and birds. | space backing the foreshore.<br>• Ensure that planting does not block important views of landmarks such as the Selsey windmill, Cakeham Tower and churches.<br>• Reduce the impact of any bioenergy planting by small-scale harvesting, and incorporating mixed species where possible. |
| **A note on cumulative issues:** Although there may be some opportunity for planting of bioenergy crops on a small scale, in accordance with the guidance above, the landscape would be highly sensitive to large scale planting that could erode the complexity of the landscape and change the open character of the coastlne, particularly where in close proximity to the foreshore. | | | |

# LANDSCAPE TYPE B: COASTAL HARBOURS AND PENINSULAS

## Key Characteristics of Landscape Type (from CBA report)

- Tidal inlets with enclosed expanses of marine water;
- Large areas of mudflats, salt and brackish marsh, shingle and wetland scrub;
- Jutting peninsulas;
- Arable farming, market gardening and glasshouses;
- Pattern of medium to large fields with a variable hedgerow network;
- Small historic harbourside settlements and linear villages.

## Component Character Areas: SC2 Manhood Peninsula; SC3 Chichester Harbour; SC4 Pagham Harbour.

This type has been subdivided for the purposes of this sensitivity assessment due to the different characters represented by the different character areas. LCAs SC3 and SC4 (Chichester and Pagham Harbours) are considered together, and SC2 (Manhood Peninsula) is considered separately.

### *LCA SC2: Manhood Peninsula*


### *Key Characteristics (directly lifted from West Sussex LCA[5])*

- Mainly low-lying flat landform.
- Pockets of small enclosed pasture fields and horse paddocks.
- Linear villages.
- Narrow, right-angled or winding lanes.

[5]http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project/

- Occasional views from the land of the water, or of yacht masts.
- Few trees or hedgerows, partly as a result of Dutch Elm Disease from the 1970s and the Great Storm in 1987 and high value agricultural land, although where they do exist, they form prominent features.
- Large scale arable farming with large, often hedgeless fields.
- Extensive farms with both traditional and modern farm buildings and silos.
- Industry in the countryside mainly associated with horticulture, resulting in large expanses of glasshouses.
- Scattered vernacular villages with mixed building materials, often flint, brick, half timber and stone, often with sprawling modern fringes.
- Rife and ditch systems with associated unimproved grassland and edged by reed beds.
- Busy roads.

| TYPE B: COASTAL HARBOURS AND PENINSULAS<br>SC2: Manhood Peninsula | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **WIND TURBINES** | | | |
| **Scale** – large scale landscape of open, often hedgeless fields. However, human scale features such as buildings and trees are present.<br>**Landform** - a flat coastal landscape, reclaimed from the sea.<br>**Landscape pattern and complexity** – simple farmland landscape of both pastoral and arable fields. Streams and rifes add complexity.<br>**Settlement and Man-made Influence** – a man-made landscape reclaimed from the sea. Habitation is predominantly in scattered small traditional settlements and larger suburban villages, Modern farm buildings and silos are present. Also significant clusters of glasshouses in the Sidlesham area.<br>**Skylines** - skylines are not prominent, often punctuated by boat masts, trees and medieval churches.<br>**Inter-visibility with Adjacent Landscapes** – this area is inter-visible with the South Downs National Park, forming a distant backdrop to viewpoints on the southern edge of the downs. It also forms a backdrop to the Chichester | N/a | Although the large scale flat character of the landscape, non-prominent skylines, presence of contemporary structures and existing signs of human activity make this landscape less sensitive to wind turbines, the presence of human-scale features and inter-visibility with the South Downs and Chichester Harbour AONBs increase sensitivity to such development.<br>The landscape strategy[6] for this area is to *conserve existing area of tranquil character* (SC2).<br>This landscape is therefore considered to have a **moderate-high** sensitivity to large scale wind turbines, **moderate** sensitivity to medium scale wind turbines and **moderate-low** sensitivity to small scale wind turbines.<br>The key landscape attributes that could be sensitive to any scale of wind turbine development are:<br>• the streams and rifes and their semi-natural vegetation;<br>• skylines characterised by trees, boat masts and medieval churches;<br>• the human scale of the landscape; | • Keep any turbines away from the streams and rifes and their semi-natural vegetation.<br>• Ensure that the landscape retains a human scale.<br>• Consider views from the South Downs National Park and Chichester Harbour AONB when locating any turbines.<br>• Ensure wind turbines do not adversely affect the special qualities of the AONB. These qualities are set out in the AONB Management Plan 2009-2014.<br>• Ensure any turbines do not interfere with important views of Chichester Cathedral spire or the ridge of the South Downs.<br>• Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, careful location and screening of ancillary buildings or use of existing buildings.<br>• Keep development away from the most tranquil parts of the landscape.<br>• Seek opportunities to achieve wider landscape management objectives identified in the West Sussex landscape assessment |

[6] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

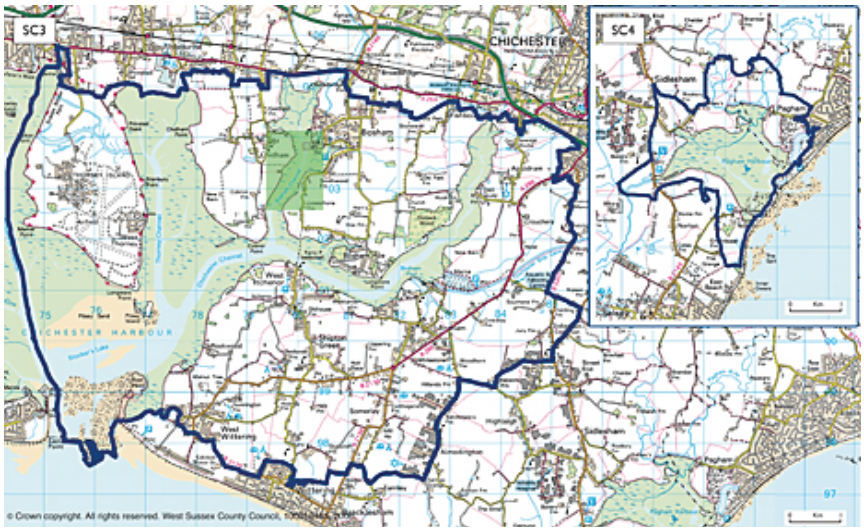
| TYPE B: COASTAL HARBOURS AND PENINSULAS<br>SC2: Manhood Peninsula | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| Harbour Area of Outstanding Natural Beauty (AONB). There are important views to Chichester Cathedral spire and the South Downs.<br>**Perceptual Aspects –** Traffic on roads reduces tranquillity in some parts. | | • the inter-visibility with the South Downs and Chichester Harbour AONB;<br>• views to Chichester Cathedral spire and the South Downs. | and management strategy, as well as other relevant strategies and assessments undertaken by Chichester District Council or Chichester Harbour AONB in association with any proposed development.<br>• In addition, refer to the AONB Planning Guidelines that form Appendix 3 of the Chichester Harbour AONB Management Plan 2009-2014 relating to microgeneration and renewables. |
| **A note on cumulative issues:** Although this landscape may be able to accommodate turbines, sensitively sited according to the above guidance, the landscape would become progressively more sensitive to development of a large number of turbines. It may be considered better to have fewer larger turbines rather than many smaller turbines in larger scale open parts of this landscape (away from the Chichester Harbour AONB). In areas close to human scale features or the AONB it would be more suitable to have a larger number of smaller turbines. Any development of multiple developments would need to take into account the above guidance, respect the scale of the landscape and be judged on its own merits, being informed by an assessment of cumulative landscape and visual impacts. | | | |
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform** - a flat coastal landscape.<br>**Landscape pattern** – simple farmland landscape of both pastoral and arable fields. Streams and rifes add complexity.<br>**Enclosure** – an open landscape of often hedgeless fields. Some parts have a patchwork of smaller enclosed pastures and horse paddocks which have a more intimate character.<br>**Land Cover/ Land Use** – dominated by | N/a | Although the flat landform, presence of arable land in large fields and presence of man's influence reduce sensitivity to bioenergy crops, the open character of the landscape, the presence of semi-natural landcover and views to Chichester Harbour AONB increase sensitivity to crops and their harvesting operations.<br>The landscape strategy[7] for this area is to *conserve existing area of tranquil character* | • There may be an opportunity to link some SRC with future planned woodlands in accordance with the large scale tree and hedgerow framework outlined in the landscape strategy.<br>• Focus Miscanthus crops only in fields already affected by cropping systems, rather than conversion of pastoral areas to cropping.<br>• Maintain the sense of exposure and |

[7] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE B: COASTAL HARBOURS AND PENINSULAS<br>SC2: Manhood Peninsula | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| highly productive large arable fields and modern farm buildings. Areas of unimproved grassland still exist along the edges of streams and rifes which are often immediately bordered by reed beds.<br>**Inter-visibility with Adjacent Landscapes** – this area is inter-visible with the South Downs National Park, forming a distant backdrop to viewpoints on the southern edge of the downs. It is also visible from the Chichester Harbour Area of Outstanding Natural Beauty (AONB). There are important views to Chichester Cathedral spire and the South Downs scarp.<br>**Perceptual Aspects -** Traffic on roads reduces tranquillity in some parts. | | (SC2). One of the aims of the strategy is to create a new large scale tree and hedgerow framework which complements the open, intensively farmed landscape, whilst maintaining significant views.<br>Overall, it is considered that the character area has a **moderate** sensitivity to bioenergy crop planting.<br>The key landscape attributes that could be sensitive to bioenergy crop planting are:<br>• the areas of unimproved grassland and reed bed along the edges of streams and rifes;<br>• the sense of openness/exposure and relationship between land and water, including views along the coastal edge;<br>• views to and from Chichester Harbour AONB;<br>• views to Chichester Cathedral spire, the South Downs and the coast. | relationship between land and water – ensure crop planting does not block views to the sea or along the coastal edge.<br>• Consider using crops to screen or filter views of existing intrusive built elements such as glasshouses, modern farm buildings and tourism related development.<br>• Ensure bioenergy crop planting does not encroach onto areas of semi-natural habitat such as grassland and reed bed along the edges of streams and rifes.<br>• Keep harvesting operations away from the most tranquil areas, particularly the water's edge.<br>• Ensure that planting does not block important views of landmarks such as the medieval churches.<br>• Consider views to and from the Chichester Harbour AONB when locating crops.<br>• Ensure crops do not adversely affect the special qualities of the AONB. These qualities are set out in the AONB Management Plan 2009-2014.<br>• Ensure any crops do not block important views of Chichester Cathedral spire or the ridge of the South Downs.<br>• Reduce the impact of any bioenergy planting by small-scale harvesting, and incorporating mixed species where possible. |

| TYPE B: COASTAL HARBOURS AND PENINSULAS<br>SC2: Manhood Peninsula | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| | | | |
| **A note on cumulative issues:** Although there may be some opportunity for planting of bioenergy crops on a small scale, in accordance with the guidance above, the landscape would be sensitive to large scale blanket planting that could alter the open views to the coast or open areas of semi-natural habitats. | | | |

### *SC3 and SC4: Chichester Harbour and Pagham Harbour*




### *Key Characteristics (directly lifted from West Sussex LCA[8])*

- Enclosed natural harbours of marine water, tidal mudflats and saltmarsh with small inlets and creeks.
- Contrast with the surrounding open agricultural land.
- Localised presence of woodland, for example, Old Park Wood, Bosham and Church Norton Wood.
- Noise of birds, waves and masts.
- Distinctive historic features include oyster beds, earthworks, old sea defences, quays, and boatyards.
- Rich range of habitats at the harbour edges including mudflats, saltmarsh, grazing marsh, reedbeds, sand dunes, shingle banks.
- Areas of unimproved grassland concentrated on their edges.
- Wind-shaped trees and scrub.
- Attractive harbourside settlements and early medieval flint churches such as at Bosham and Pagham.
- Landscapes of great wildlife importance.

[8]http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project/

| TYPE B: COASTAL HARBOURS AND PENINSULAS<br>SC3 and SC4: Chichester and Pagham Harbours | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **WIND TURBINES** | | | |
| **Scale** – in places intimate, in places vast (e.g. open water and tidal mudflats). Human scale features including harbour side settlement, flint churches, boats and wind-sculpted trees.<br>**Landform** - a flat coastal landscape.<br>**Landscape pattern and complexity** – complex pattern of open marine water, tidal mudflats, shingle, marsh, reedbeds, sand dunes, wetland scrub and woodland, with more simple farmland (both pastoral and arable) surrounding the harbours.<br>**Settlement and Man-made Influence** - attractive harbourside settlements with vernacular character, plus small rural villages e.g. Bosham, Shipton Green, Pagham with early medieval flint churches such as at Bosham and Pagham. Also presence of boatyards, marinas and yachts, plus Thorney Island MOD base,<br>**Skylines** - the open skylines are a great influence on landscape character in these coastal landscapes. Skylines are defined by woodland (at Chichester Harbour), punctuated by boat masts, and include important historic landmarks such as the medieval churches. | Most of the Chichester Harbour landscape character area (SC3) falls within the **Chichester Harbour AONB** whose special qualities are described as:<br>**The unique blend of land and sea** - especially the combination of large open water areas, narrow inlets and intimate creeks, threatened by climate change, rising sea levels and inappropriate development.<br>**The frequently wooded shoreline** - these are narrow fringes sandwiched between rising sea levels and intensively farmed land, many have their roots already immersed in salt water and have only a limited life left.<br>**The flatness of the landform**, unusual among AONBs, accentuates the significance of sea and tide and of distant landmarks across land and water. Inappropriate development intrudes into the landscape, seen from long distances, and detracts from the historical features of interest.<br>**The open water** of the central area of the Harbour is a microcosm of the open sea beyond the harbour mouth, reflecting the clouds and sky, the wind and rain.<br>**An overall sense of wilderness** within the | Although a flat landform is theoretically less sensitive than areas with strong topographical variety, the complexity of the landscape (particularly in and around the harbours), the presence of picturesque harbourside settlements with historic features and landmarks, the presence of many elements of human scale, the area's inter-visibility with the South Downs, and tranquil character increase sensitivity to such development.<br>The landscape strategy[9] for these areas is to *conserve existing areas of tranquil character, maintain keys views and vistas, maintain historic character and features, manage natural features, aim for 'softer' coastal management solutions, enhance the character and setting of the villages, enhance wooded settings, discourage land reclamation, restrict visitor access to sensitive areas, and strengthen the existing landscape framework (hedgerows and woodlands).*<br>These landscape character areas are therefore considered to have a **high** sensitivity to development of large and medium scale wind turbines; and a **moderate-high** sensitivity to small scale wind turbines, reducing to **moderate** on | • Area SC3 lies almost entirely within the Chichester Harbour AONB which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the AONB. These qualities are set out in the AONB Management Plan 2009-2014.<br>• Keep any turbines away from the unenclosed harbour landscapes of marine water, tidal mudflat (some vast), shingle, marsh, wetland scrub, small inlets and creeks, reedbeds, sand dunes, wetland scrub and woodland.<br>• Areas of farmland surrounding the harbours may provide some opportunity for *small scale* turbines, associated with existing buildings or settlements in the landscape, as long as they comply with other guidance below.<br>• Avoid locating turbines close to picturesque harbourside settlements where they may affect the historic vernacular character;<br>• Ensure turbines do not detract from churches and boat masts as skyline features. |

[9] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE B: COASTAL HARBOURS AND PENINSULAS<br>SC3 and SC4: Chichester and Pagham Harbours | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| There are important views to Chichester Cathedral is also and the South Downs ridge this landscape.<br>**Inter-visibility with Adjacent Landscapes** – these areas are inter-visible with the South Downs National Park – they form a distant backdrop to viewpoints on the southern edge of the downs.<br>**Perceptual Aspects -** Whilst traffic, recreational activities and the MOD base reduce tranquillity in some parts, there are also significant areas of Chichester and Pagham Harbours which have a tranquil character and retain a sense of remoteness. Distinctive sounds of birds, waves and rigging against masts. | seascape. The naturalness that creates this sense is very dependent on maintaining natural processes and avoiding the dominance of man-made influences and structures.<br>**Particularly strong historic character** and associations. These links with our cultural heritage are not always properly understood and could be used to highlight the importance of protecting the landscape which provides their setting.<br>**Picturesque harbourside settlements**. Careful control of development is required if these harbourside villages are not to lose their character. The trend towards large extensions and rebuilds creates a more urban feel to the landscape.<br>**Wealth of flora and fauna**, notably the vast flocks of wading birds, adds to the richness and diversity of the landscape Chichester Harbour is internationally important for its many species and habitats and these must be given priority for protection. The health of the landscape can be measured by the biodiversity the Harbour offers. Surveys and monitoring of species and habitats form a vital part of ensuring the continued well-being of the AONB.<br>**The unspoilt character and unobtrusive beauty**. It is important that visitors to the Harbour understand and value its special qualities. The promotion of these special qualities should concentrate on raising visitor's awareness rather than attracting | the farmland fringes of the areas.<br>The key landscape attributes that could be sensitive to any scale of wind turbine development are:<br>• the complexity of landscape (particularly in and around the harbours themselves);<br>• the picturesque harbourside settlements with an historic vernacular character;<br>• long views and vistas to skylines characterised by woodland, churches and boat masts;<br>• views to Chichester Cathedral spire and the South Downs;<br>• the human scale of the landscape;<br>• the tranquil character and relative sense of remoteness, particularly within the seascape. | • Ensure any turbines do not detract from or dwarf the spire of Chichester Cathedral, or interrupt important views of the South Downs ridge.<br>• Ensure that turbines do not dominate harbour side settlement, flint churches, boats and wind-sculpted trees that give the landscape a human scale.<br>• Consider views from the South Downs National Park when locating any turbines.<br>• Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, careful location and screening of ancillary buildings or use of existing buildings.<br>• Keep development away from the most tranquil parts of the landscape – this is particularly applicable to the seascape and undeveloped harbour edges.<br>• Seek opportunities to achieve wider landscape management objectives identified in the West Sussex landscape assessment and management strategy, and Chichester Harbour AONB LCA, in association with any proposed development.<br>• In addition, refer to the AONB Planning Guidelines that form Appendix 3 of the Chichester Harbour AONB Management Plan 2009-2014 relating to microgeneration and renewables. |

| TYPE B: COASTAL HARBOURS AND PENINSULAS<br>SC3 and SC4: Chichester and Pagham Harbours | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| | greater numbers.<br>**The harbour** offers a very special sense of **peace and tranquillity**, largely engendered by the gentle way it is used and the closeness to nature that is experienced. Pollution, particularly light and noise, can easily destroy this fragile value as can inappropriate activities. | | |
| **A note on cumulative issues:** Although this landscape may be able to accommodate a number of single small turbines, associated with particular properties or settlements and sensitively sited according to the above guidance, the landscape would become progressively more sensitive to development of a large number of turbines. | | | |
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform -** a flat coastal landscape.<br>**Landscape pattern** – complex pattern of open marine water, tidal mudflats, shingle, marsh, reedbeds, sand dunes, wetland scrub and woodland, with more simple farmland (both pastoral and arable) surrounding the harbours.<br>**Enclosure** – the harbour landscapes are open, unenclosed landscapes of marine water, tidal mudflat (some vast), shingle, marsh, sand dunes, wetland scrub, and small inlets and creeks. Surrounding the harbours are wooded shorelines and areas of open mixed agricultural land.<br>**Land Cover/ Land Use** – unenclosed and naturalistic landscapes in the harbours, | Most of the Chichester Harbour landscape character area falls within the **Chichester Harbour AONB** whose special qualities are described above. | Although the flat landform, presence of arable land in large fields and presence of woodland reduces sensitivity to bioenergy crops, the open character of the landscape, the presence of semi-natural landcover/pasture and the tranquil character of the harbours substantially increases sensitivity to crops and their harvesting operations.<br>The landscape strategy[10] for these areas is *to conserve existing areas of tranquil character, maintain keys views and vistas, maintain historic character and features, manage natural features, aim for 'softer' coastal management solutions, enhance the character and setting of the villages, enhance wooded settings, discourage land reclamation,* | • Area SC3 lies almost entirely within the Chichester Harbour AONB which is protected for its special qualities. Ensure crops do not adversely affect the special qualities of the AONB. These qualities are set out in the AONB Management Plan 2009-2014.<br>• There may be an opportunity to link some SRC with existing woodlands away from the water's edge.<br>• Focus Miscanthus crops only in fields already affected by cropping systems, and away from the water's edge, rather than conversion of pastoral areas to cropping.<br>• Consider using crops to screen existing built development that may be intrusive in |

[10] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE B: COASTAL HARBOURS AND PENINSULAS<br>SC3 and SC4: Chichester and Pagham Harbours | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| with parliamentary fields supporting mixed farmland (including arable crops) surrounding the harbours.<br>**Inter-visibility with Adjacent Landscapes** – these areas are inter-visible with the South Downs National Park – they form a distant backdrop to viewpoints on the southern edge of the downs. There are important views to Chichester Cathedral spire and the South Downs ridge.<br>**Perceptual Aspects -** Whilst traffic, recreational activities and the MOD base reduce tranquillity in some parts, there are also significant areas of Chichester and Pagham Harbours which have a tranquil character and retain a sense of remoteness. | | *restrict visitor access to sensitive areas, and strengthen the existing landscape framework (hedgerows and woodlands).*<br>Overall, it is considered that the landscape type has a **high** sensitivity to any bioenergy crop planting within the Chichester Harbour AONB and in/close to Pagham Harbour, while the coastal plain farmland areas away from harbours have a **moderate-high** sensitivity to growth and harvesting of Miscanthus and Short Rotation Coppice.<br>The key landscape attributes that could be sensitive to bioenergy crop planting are:<br>• the open, unenclosed landscapes of marine water, tidal mudflat (some vast), shingle, marsh, sand dunes, wetland scrub, and small inlets and creeks;<br>• the areas of pasture and native woodland;<br>• the sense of openness and exposure and relationship between land and water, including views across the water;<br>• the long views and vistas to skylines characterised by woodland, churches and boat masts;<br>• views to Chichester Cathedral spire and the South Downs;<br>• the tranquil character and relative sense of remoteness, particularly close to the water (particularly sensitive to harvesting operations). | the open landscape.<br>• Plant away from the open harbour landscapes where crops and harvesting operations would be highly visible.<br>• Maintain the sense of exposure/openness that is characteristic of this landscape and ensure crops do not adversely affect the relationship between land and water – ensure crop planting does not block views across the water.<br>• Ensure crops and harvesting machinery do not affect the survival of historic features such as oyster beds, wooden keys, field patterns or earthworks.<br>• Ensure bioenergy crop planting does not encroach onto areas of semi-natural habitat such as tidal mudflat, shingle, marsh, reedbeds, sand dunes, wetland grassland/ scrub and native woodland.<br>• Aim for irregular patterns of planting rather than geometric blocks.<br>• Keep harvesting operations away from the most tranquil areas, particularly away from the water's edge.<br>• Ensure that planting does not block important views of landmarks such as the churches, harbourside settlements, the ridge of the South Downs or Chichester Cathedral.<br>• Reduce the impact of any bioenergy planting by small-scale harvesting, and incorporating mixed species where |

| TYPE B: COASTAL HARBOURS AND PENINSULAS<br>SC3 and SC4: Chichester and Pagham Harbours | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| | | | possible. |
| **A note on cumulative issues:** Although there may be some opportunity for planting of bioenergy crops on a small scale, in accordance with the guidance above, the landscape would be highly sensitive to large scale planting that could erode the complexity of the landscape and change the sense of openness and views to the coast. | | | |

## LANDSCAPE TYPE C: OPEN COASTAL PLAIN

### Key Characteristics of Landscape Type (from CBA report)

- Flat, predominantly open coastal plain;
- Large-scale arable farming, glasshouses and horticulture;
- Few trees or hedgerows;
- Frequent rifes, streams and drainage channels;
- Large farms and suburban villages.

### Component Character Areas: SC5 Southbourne Coastal Plain; SC9 Chichester to Yapton Coastal Plain; SC11/13 Littlehampton and Worthing Fringes / Worthing and Adur Fringes

***SC5: Southbourne Coastal Plain***


***Key characteristics (directly lifted from West Sussex LCA)***

- Low lying flat open landscape.
- Long views to Chichester Harbour and to the distinctive spire of Chichester Cathedral.
- Suburban settlement dominates the area.
- Small towns, villages and road crossings hug the tops of inlets to Chichester Harbour.
- Degraded tree and hedgerow framework. A low density of hedgerows and hedgerow trees with occasional shelterbelts.
- Meandering rifes and drainage ditches.
- Large-scale arable farming and market gardening.
- Clusters of greenhouses.

***SC9: Chichester to Yapton Coastal Plain***

***Key characteristics (directly lifted from West Sussex LCA)***

- Low lying flat open landscape.
- Meandering rifes and straight drainage ditch systems, with associated unimproved grassland and edged by reed beds.
- A low density of hedgerows and hedgerow trees with occasional shelterbelts.
- Large-scale arable farming and market gardening. Extensive farms with both traditional and modern farm buildings and silos.
- Clusters of glasshouses.
- Scattered, historically nucleated villages with mixed building materials of flint, brick, half timber and stone.
- Large farmsteads along roads, and on dead-end tracks.
- Long views to Arundel, the Downs and to the distinctive spire of Chichester Cathedral.
- The relatively open character of much of the area allows long views so that village church towers are important landmarks in views.
- Frequent urban fringe influences of horse paddocks, light industry and disused airfields, with busy minor and major roads.
- The urban fringes associated with Bognor are particularly obvious, with sporadic urban development in suburban settlements of Tangmere, Barnham,Yapton, and Westergate.
- Large gravel pit lakes around the edge of Chichester.
- Few trees or hedgerows, partly as a result of Dutch Elm Disease, from the 1970s and the Great Storm of 1987 and overall high quality agricultural land, although, where they do exist, they form prominent features.
- Light industry in the countryside at Ford and Tangmere.

***SC11/13 Littlehampton and Worthing Fringes / Worthing and Adur Fringes***


***Key characteristics (directly lifted from West Sussex LCA)***

- Low lying flat open landscape.
- Dominant urban fringe with major conurbations of Littlehampton,Worthing, Lancing and Shoreham. Settlement edges often sharply contrast with adjacent open countryside.
- Frequent urban fringe influences of horse paddocks, light industry, airport, and recreational open space.
- Narrow gaps of open land at Kingston, Ferring, Sompting, and Lancing provide views to the sea and separation between the urban areas.
- Medium scale arable farming and market gardening, with clusters of greenhouses.
- River estuary at Shoreham with numerous houseboats moored along its reaches.
- Meandering rifes and straight drainage ditches.
- A low density of native hedgerows and hedgerow trees, interspersed with shelterbelts, single species hedges or individual standards planted using tall trees such as Poplar, Monterey Pine and Tulip trees.
- Clusters of windblown trees.
- Nucleated villages such as at Poling and Sompting Abbots scattered across the area.
- Mixed building materials of flint, brick, half timber and stone.
- Occasional farmsteads along roads, and on dead-end tracks.
- Long views to the Downs.
- Busy minor and major roads.
- Industry in the countryside.
- South Coast railway line links the areas.

| TYPE C: OPEN COASTAL PLAIN<br>SC5 Southbourne Coastal Plain<br>SC9 Chichester to Yapton Coastal Plain<br>SC11/13 Littlehampton and Worthing Fringes / Worthing and Adur Fringes | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **WIND TURBINES** | | | |
| **Scale** – large scale landscape with an open character. Human scale features including glasshouses, hedgerow trees, shelterbelts and farmsteads.<br>**Landform** - a low lying, flat landscape.<br>**Landscape pattern and complexity** – simple landscape of arable fields and areas of horticulture and urban fringe influence (e.g. horse paddocks, recreational open space), with a low density of tree cover. Occasional species-rich grasslands, wetlands, ponds and estuary habitats add variety to an otherwise arable dominated landscape.<br>**Settlement and Man-made Influence –** nucleated medieval villages of mixed vernacular scattered across the areas; strong urban fringe influence with settlement edges contrasting sharply with the open countryside – development includes light industry and the airport at Shoreham.<br>**Skylines** – this landscape is characterised by long views across the open landscape – with the distinctive spire of Chichester Cathedral, the castle and cathedral at Arundel, village church towers and the backdrop of the South Downs forming landmark features. Long views across | A small area of land around Southbourne lies within the **Chichester Harbour AONB**, whose special qualities are described as:<br>**The unique blend of land and sea** - especially the combination of large open water areas, narrow inlets and intimate creeks, threatened by climate change, rising sea levels and inappropriate development.<br>**The frequently wooded shoreline** - these are narrow fringes sandwiched between rising sea levels and intensively farmed land, many have their roots already immersed in salt water and have only a limited life left.<br>**The flatness of the landform**, unusual among AONBs, accentuates the significance of sea and tide and of distant landmarks across land and water. Inappropriate development intrudes into the landscape, seen from long distances, and detracts from the historical features of interest.<br>**The open water** of the central area of the Harbour is a microcosm of the open sea beyond the harbour mouth, reflecting the clouds and sky, the wind and rain.<br>**An overall sense of wilderness** within the seascape. The naturalness that creates this sense is very dependent on maintaining natural processes and avoiding the | This landscape type's flat landform and the presence of strong urban fringe influences, including light industry, may indicate lower levels of sensitivity to this type of development. However, the presence of human scale features within the open countryside, and the inter-visibility with the South Downs National Park and Chichester Harbour AONB increase levels of sensitivity of this landscape type to wind turbine development.<br>The landscape strategy[11] is to *conserve the long views to Chichester Harbour and the spire of Chichester Catherdral* (SC5); *conserve the significant views to Chichester Catherdral and the South Downs* (SC9) and *to restore and strengthen the landscape of the gaps between settlements* (SC11/13).<br>These landscape character areas are considered to have a **high** sensitivity to the development of large scale wind turbines; a **moderate-high** sensitivity to medium scale wind turbines; and a **moderate** sensitivity to small scale wind turbines.<br>The key landscape attributes that could be sensitive to any scale of wind turbine development are: | • Areas of existing development, including industry within the urban fringe landscape, could provide a location for wind turbines, as long as they comply with other guidance below.<br>• Ensure turbines do not detract from or dwarf important views of skyline features, particularly the spire of Chichester Cathedral, along with the castle and cathedral at Arundel and other village church towers.<br>• Consider key views to and from the Chichester Harbour AONB, and the South Downs National Park, when locating any turbines – ensure turbines do not detract from the special qualities of these designated landscapes.<br>• A very small part of area SC5 lies within the Chichester Harbour AONB which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the AONB. These qualities are set out in the AONB Management Plan 2009-2014.<br>• Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, |

[11] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| **TYPE C: OPEN COASTAL PLAIN**<br>**SC5 Southbourne Coastal Plain**<br>**SC9 Chichester to Yapton Coastal Plain**<br>**SC11/13 Littlehampton and Worthing Fringes / Worthing and Adur Fringes** | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| Chichester Harbour are afforded from the Southbourne Coastal Plain LCA, and the sea forms the skyline through narrow gaps of open land around Worthing.<br>**Inter-visibility with Adjacent Landscapes** – this landscape has strong inter-visibility with the South Downs National Park, with the Downs framing many views. There is also inter-visibility between the SC5 Southbourne Coastal Plain LCA and the adjacent Chichester Harbour AONB.<br>**Perceptual Aspects –** this area is strongly influenced by the close proximity of urban and industrial development at Bognor, Littlehampton, Worthing, Lancing and Shoreham, impacting on levels of tranquillity. Away from the urban areas is a peaceful, rural landscape with quiet villages and farms. | dominance of man-made influences and structures.<br>**Particularly strong historic character** and associations. These links with our cultural heritage are not always properly understood and could be used to highlight the importance of protecting the landscape which provides their setting.<br>**Picturesque harbourside settlements**. Careful control of development is required if these harbourside villages are not to lose their character. The trend towards large extensions and rebuilds creates a more urban feel to the landscape.<br>**Wealth of flora and fauna**, notably the vast flocks of wading birds, adds to the richness and diversity of the landscape Chichester Harbour is internationally important for its many species and habitats and these must be given priority for protection. The health of the landscape can be measured by the biodiversity the Harbour offers. Surveys and monitoring of species and habitats form a vital part of ensuring the continued well-being of the AONB.<br>**The unspoilt character and unobtrusive beauty**. It is important that visitors to the Harbour understand and value its special qualities. The promotion of these special qualities should concentrate on raising visitor's awareness rather than attracting greater numbers.<br>**The harbour** offers a very special sense of **peace and tranquillity**, largely engendered by the gentle way it is used and the closeness | • the human scale of the landscape;<br>• distinctive landmark features on the skyline, including Chichester Cathedral, Arundel and village church towers;<br>• inter-visibility with the South Downs National Park and Chichester Harbour AONB. | careful location and screening of ancillary buildings or use of existing buildings.<br>• Seek opportunities to achieve wider landscape management objectives identified in the West Sussex landscape assessment and management strategy and other local strategies (for Arun, Worthing and Adur Districts) in association with any proposed development.<br>• In addition, refer to the AONB Planning Guidelines that form Appendix 3 of the Chichester Harbour AONB Management Plan 2009-2014 relating to microgeneration and renewables. |

| TYPE C: OPEN COASTAL PLAIN<br>SC5 Southbourne Coastal Plain<br>SC9 Chichester to Yapton Coastal Plain<br>SC11/13 Littlehampton and Worthing Fringes / Worthing and Adur Fringes | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| | to nature that is experienced. Pollution, particularly light and noise, can easily destroy this fragile value as can inappropriate activities. | | |
| **A note on cumulative issues:** Although this landscape may be able to accommodate some small or medium turbines, sensitively sited according to the above guidance, the landscape would become progressively more sensitive to development of a large number of turbines. In the larger scale open areas it might be better to have fewer larger turbines than a larger number of smaller turbines to minimise cumulative effects, Any development of multiple developments would need to take into account the above guidance, respect the scale of the landscape and be judged on its own merits, being informed by an assessment of cumulative landscape and visual impacts. | | | |
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform** - a low lying, flat landscape.<br>**Landscape pattern** – simple landscape of arable fields and areas of horticulture and urban fringe influence (e.g. horse paddocks, recreational open space), with a low density of tree cover. Occasional species-rich grasslands, wetlands, ponds and estuary habitats add variety to an otherwise arable dominated landscape.<br>**Enclosure** – an open landscape of large scale arable fields of parliamentary enclosure with sparse hedgerows and little tree cover. Significant loss of elm trees from Dutch Elm disease enhances the feelings of openness.<br>**Land Cover/ Land Use** – dominated by arable cultivation and market gardening with some patches of naturalistic habitat | A small area of land around Southbourne lies within the **Chichester Harbour AONB**, whose special qualities are described above. | The flat landform and presence of existing cropping systems and human activity reduce sensitivity to bioenergy crops, the open character of the landscape with a lack of woodland cover, important views to the South Downs National Park and to/from the Chichester Harbour AONB, and the presence of valued semi-natural habitats increase levels of sensitivity to crop planting and harvesting.<br>The landscape strategy[12] for these areas is to *conserve the long views to Chichester Harbour and the spire of Chichester Catherdral* (SC5); *conserve the significant views to Chichester Catherdral and the South Downs* (SC9) and *to restore and strengthen the landscape of the gaps between settlements* | • Focus Miscanthus crops only in fields already affected by cropping systems; away from areas of semi-natural grassland, wetlands or other habitats of nature conservation importance.<br>• There may be an opportunity to link some SRC with existing woodlands or incorporate it into areas of new planting where appropriate.<br>• Ensure crops and harvesting machinery do not affect the survival of historic features such as rifes, crop marks, field patterns or watermills on the edge of Chichester Harbour.<br>• Ensure bioenergy crop planting does not encroach onto areas of semi-natural habitat such as species-rich grasslands, |

[12] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE C: OPEN COASTAL PLAIN<br>SC5 Southbourne Coastal Plain<br>SC9 Chichester to Yapton Coastal Plain<br>SC11/13 Littlehampton and Worthing Fringes / Worthing and Adur Fringes | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| including species-rich grasslands along rifes, wetlands associated with Chichester Harbour, saltmarsh and mudflats at Shoreham estuary, fragments of ancient woodland and artificial lakes outside Chichester. Urban fringe land uses, including pony paddocks and light industry, occupy a significant area of this landscape.<br>**Inter-visibility with Adjacent Landscapes** – this landscape has strong inter-visibility with the South Downs National Park, with the Downs framing many views. There is also a close inter-visibility between the SC5 Southbourne Coastal Plain LCA and the adjacent Chichester Harbour AONB.<br>**Perceptual Aspects -** this area is strongly influenced by the close proximity of urban and industrial development at Bognor, Littlehampton, Worthing, Lancing and Shoreham, impacting on levels of tranquillity. Away from the urban areas is a peaceful, rural landscape with quiet villages and farms. | | (SC11/13).<br>Overall, it is considered that the landscape type has **moderate-high** sensitivity SRC and a **moderate** sensitivity to Miscanthus.<br>The key landscape attributes that could be sensitive to bioenergy crop planting are:<br>• the strong sense of openness;<br>• the long views and vistas including views to the South Downs National Park and inter-visibility with the Chichester Harbour AONB;<br>• naturalistic habitats including species-rich grasslands, wetlands and saltmarsh;<br>• distinctive landmark features on the skyline, including Chichester Cathedral, Arundel and village church towers. | wetlands and saltmarsh.<br>• Aim for irregular patterns of planting rather than geometric blocks.<br>• Ensure new planting does not block important views of landmarks such as the Chichester Cathedral spire, Arundel and medieval church towers; or views of the key views to the sea.<br>• A very small part of area SC3 lies within the Chichester Harbour AONB which is protected for its special qualities. Ensure crops do not adversely affect the special qualities of the AONB. These qualities are set out in the AONB Management Plan 2009-2014.<br>• Reduce the impact of any bioenergy planting by small-scale harvesting, and incorporating mixed species where possible. |
| **A note on cumulative issues:** Although there may be some opportunity for the planting of bioenergy crops on a small scale, in accordance with the guidance above, the landscape would be highly sensitive to large scale planting which could change the open character of the coastal plain or block key views of features such as the spire of Chichester Cathedral. | | | |

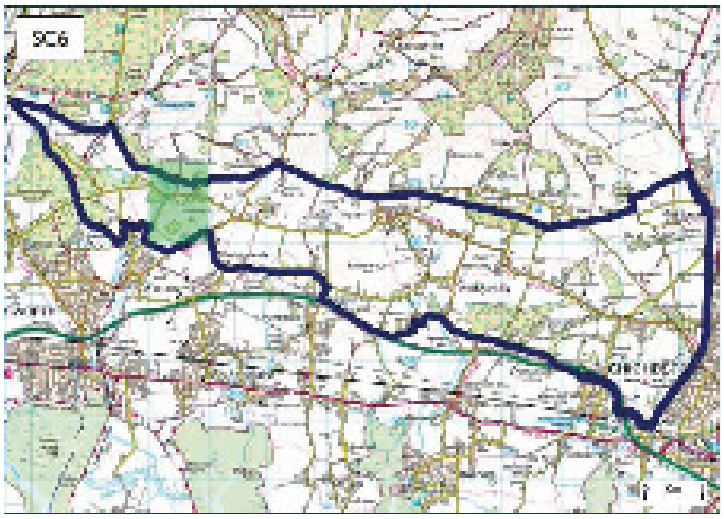
## LANDSCAPE TYPE D: ENCLOSED COASTAL PLAIN

### Key Characteristics of Landscape Type (from CBA report)

- Gently undulating landscape
- Mixed farmland
- Pattern of medium-sized fields
- Network of woodlands, trees and hedgerows
- Flint farmsteads and villages

### Component Character Areas: SC6 Ashlings Upper Coastal Plain; SC7 Halnaker Upper Coastal Plain; SC8 Fontwell Upper Coastal Plain and SC12 Angmering Upper Coastal Plain

***SC6 / SC7 / SC8 Ashlings / Halnaker / Fontwell Upper Coastal Plain***

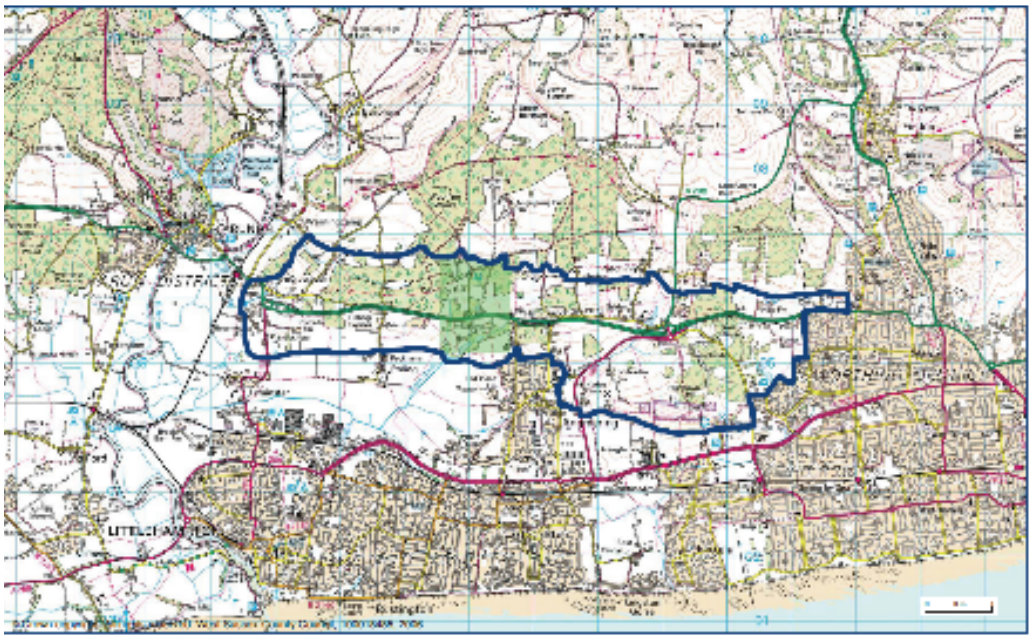




***Key characteristics (directly lifted from West Sussex LCA)***

- A transitional landscape.
- Clear views to the higher ground of the Downs to the north.
- A good cover of woodland and trees, with a high percentage of ancient woodland.
- Mainly gently undulating farmland enclosed by woods with numerous hedgerows.
- Pattern of small to medium sized pastures, arable fields, livestock farming and market gardening.
- Winterbourne chalk streams emanate from this area.
- Wealth of historic landscape features including historic parklands, many ancient woodlands and earthworks.
- Parkland is concentrated in the southern areas of Goodwood and around the Ashlings.
- Area is well settled with scattered pattern of rural villages and farmsteads, including traditional flint village centres such as Boxgrove.
- Suburban fringes with high commuter populations and small commercial sites such as at Halnaker.
- Leafy or wooded settlements.
- Intimate hidden valleys at Binsted.
- Winding hedged or wooded lanes.
- Large scale gravel workings.

### *SC12 Angmering Upper Coastal Plain*



***Key characteristics (directly lifted from West Sussex LCA)***

- Very gently undulating landform more intricate in the east, encompassing the distinctive landscape of Highdown Hill (an isolated chalk hill).
- Mainly gently undulating farmland enclosed by woods with frequent hedgerows.
- Strong network of hedgerows, hedgerow trees and medium to large blocks of woodlands.
- Pattern of small to medium-sized pastures and arable fields.
- Intimate hidden wooded valleys containing narrow water bodies, notably at Hammerpot and Patching.
- Wealth of historic landscape features including historic parklands, many ancient woodlands and earthworks.
- A scattering of historic nucleated flint villages, hamlets and farmsteads dot the area accessed by rural lanes mostly linked by the A27 crossing the area east to west.
- Apart from the busy A27, roads are mostly winding hedged or wooded lanes.
- Criss-crossed by numerous rural tracks, byways and rights of way.

| TYPE D: ENCLOSED COASTAL PLAIN<br>SC6 / SC7 / SC8 Ashlings / Halnaker / Fontwell Upper Coastal Plain<br>SC12 Angmering Upper Coastal Plain | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **WIND TURBINES** | | | |
| **Scale** – small to medium scale landscape including intimate hidden valleys, particularly in the east of the landscape type. Some large-scale fields increase scale in places. Human scale features including numerous hedgerows, hedgerow trees and flint farmsteads.<br>**Landform** – gently undulating farmland forming a transition to the South Downs lying to the north. Highdown Hill, in the east of SC12, is a distinctive topographical feature within the landscape.<br>**Landscape pattern and complexity** – varying landscape pattern with small to medium parliamentary fields and some earlier, irregular assarts. Landcover includes arable, market gardening, pasture, significant blocks of woodland, parkland, semi-natural grasslands and meadows forming an intricate pattern.<br>**Settlement and Man-made Influence –** scattered pattern of nucleated villages, hamlets and farmsteads with a strong flint vernacular, linked by a network of rural lanes. The A27 crosses through SC8 and SC12; large scale gravel workings and suburban influences are a feature of the west of this type.<br>**Skylines** –Undeveloped skylines characterised by woodland. The spire of | The northern fringes of this landscape type fall within the **South Downs National Park** whose special qualities for the park as a whole are described as:<br>(NB these have been summarised to focus on those most relevant to this study)<br>A **dramatic and distinctive topography** that reflects the diversity of underlying geology.<br>**Strong skylines** with a sense of elevation, expansive views and big open skies.<br>A contrast between **expansive open downland** and intimate wooded landscapes.<br>Dramatic **chalk cliffs** between Seaford and Beachy Head defined as Heritage Coast and affording **panoramic sea views**.<br>A collection of **habitats of international importance** - ancient chalk grassland, flood-plain pastures of the river valleys, lowland heathlands of the Greensand, magnificent 'hanging' woodlands of the Chalk scarp and Upper Greensand, and coastal habitats.<br>Internationally important **archaeological sites**; funerary monuments; ancient field systems and settlements; historic field enclosures; ancient sunken lanes and trackways; water meadows and dewponds; and more recent reminders of the last two | This landscape type's flat landform and the presence of urban fringe influences, including light industry, may indicate a lower sensitivity to this type of development. However, the presence of human scale features within the open countryside, sense of peace and tranquillity away from urban areas, and the strong inter-visibility with the South Downs National Park increase levels of sensitivity within this landscape type.<br>The landscape strategy[13] for these areas is to *conserve the undeveloped rural character of the area* (SC6, SC7 and SC8) and to *conserve and enhance the quiet rural qualities and environment of the small villages and rural road and lane network, encourage landscape restoration and woodland management and ensure that new development is well integrated within the landscape* (SC12).<br>These landscape character areas are therefore considered to have a **high** sensitivity to the development of large scale wind turbines; a **moderate-high** sensitivity to medium scale wind turbines, and **moderate** to small turbines. The northern fringes of the landscape type, and the distinctive landscape of Highdown Hill, are particularly sensitive. | • Northern parts of these areas lie within the South Downs National Park which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• Areas of existing development, including commercial or industrial sites and locations along the A27, could provide a location for turbines, as long as they comply with other guidance below.<br>• Do not locate turbines within areas of historic parkland, or within locations that could affect their landscape setting.<br>• Consider landform when developing wind farm proposals of more than one turbine - ensure layouts reflect the shape of the landform, to optimise screening opportunities and to avoid visual confusion. Aim to achieve good composition from key viewpoints.<br>• Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, careful location and screening of ancillary buildings or use of existing buildings.<br>• Consider important views to and from the |

[13] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE D: ENCLOSED COASTAL PLAIN<br>SC6 / SC7 / SC8 Ashlings / Halnaker / Fontwell Upper Coastal Plain<br>SC12 Angmering Upper Coastal Plain | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| Chichester Cathedral is a landmark feature.<br>**Inter-visibility with Adjacent Landscapes** – this landscape has a strong inter-visibility with the South Downs National Park (which covers the northern edges of the landscape type), with the Downs framing many views.<br>**Perceptual Aspects –** this is a peaceful and tranquil landscape with a strong historic sense of place. Tranquillity is broken locally by the presence of the A27, which cuts through SC8 and SC12; whilst small commercial sites, suburban influences and large scale gravel workings impact on levels of tranquillity in some parts of the west (particularly SC6). | World Wars.<br>A **serene and peaceful** landscape.<br>An **unspoilt landscape**, lacking the intrusion of modern or inappropriate development.<br>A concentration of **estates and designed parklands**. | The key landscape attributes that could be sensitive to any scale of wind turbine development are:<br>• the often small and intimate scale of the landscape, with the distinctive landform feature of Highdown Hill in the east;<br>• the presence of human scale features including frequent hedgerows, hedgerow trees and farmsteads;<br>• the complex and diverse nature of the landscape – including irregular assarts, a mixture of farmland and woodland, and semi-natural grasslands;<br>• Historic settlement pattern and strong flint vernacular, along with the presence of parkland estates;<br>• strong sense of peace and tranquillity across much of the landscape with an overall lack of modern development;<br>• strong inter-visibility with the South Downs National Park to the north and Chichester Harbour AONB to the south of SC6. | South Downs National Park to the north, and ensure that the location of turbines does not detract from or dwarf the spire of Chichester Cathedral.<br>• Consider the long views from the surrounding open coastal plain when locating any turbines.<br>• Avoid development within the most tranquil parts of the landscape – ensure the location of development does not adversely affect the small scale and historic character of villages.<br>• Seek opportunities to achieve wider landscape management objectives identified in the West Sussex landscape assessment and management strategy, the South Downs Integrated Landscape Character Assessment and any similar assessments/strategies for Chichester and Arun Districts in association with any proposed development. |
| **A note on cumulative issues:** Although this landscape may be able to accommodate a number of sensitively-sited small turbines, the landscape would become progressively more sensitive to development of a large number of turbines. In this small-medium scale landscape it is likely to be more suitable to develop a greater number of smaller turbines than fewer larger turbines. Any development of multiple developments would need to take into account the above guidance, respect the scale of the landscape and be judged on its own merits, being informed by an assessment of cumulative landscape and visual impacts. | | | |

| TYPE D: ENCLOSED COASTAL PLAIN<br>SC6 / SC7 / SC8 Ashlings / Halnaker / Fontwell Upper Coastal Plain<br>SC12 Angmering Upper Coastal Plain<br>Landscape attributes | Special Qualities (if relevant) | Sensitivity Judgement & Key Landscape Sensitivities | Guidance |
|---|---|---|---|
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform** - gently undulating farmland forming a transition to the South Downs lying to the north. Highdown Hill, in the east of SC12, is a distinctive topographical feature within the landscape.<br>**Landscape pattern** – varying landscape pattern with small to medium parliamentary fields and some earlier, irregular assarts. Landcover includes arable, pasture, market gardening and parkland, interspersed by naturalistic habitats including significant blocks of woodland, semi-natural grasslands and meadows forming an intricate pattern.<br>**Enclosure** – this landscape has a strong sense of enclosure owing to its undulating topography and high woodland cover, with frequent hedgerows and hedgerow trees.<br>**Land Cover/ Land Use** – Landcover includes arable, pasture, market gardening and parkland, interspersed by naturalistic habitats including significant blocks of woodland, semi-natural grasslands and meadows forming an intricate pattern. Large scale gravel workings are found in the west of the landscape type.<br>**Inter-visibility with Adjacent Landscapes** – this landscape has a strong inter-visibility with the South Downs | The northern fringes of this landscape type fall within the **South Downs National Park** whose special qualities for the park as a whole are described as:<br>(NB these have been summarised to focus on those most relevant to this study)<br>A **dramatic and distinctive topography** that reflects the diversity of underlying geology.<br>**Strong skylines** with a sense of elevation, expansive views and big open skies.<br>A contrast between **expansive open downland** and intimate wooded landscapes.<br>Dramatic **chalk cliffs** between Seaford and Beachy Head defined as Heritage Coast and affording **panoramic sea views**.<br>A collection of **habitats of international importance** - ancient chalk grassland, flood-plain pastures of the river valleys, lowland heathlands of the Greensand, magnificent 'hanging' woodlands of the Chalk scarp and Upper Greensand, and coastal habitats.<br>Internationally important **archaeological sites**; funerary monuments; ancient field systems and settlements; historic field enclosures; ancient sunken lanes and trackways; water meadows and dewponds; | Although the presence of arable and horticulture within parts of the landscape, along with its extensive woodland cover, could indicate a lower sensitivity to growth and harvesting of bioenergy crops, important views to and from the South Downs National Park, the presence of naturalistic habitats, historic landscape features and sense of tranquillity increase levels of sensitivity to crop planting and harvesting.<br>The landscape strategy[14] for these areas is to *conserve the undeveloped rural character of the area* (SC6, SC7 and SC8) and to *conserve and enhance the quiet rural qualities and environment of the small villages and rural road and lane network, encourage landscape restoration and woodland management and ensure that new development is well integrated within the landscape* (SC12).<br>Overall, it is considered that the landscape type has a **moderate-low** sensitivity bioenergy crop planting. The key landscape attributes that could be sensitive to bioenergy crop planting are:<br>• the complex and diverse nature of the landscape – including irregular assarts, a mixture of farmland and woodland, and | • Northern parts of these areas lie within the South Downs National Park which is protected for its special qualities. Ensure energy crops do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• Focus Miscanthus crops only in fields already affected by cropping systems; rather than converting pastoral areas.<br>• There may be an opportunity to link some SRC with existing woodlands (particularly within the valleys).<br>• Avoid planting on the slopes of Highdown Hill, a prominent topographical feature in the east.<br>• Ensure crops and harvesting machinery do not affect the survival of historic features such as historic field boundaries, parkland, and prehistoric and Roman earthworks and monuments.<br>• Ensure bioenergy crop planting does not encroach onto areas of semi-natural habitat such as species-rich grasslands.<br>• Aim for irregular patterns of planting rather than geometric blocks.<br>• Keep harvesting operations away from the |

[14] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| | | | |
|---|---|---|---|
| National Park (which covers the northern edges of the landscape type), with the Downs framing many views.<br>**Perceptual Aspects -** this is a peaceful and tranquil landscape with a strong historic sense of place. Tranquillity is broken locally by the presence of the A27, which cuts through SC8 and SC12; whilst small commercial sites, suburban influences and large scale gravel workings impact on levels of tranquillity in some parts of the west (particularly SC6). | and more recent reminders of the last two World Wars.<br>A **serene and peaceful** landscape.<br>An **unspoilt landscape**, lacking the intrusion of modern or inappropriate development.<br>A concentration of **estates and designed parklands**. | nauturalistic habitats including semi-natural grasslands and meadows;<br>• historic landscape features including historic parklands, ancient woodlands and earthworks;<br>• strong sense of peace and tranquillity across much of the landscape;<br>• views to the South Downs National Park to the north. | most tranquil areas.<br>• There may be an opportunity to use crops to screen existing commercial sites, suburban influences and large scale gravel workings.<br>• Ensure new planting within the coastal plain does not interrupt key views to the South Downs ridge.<br>• Reduce the impact of any bioenergy planting by small-scale harvesting, and incorporating mixed species where possible. |
| **A note on cumulative issues:** Although there may be some opportunity for the planting of bioenergy crops on a small scale, in accordance with the guidance above, the landscape would be highly sensitive to large scale planting which could erode the complexity of the landscape, naturalistic habitats or interrupt views to the South Downs. | | | |

## LANDSCAPE TYPE E: WOODED DOWNS

### Key characteristics of Landscape Type (from CBA report):

- Rolling upland of rounded hills, escarpments and broad branching valleys
- Densely wooded escarpment
- Beech and yew hangers, and commercial forestry
- Pattern of large woodlands and fields on the higher land, with a pattern of small fields and woodland on parts of the dip slope
- Chalk streams and dew ponds
- Large estates with country houses and designed parklands
- Small flint villages, farms and hamlets linked by winding lanes

### Component Character Areas: SD1 Western Downs; SD4 Angmering Park

***SD1: Western Downs***

***Key characteristics (directly lifted from West Sussex LCA)***

- Rolling chalk uplands with a bold combination of woodland, farmland and commercial plantations, often connected by copses and dense hedgerows.
- Steep, wooded northern escarpment which is broken up by patches of chalk grassland.
- Broad, branching valleys of the intermittent (winterbourne) streams of the Rivers Ems and Lavant.
- Distinctive beech and yew hangers.
- Large fields and woodlands on the ridges, smaller in the valleys.
- Large estates and parklands, especially on the lower parts of the Downs.

- Wealth of historic features including prehistoric earthworks, trackways, and ancient strip-lynchets.

***SD4: Angmering Park***

***Key characteristics (directly lifted from West Sussex LCA)***

- Rolling chalk uplands with a bold combination of woodland, farmland and commercial plantations often connected by copses and dense hedgerows.
- Steep, wooded northern escarpment.
- Fairly evenly sloping dip slope with broad, branching dry valleys and ridges.
- Mixture of medium to large, predominantly beech forests and distinctive beech hangers.
- Larger fields and woodlands on the ridges, smaller in the valleys.

| TYPE E: WOODED DOWNS<br>SD1: Western Downs<br>SD4: Angmering Park | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **WIND TURBINES** | | | |
| **Scale** – large scale downland landscape; smaller scale within the valleys.<br>**Landform** – rolling chalk uplands with a steep northern escarpment and evenly sloping dip slope with prominent hills (e.g. St Roche's Hill), with branching dry valleys and winterbournes.<br>**Landscape pattern and complexity** – bold and complex mosaic of woodland, farmland, parkland and commercial forestry plantations connected by a dense network of hedgerows and copses.<br>**Settlement and Man-made Influence –** historic villages and farmsteads of chalk and flint linked by a network of winding lanes and steep tracks (including historic 'bostals'). Wealth of historic features including prehistoric earthworks and monuments, parklands and ancient strip-lynchets.<br>**Skylines** – Undeveloped skylines often characterised by woodland and plantations.<br>**Inter-visibility with Adjacent Landscapes** – this landscape has inter-visibility with the lowlands through gaps in woodland cover – with long views south from the downs across the coastal plain and beyond – including to the Chichester Harbour AONB, and views north across | This landscape type falls within the **South Downs National Park** whose special qualities for the park as a whole are described as:<br>(NB these have been summarised to focus on those most relevant to this study)<br>A **dramatic and distinctive topography** that reflects the diversity of underlying geology.<br>**Strong skylines** with a sense of elevation, expansive views and big open skies.<br>A contrast between **expansive open downland** and intimate wooded landscapes.<br>Dramatic **chalk cliffs** between Seaford and Beachy Head defined as Heritage Coast and affording **panoramic sea views**.<br>A collection of **habitats of international importance** - ancient chalk grassland, flood-plain pastures of the river valleys, lowland heathlands of the Greensand, magnificent 'hanging' woodlands of the Chalk scarp and Upper Greensand, and coastal habitats.<br>Internationally important **archaeological sites**; funerary monuments; ancient field systems and settlements; historic field enclosures; ancient sunken lanes and trackways; water meadows and dewponds; and more recent reminders of the last two | Although this is a large scale landscape, the distinctive topography, prominent undeveloped skylines, presence of valued historic landscapes and archaeology, and sense of relative remoteness and solitude in the south-east make this landscape sensitive to wind turbine development.<br>The landscape strategy[15] for these areas is to *conserve the largely remote, tranquil character of the area* (SD1) and to *conserve and enhance the quiet rural qualities and environment of the small villages and rural network, encourage landscape restoration and woodland management and ensure that new development is well integrated within the landscape* (SD4).<br>This landscape type is therefore considered to have a **high** sensitivity to development of large and medium scale wind turbines; and a **moderate-high** sensitivity to small scale wind turbines. The north facing escarpment and prominent hills on the southern edge of the type are particularly sensitive.<br>The key landscape attributes that could be sensitive to any scale of wind turbine development are:<br>• the highly visible and prominent undeveloped skylines, particularly the | • These areas are within the South Downs National Park which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• Avoid locating turbines on prominent undeveloped scarp slopes or skylines where they form an important backdrop to views.<br>• Dipslope areas may provide some opportunity for *small scale* turbines, associated with existing buildings or settlements in the landscape, as long as they comply with other guidance below.<br>• Consider landform when developing wind farm proposals of more than one turbine - ensure layouts reflect the shape of the landform, to optimise screening opportunities and to avoid visual confusion. Aim to achieve good composition from key viewpoints.<br>• Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, careful location and screening of ancillary buildings or use of existing buildings. |

[15] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE E: WOODED DOWNS<br>SD1: Western Downs<br>SD4: Angmering Park | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| the Rother Valley.<br>**Perceptual Aspects –** A deeply rural secluded landscape with large tracts devoid of roads and settlement. Traffic on routes across the Downs can erode levels of tranquillity locally. | World Wars.<br>A **serene and peaceful** landscape.<br>An **unspoilt landscape**, lacking the intrusion of modern or inappropriate development.<br>A concentration of **estates and designed parklands**. | north facing scarp;<br>• historic features, strong local vernacular and relative absence of modern development;<br>• the sense of relative remoteness and solitude. | • Avoid areas of fragile vegetation (particularly chalk grassland) which are difficult to restore.<br>• Ensure turbines do not detract from, or damage, historic features (such as earthworks and hill forts) as prominent visual features of the landscape.<br>• Ensure development respects designed views within historic parklands.<br>• Consider views from the surrounding lowlands, including the Chichester Harbour AONB, when locating any turbines.<br>• Keep development away from the most tranquil/remote parts of the landscape.<br>• Seek opportunities to achieve wider landscape management objectives identified in the West Sussex landscape assessment and management strategy, the South Downs integrated landscape character assessment and management plan and any similar assessments/strategies for Chichester, Adur and Arun Districts in association with any proposed development. |
| **A note on cumulative issues:** Although this landscape may be able to accommodate a number of single small turbines associated with existing buildings on the dipslope, and sensitively sited according to the above guidance, the landscape would become progressively more sensitive to development of a large number of turbines. In this protected landscape it is likely to be more suitable to develop a greater number of smaller turbines than fewer larger turbines. Any development of multiple developments would need to take into account the above guidance, respect the scale of the landscape and be judged on its own merits, being informed by an assessment of cumulative landscape and visual impacts. | | | |

| TYPE E: WOODED DOWNS<br>SD1: Western Downs<br>SD4: Angmering Park<br>Landscape attributes | Special Qualities (if relevant) | Sensitivity Judgement & Key Landscape Sensitivities | Guidance |
|---|---|---|---|
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform** - rolling chalk uplands with a steep northern escarpment and evenly sloping dip slope with prominent hills (e.g. St Roche's Hill), with branching dry valleys and winterbournes.<br>**Landscape pattern** – bold and complex mosaic of woodland, farmland, parkland and commercial forestry plantations connected by a dense network of hedgerows and copses. Large fields and estate farmlands on the ridges, with smaller fields in the valleys.<br>**Enclosure** – Woodland cover creates an enclosed landscape with contained views, occasionally contrasting with dramatic long distance views from higher, more open elevations.<br>**Land Cover/ Land Use** – Land cover includes mixed farmland (including arable cultivation), patches and large tracts of naturalistic chalk grassland on the steeper slopes and ridge tops, ancient woodlands (including beech hangers) and commercial forestry plantations.<br>**Inter-visibility with Adjacent Landscapes** – this landscape has inter-visibility with the lowlands through gaps in woodland cover – with long views south from the downs across the coastal plain | The northern fringes of this landscape type fall within the **South Downs National Park** whose special qualities for the park as a whole are described as:<br>(NB these have been summarised to focus on those most relevant to this study)<br>A **dramatic and distinctive topography** that reflects the diversity of underlying geology.<br>**Strong skylines** with a sense of elevation, expansive views and big open skies.<br>A contrast between **expansive open downland** and intimate wooded landscapes.<br>Dramatic **chalk cliffs** between Seaford and Beachy Head defined as Heritage Coast and affording **panoramic sea views**.<br>A collection of **habitats of international importance** - ancient chalk grassland, flood-plain pastures of the river valleys, lowland heathlands of the Greensand, magnificent 'hanging' woodlands of the Chalk scarp and Upper Greensand, and coastal habitats.<br>Internationally important **archaeological sites**; funerary monuments; ancient field systems and settlements; historic field enclosures; ancient sunken lanes and trackways; water meadows and dewponds; | Although the presence of arable cropping and large scale forestry could indicate a lower sensitivity to bioenergy crops, the steep landform, presence of important tracts of chalk grassland, areas of historic parkland, strong concentration of archaeological features, views to the lowlands and high levels of peace and tranquillity increase sensitivity to crop planting and harvesting.<br>The landscape strategy[16] for these areas is to *conserve the largely remote, tranquil character of the area* (SD1) and to *conserve and enhance the quiet rural qualities and environment of the small villages and rural network, encourage landscape restoration and woodland management and ensure that new development is well integrated within the landscape* (SD4).<br>Overall, it is considered that the landscape type has a **moderate** sensitivity to bioenergy crop planting and harvesting. The key landscape attributes that could be sensitive to bioenergy crop planting are:<br>• the steep slopes of the escarpment, ridges and valleys;<br>• valued areas of semi-natural chalk | • These areas are within the South Downs National Park which is protected for its special qualities. Ensure energy crops do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• Focus Miscanthus crops only in fields already affected by cropping systems; rather than converting pastoral areas.<br>• There may be an opportunity to link some SRC with existing woodlands and forestry plantations.<br>• Ensure crops and harvesting machinery do not affect the survival of historic features such as parkland and prehistoric burial mounds, hillforts and barrows, ancient chalk tracks (bostals) and strip lynchets.<br>• Plant away from the elevated downs, scarp or prominent hills on the dip slope where crops and harvesting operations would be highly visible.<br>• Ensure planting does not block key views across the adjacent lowlands.<br>• Ensure bioenergy crop planting does not encroach onto areas of semi-natural habitat, particularly species-rich chalk |

[16] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

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|---|---|---|---|
| and beyond – including to the Chichester Harbour AONB, and views north across the Rother Valley.<br>**Perceptual Aspects -** A deeply rural secluded landscape with large tracts devoid of roads and settlement. Increasing traffic on routes across the Downs can erode levels of tranquillity locally. | and more recent reminders of the last two World Wars.<br>A **serene and peaceful** landscape.<br>An **unspoilt landscape**, lacking the intrusion of modern or inappropriate development.<br>A concentration of **estates and designed parklands**. | grassland;<br>• concentration of historic features and valued areas of parkland;<br>• long views through the woodland to and from the surrounding lowlands, including the Chichester Harbour AONB.<br>• the sense of remoteness/solitude (particularly sensitive to harvesting operations). | grasslands and ancient woodlands.<br>• Aim for irregular patterns of planting rather than geometric blocks.<br>• Keep harvesting operations away from the most tranquil areas.<br>• Reduce the impact of any bioenergy planting by small-scale harvesting, and incorporating mixed species where possible. |
| **A note on cumulative issues:** Although there may be some opportunity for planting of bioenergy crops on a small scale, in accordance with the guidance above, the landscape would be highly sensitive to large scale planting that could reduce the complexity of landcover, mask the dramatic landforms, or erode the sense of remoteness/solitude. | | | |

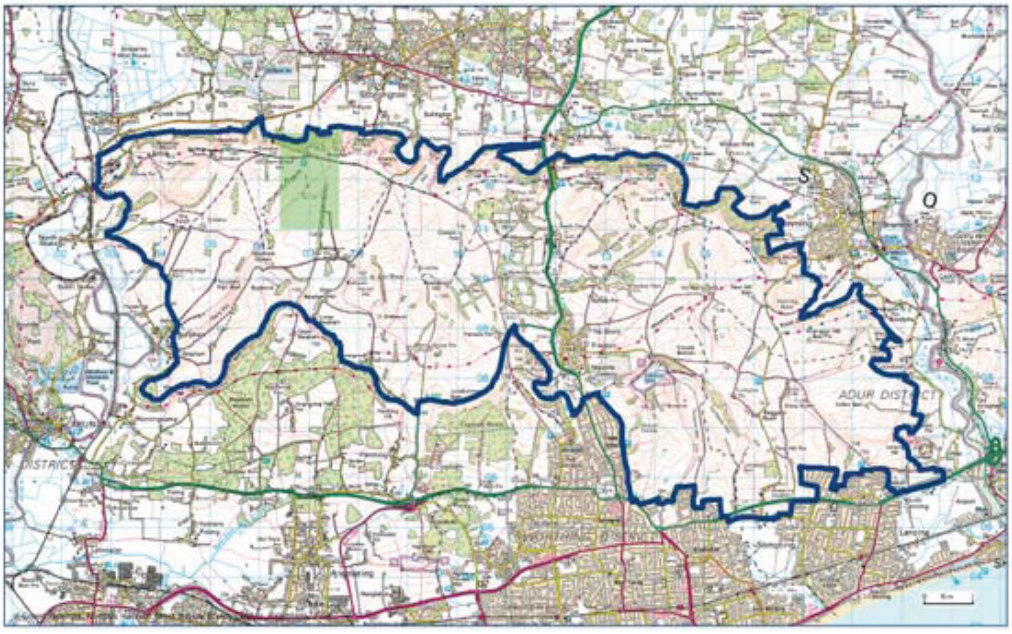
## LANDSCAPE TYPE F: OPEN DOWNS

### Key Characteristics of Landscape Type (from CBA report)

- Smooth, gently rolling elevated downlands, escarpments and narrow branching dry valleys;
- Steep, mainly open escarpment with deeply indented coombs;
- Large, rectangular arable fields;
- Unimproved chalk grassland;
- Few hedgerows or woodlands;
- Ancient chalkland tracks and prehistoric earthworks;
- Dewponds;
- Few settlements and mainly isolated farmsteads and barns.

### Component Character Areas: SD3 Central Downs; SD6 Eastern Downs.

***SD3: Central Downs***



***Key Characteristics (directly lifted from West Sussex LCA[17])***

- Elevated chalk hills.
- Smooth, gently rolling landform, cut by trough-shaped dry valleys, sometimes branching.

[17]http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project/

- Dramatic, steep, mostly open escarpment, deeply indented by rounded coombes.
- Open, expansive landscape mostly with few trees and hedgerows.
- Areas of woodland mostly limited to narrow belts along the edge of the scarp slope.
- Spectacular panoramic views over the Low Weald to the north.
- Arable farming predominates in large, rectilinear fields.
- Surviving fragmented and isolated blocks of species-rich chalk grassland on steeper slopes and on the escarpment.
- Distinctive historic landscape features including hill forts, barrows, cross dykes, ancient chalk tracks, field systems, windmills and dew ponds.
- Isolated yet prominent farmsteads and barns.
- Strong sense of remoteness and solitude in some areas.

***SD6: Eastern Downs***


***Key Characteristics (directly lifted from West Sussex LCA[18])***

- Elevated, open rolling landform of hills, dry valleys and a steep escarpment (scarp) across uniform chalk upland scenery close to the sea, within the Sussex Downs Area of Outstanding Natural Beauty (AONB).
- Panoramic views across the Weald to the Surrey Hills and the North Downs.
- Southern boundary of the area is fringed by the major coastal towns of Brighton, Hove and Shoreham-by-Sea.

[18]http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project/

- Predominance of open arable and grassland cultivation with irregular, smaller pastures, woodland patches and hedgerows in the chalk valleys and coombes, on parts of the scarp, and along the scarp foot. I Remnant species-rich grassland.
- Isolated farms and farm buildings on the high downland and sparse settlement elsewhere, clustered in the valleys, in hamlets and farmsteads. I Ridge line was line of a major ancient routeway, today the South Downs Way.
- Many landmarks and distinctive prehistoric and historic landscape features.
- Chalk quarries and pits, telecommunications masts, pylon lines, golf courses, and intensive recreational use centred on Devil's Dyke.
- Crossed by the A23 Trunk Road, the A27 Trunk Road (Brighton By-pass) to the south, and by a modest network of high lanes, some of them busy with traffic.
- Much localised traffic noise from roads within and on the edges of the downland.
- London to Brighton Railway Line crosses the area via Clayton Tunnel.
- Traditional rural buildings built of local flint and brick with weatherboarded barns.

| TYPE F: OPEN DOWNS<br>SD3: Central Downs<br>SD6: Eastern Downs | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **WIND TURBINES** | | | |
| **Scale** – a large scale landscape (described as 'vast' in the South Downs Integrated Landscape Character Assessment).<br>**Landform** – strong and distinctive landform of elevated, rolling hills and a dramatic north facing escarpment, deeply indented by rounded coombes.<br>**Landscape pattern and complexity** – generally simple landscape pattern of large rectangular arable fields, unimproved chalk grassland and few hedgerows or woodlands. Complexity provided by historic landscape features (hill forts, barrows, cross dykes, ancient chalk tracks, field systems, windmills and dew ponds).<br>**Settlement and Man-made Influence –** dispersed settlement of isolated farmsteads and barns. Some chalk quarries, telecommunications masts, pylon lines, golf courses, roads/railway particularly in the Eastern Downs.<br>**Skylines** - the open downland, and particularly the dramatic north facing scarp, has a distinctive skyline that is highly visible over large areas and has a great influence on landscape character. | This type lies entirely within the **South Downs National Park** whose special qualities for the park as a whole are described as:<br>(NB these have been summarised to focus on those most relevant to this study)<br>A **dramatic and distinctive topography** that reflects the diversity of underlying geology.<br>**Strong skylines** with a sense of elevation, expansive views and big open skies.<br>A contrast between **expansive open downland** and intimate wooded landscapes.<br>Dramatic **chalk cliffs** between Seaford and Beachy Head defined as Heritage Coast and affording **panoramic sea views**.<br>A collection of **habitats of international importance** - ancient chalk grassland, flood-plain pastures of the river valleys, lowland heathlands of the Greensand, magnificent 'hanging' woodlands of the Chalk scarp and Upper Greensand, and coastal habitats.<br>Internationally important **archaeological sites**; funerary monuments; ancient field systems and settlements; historic field | Although this is a large scale landscape with some existing man-made influence, the distinctive topography, prominent skylines, high visibility over large areas, and sense of relative remoteness and solitude in the south-east make this landscape sensitive to such development.<br>The landscape strategy[19] for these areas is to *conserve and enhance the predominantly open and largely tranquil character of the area and its wide views* (SD3) and to *conserve and enhance the open, elemental qualities of the downland landscape and its historic legacy, encourage landscape restoration and woodland management, and ensure that new development is well integrated within the landscape* (SD6).<br>This landscape type is therefore considered to have a **high** sensitivity to development of large and medium scale wind turbines; and a **moderate-high** sensitivity to small scale wind turbines. The north facing escarpment is particularly sensitive.<br>The key landscape attributes that could be sensitive to any scale of wind turbine development are: | • These areas lie entirely within the South Downs National Park which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• Dipslope areas may provide some opportunity for *small scale* turbines, associated with existing buildings or settlements in the landscape, as long as they comply with other guidance below.<br>• Avoid locating turbines on prominent undeveloped scarp slopes or skylines where they form an important backdrop to views.<br>• Consider landform when developing wind farm proposals of more than one turbine - ensure layouts reflect the shape of the landform, to optimise screening opportunities and to avoid visual confusion. Aim to achieve good composition from key viewpoints.<br>• Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access |

[19] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE F: OPEN DOWNS<br>SD3: Central Downs<br>SD6: Eastern Downs | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **Inter-visibility with Adjacent Landscapes** – the Downs are highly visible from adjacent low lying areas, but particularly from the Low Weald to the north where they form a dramatic backdrop to views.<br>**Perceptual Aspects –** Whilst traffic on the A23 and A27 and intensive recreational use (e.g. Devil's Dyke) reduce tranquillity in some parts (particularly the edges of the Eastern Downs), the majority of the type provides a strong sense of remoteness and solitude in close proximity to the south coast urban area. | enclosures; ancient sunken lanes and trackways; water meadows and dewponds; and more recent reminders of the last two World Wars.<br>A **serene and peaceful** landscape.<br>An **unspoilt landscape**, lacking the intrusion of modern or inappropriate development.<br>A concentration of **estates and designed parklands**. | • the dramatic and distinctive landform features and historic skyline features;<br>• the highly visible and prominent skylines, particularly the north facing scarp;<br>• the sense of relative remoteness and solitude. | tracks, burying cabling underground, careful location and screening of ancillary buildings or use of existing buildings.<br>• Avoid areas of fragile vegetation (particularly chalk grassland) which are difficult to restore.<br>• Ensure turbines do not detract from historic features (such as earthworks and hill forts) as prominent visual features pf the landscape.<br>• Consider views from the surrounding lowlands when locating any turbines.<br>• Keep development away from the most tranquil parts of the landscape.<br>• Seek opportunities to achieve wider landscape management objectives identified in the West Sussex landscape assessment and management strategy, the South Downs Integrated Landscape Character Assessment and any similar assessments/strategies for Arun, Worthing, Adur and Mid Sussex Districts in association with any proposed development. |
| **A note on cumulative issues:** Although this landscape may be able to accommodate a limited number of single small turbines, associated with particular properties or settlements and sensitively sited according to the above guidance, the landscape would become progressively more sensitive to development of a multiple turbines. In this protected and open landscape (with relatively modest size landforms compared to commercial turbine sizes) it is likely to be better to have a greater number of smaller turbines than fewer larger turbines. Any development of multiple developments would need to take into account the above guidance, respect the scale of the landscape and be judged on its own merits, being informed by an assessment of cumulative landscape and visual impacts. | | | |

| TYPE F: OPEN DOWNS<br>SD3: Central Downs<br>SD6: Eastern Downs<br>Landscape attributes | Special Qualities (if relevant) | Sensitivity Judgement & Key Landscape Sensitivities | Guidance |
|---|---|---|---|
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform** - strong and distinctive landform of elevated, rolling hills and a dramatic north facing escarpment, deeply indented by rounded coombes.<br>**Landscape pattern** – generally simple landscape pattern including rectangular arable fields and unimproved chalk grassland. Few hedgerows or woodlands. Complexity provided by historic landscape features (hill forts, barrows, cross dykes, ancient chalk tracks, field systems, windmills and dew ponds).<br>**Enclosure** – open with few hedgerows or woodlands. Greater enclosure in the coombes.<br>**Land Cover/ Land Use and Sense of 'Naturalness'** – unenclosed and naturalistic chalk grassland landscapes, particularly on steeper slopes, with fields supporting mixed farmland (including arable crops) on much of the dip slope.<br>**Inter-visibility with Adjacent Landscapes** the downs are highly visible from adjacent low lying areas, but particularly from the Low Weald to the | This type lies entirely within the **South Downs National Park** whose special qualities for the park as a whole are described above. | Although the simple landscape pattern, presence of cropping systems (including existing harvesting operations) reduces sensitivity to bioenergy crops, areas of steep landform, the extremely open nature of the landscape, presence of semi-natural chalk grassland/pasture, and sense of remoteness/solitude increases sensitivity to crops and their harvesting operations.<br>The landscape strategy[20] for these areas is to *conserve and enhance the predominantly open and largely tranquil character of the area and its wide views* (SD3) and to *conserve and enhance the open, elemental qualities of the downland landscape and its historic legacy, encourage landscape restoration and woodland management, and ensure that new development is well integrated within the landscape* (SD6).<br>Overall, it is considered that the landscape type has a **moderate-high** sensitivity to any bioenergy crop planting, with the scarps and steep landforms particularly sensitive to growth and harvesting of Miscanthus and SRC. | • These areas lie entirely within the South Downs National Park which is protected for its special qualities. Ensure energy crops do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• There may be limited opportunity to incorporate Miscanthus crops into existing cropped areas, or to link some SRC with existing woodlands within more enclosed areas (e.g. valleys).<br>• Miscanthus crops should only be grown in fields already affected by cropping systems, rather than converting pastoral areas to cropping.<br>• Plant away from the elevated downs or scarp where crops and harvesting operations would be highly visible.<br>• Maintain the sense of openness and exposure of the downs– ensure crop planting does not block views across the elevated parts of the downs, or along the scarp or ridgeline. |

[20] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| | | | |
|---|---|---|---|
| north where they form a dramatic backdrop to views.<br>**Perceptual Aspects -** Whilst traffic on the A23 and A27 and intensive recreational use (e.g. Devil's Dyke) reduce tranquillity in some parts (particularly the edges of the Eastern Downs), the majority of the type provides a strong sense of remoteness and solitude in close proximity to the south coast urban area. | | The key landscape attributes that could be sensitive to bioenergy crop planting are:<br>• the steep landform, particularly the scarp and coombs;<br>• the extremely open nature of the landscape, particularly on the higher areas of the downs;<br>• areas of semi-natural chalk grassland or pasture;<br>• historic landscape features (hill forts, barrows, cross dykes, ancient chalk tracks, field systems, windmills and dew ponds);<br>• the sense of remoteness/solitude (particularly sensitive to harvesting operations). | • Ensure crops and harvesting machinery do not affect the survival of historic features such as hill forts, barrows, cross dykes, ancient chalk tracks, field systems, windmills and dew ponds.<br>• Ensure bioenergy crop planting does not encroach onto areas of semi-natural habitat such as chalk grassland, scrub or native woodland.<br>• Keep harvesting operations away from the most tranquil areas.<br>• Reduce the impact of any bioenergy planting by small-scale harvesting, and incorporating mixed species where possible.<br>• Aim for irregular patterns of planting rather than geometric blocks. |
| **A note on cumulative issues:** Although there may be some opportunity for planting of bioenergy crops on a small scale, in accordance with the guidance above, the landscape would be highly sensitive to large scale planting that could change the open character of the downs, mask the dramatic landforms, or erode the sense of remoteness/solitude. | | | |

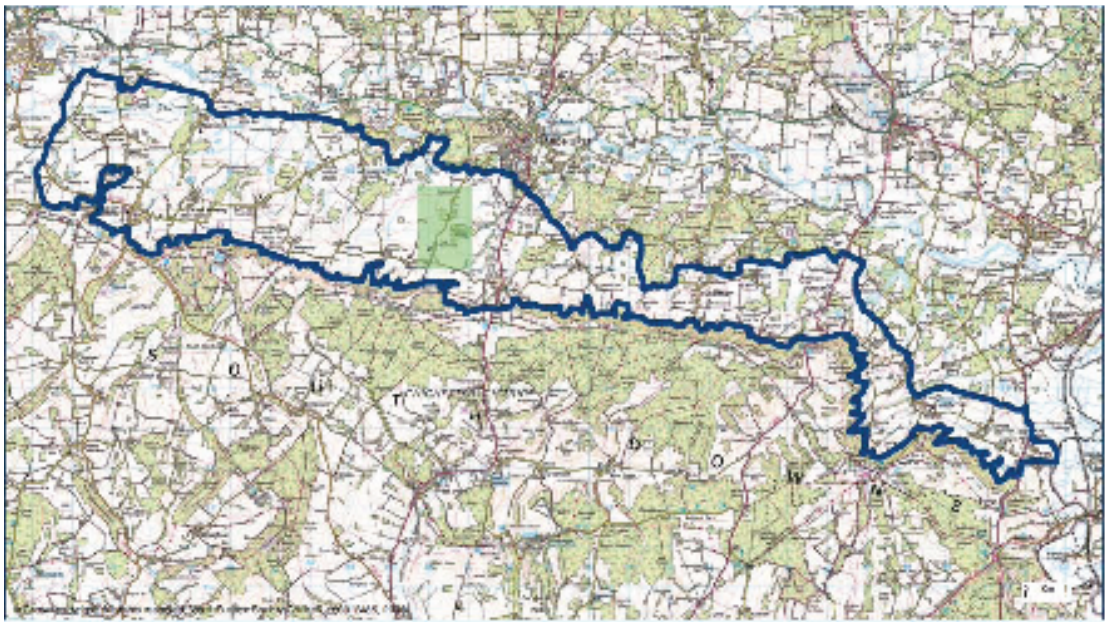
## LANDSCAPE TYPE G: SCARP FOOTSLOPES

### Key characteristics of Landscape Type (from CBA Report)

- Gently undulating to rolling lowland, dominated by the chalk escarpment to the south;
- Pastures and arable fields with irregular shapes;
- Patchwork of farmsteads and woodland interlaced with hedgerows;
- Numerous streams flow northwards;
- Settlements located where springs emerge from the base of the chalk scarp (spring-line);
- Dense, twisting network of narrow lanes often deeply cut between high hedgebanks.

### Component Character Areas: WG1 Western Scarp Footslopes, WG8 Central Scarp Footslopes, LW11 Eastern Scarp Footslopes

***WG1: Western Scarp Footslopes***



***Key characteristics (directly lifted from West Sussex LCA)***

- Rolling relief of low ridges and vales with dramatic views of the chalk escarpment to the south.
- Many winterbourne streams flowing northwards from the base of the chalk escarpment.
- Picturesque, traditional spring line villages with stone churches.
- Patchwork of farmland and woodland interlaced with a varied pattern of hedgerows.

- Narrow winding lanes, often sunken and enclosed by hedge banks, link the settlements.
- Managed parkland and estate landscapes.
- Larger areas of woodland over the clay and numerous streams define the field boundaries.
- The densities of copses, streamside woodlands and hedgerow trees tend to increase towards the edges of settlements.
- Settlements are small and usually clustered with a strong historic character and few suburban influences.
- The influence of the large country houses and estates is strong in some settlements.
- Varied building materials include flint, clunch (both chalk and white sandstone), brick, local sandstone and half-timber.
- Villages, scattered farms and designed parklands provide a wealth of detail and interest.

***WG8: Central Scarp Footslopes***

***Key characteristics (directly lifted from West Sussex LCA)***

- Rolling relief of low ridges and vales.
- Dramatic views of the chalk escarpment to the south and glimpsed views of settlements through woodland and trees.
- Large straight edged arable fields on upper slopes.
- Mixed farmland with fields of varied shapes and sizes on lower slopes.
- Narrow linear woodlands often near the streams, interlaced with a varied pattern of hedgerows.

- Numerous streams define field boundaries.
- Density of copses, streamside woodlands and hedgerow trees increase towards the edges of settlements and lower slopes.
- Picturesque, traditional spring-line villages and settlements.
- Small settlement pattern often clustered or centred on manor houses, churches or mills, with a strong historic character and few suburban influences.
- Varied building materials including flint, brick, local sandstone (of the Upper Greensand) coloured blue or weathered rusty yellow (Amberley blue), some chalk (called 'clunch' locally), and half timber.
- Managed parkland and estate landscapes.
- Narrow winding lanes mainly crossing north to south, connecting settlements with the Downs. Lanes rise towards the scarp slope, often with dramatic views of scarp slope.
- Lanes sometimes sunken and enclosed by hedgebanks.

***LW11: Eastern Scarp Footslopes***

***Key characteristics (directly lifted from West Sussex LCA)***

- Undulating Lower Greensand sandstone ridges and gentle Gault Clay vales drained by the River Adur, most of which lie within the Sussex Downs Area of Outstanding Natural Beauty (AONB).
- Concentration of ancient woodland lying on the Gault Clay.
- Views dominated by the steep downland scarp.
- Arable and pastoral rural landscape, secluded in places, a mosaic of small and larger fields, woodlands, shaws and hedgerows with hedgerow trees.
- Includes the extensive designed landscape of Danny Estate.

- Small historic commons and orchards around Henfield in the north of the area.
- Modest network of country lanes and underhill lanes beneath the scarp.
- Pockets of biodiversity limited to woodland, ponds and stream valleys.
- Characteristic spring-line villages and dispersed farmsteads, some historic.
- Township of Henfield and expanded ridge line villages with suburban development at Hurstpierpoint and Hassocks.
- Criss-crossed by roads, many of them busy, including the A23 Trunk Road.
- London to Brighton Railway Line crosses the area.
- Varied traditional rural buildings built with diverse materials including flint, timber-framing, Horsham Stone roofing and varieties of local brick and tile-hanging.
- Dominance of painted render and a wide range of modern styles and materials from the Victorian period onwards.
- Few visitor and recreational attractions.

| TYPE G: SCARP FOOTSLOPES<br>WG1: Western Scarp Footslopes<br>WG8: Central Scarp Footslopes<br>LW11: Eastern Scarp Footslopes | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **WIND TURBINES** | | | |
| **Scale** – a small scale, medieval landscape contrasting with the vast open downland landscapes to the south.<br>**Landform** – rolling relief of low ridges and vales, dominated by the chalk escarpment to the south.<br>**Landscape pattern and complexity** – complex landscape with a varied pattern of mixed agricultural fields, with woodland, hedgerows, parklands, ditches and ponds adding landscape interest. Landscape is simplified where large scale arable fields dominate (e.g. at the foot of the scarp)<br>**Settlement and Man-made Influence –** small, clustered settlement pattern with spring-line villages and dispersed farmsteads with a strong historic character. Large country houses, manor houses and mills. Few suburban influences – the A23 Trunk Road and London to Brighton Railway Line cross through the eastern footslopes.<br>**Skylines** – undeveloped skylines dominated by the scarp to the south.<br>**Inter-visibility with Adjacent Landscapes** –inter-visibility with the downs lying to the south, particularly the prominent escarpment. | Most of this landscape type falls within the **South Downs National Park** whose special qualities for the park as a whole are described as:<br>(NB these have been summarised to focus on those most relevant to this study)<br>A **dramatic and distinctive topography** that reflects the diversity of underlying geology.<br>**Strong skylines** with a sense of elevation, expansive views and big open skies.<br>A contrast between **expansive open downland** and intimate wooded landscapes.<br>Dramatic **chalk cliffs** between Seaford and Beachy Head defined as Heritage Coast and affording **panoramic sea views**.<br>A collection of **habitats of international importance** - ancient chalk grassland, flood-plain pastures of the river valleys, lowland heathlands of the Greensand, magnificent 'hanging' woodlands of the Chalk scarp and Upper Greensand, and coastal habitats.<br>Internationally important **archaeological sites**; funerary monuments; ancient field systems and settlements; historic field enclosures; ancient sunken lanes and trackways; water meadows and dewponds; | The presence of transport infrastructure in the east, and the location of simple, large scale arable landscapes in parts, could indicate a lower sensitivity to this type of development. However, the overall complexity of the landscape, its rolling relief, strong medieval character, dispersed settlement pattern, high inter-visibility with the downs to the south, and levels of peace and tranquillity heighten levels of sensitivity.<br>The landscape strategy[21] for these areas is to *conserve the largely secluded, tranquil character of the area* (WG1); *conserve and maintain the open character of the scarp footslopes and views to scarp slope* (WG8); and to *conserve and enhance the quiet, rural qualities of the western part of the area and the environment of the spring line villages, encourage landscape restoration and woodland management, and ensure that new development is well-integrated within the landscape*. (LW11).<br>This landscape type is therefore considered to have a **high** sensitivity to development of large and medium scale wind turbines; and a **moderate-high** sensitivity to small scale wind turbines. The key landscape attributes that could be sensitive to any | • All of WG1 and WG8 and part of LW11 within South Downs National Park which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• Avoid locating turbines in prominent locations close to the scarp.<br>• Ensure turbines do not detract from the character and setting of areas of historic parkland (particularly designed views).<br>• Consider landform when developing wind farm proposals of more than one turbine - ensure layouts reflect the shape of the landform, to optimise screening opportunities and to avoid visual confusion. Aim to achieve good composition from key viewpoints.<br>• Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, careful location and screening of ancillary buildings or use of existing buildings.<br>• Avoid areas of fragile vegetation (particularly chalk grassland) which are |

[21] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE G: SCARP FOOTSLOPES<br>WG1: Western Scarp Footslopes<br>WG8: Central Scarp Footslopes<br>LW11: Eastern Scarp Footslopes | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **Perceptual Aspects –** this is a strongly rural landscape with peaceful villages, pastoral parklands and a low incidence of overt built human impact. However, the sense of tranquillity is eroded in localised areas in the east (LW11) by roads and railways which tend to follow the scarp foot. | and more recent reminders of the last two World Wars.<br>A **serene and peaceful** landscape.<br>An **unspoilt landscape**, lacking the intrusion of modern or inappropriate development.<br>A concentration of **estates and designed parklands**. | scale of wind turbine development are:<br>• the small scale, medieval character of much of the area;<br>• the complexity of the landscape;<br>• the strong inter-visibility with the prominent scarp slope to the south;<br>• the overall sense of relative tranquillity and peacefulness, with little modern development. | difficult to restore.<br>• Consider views from the adjacent Downs when locating any turbines.<br>• Keep development away from the most tranquil parts of the landscape.<br>• There may be some opportunities to locate small turbines alongside the A23 Trunk Road or London to Brighton Railway Line, as long as they comply with other guidance.<br>• Seek opportunities to achieve wider landscape management objectives identified in the West Sussex landscape assessment and management strategy, South Downs integrated landscape character assessment and management plan, Horsham District landscape character assessment, and any assessments/strategies for Chichester and Mid Sussex Districts in association with any proposed development. |
| **A note on cumulative issues:** Although this landscape may be able to accommodate a limited number of single small turbines, associated with particular properties or settlements and sensitively sited according to the above guidance, the landscape would become progressively more sensitive to development of multiple turbines. In this small scale medieval landscape it is likely to be more suitable to develop a greater number of smaller turbines than fewer larger turbines. Any development of multiple developments would need to take into account the above guidance, respect the scale of the landscape and be judged on its own merits, being informed by an assessment of cumulative landscape and visual impacts. | | | |

| TYPE G: SCARP FOOTSLOPES<br>WG1: Western Scarp Footslopes<br>WG8: Central Scarp Footslopes<br>LW11: Eastern Scarp Footslopes<br>Landscape attributes | Special Qualities (if relevant) | Sensitivity Judgement & Key Landscape Sensitivities | Guidance |
|---|---|---|---|
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform** – rolling relief of low ridges and vales, dominated by the chalk escarpment to the south.<br>**Landscape pattern** – complex landscape with a varied pattern of mixed agricultural fields, with woodland, hedgerows, parklands, ditches and ponds adding landscape interest.<br>**Enclosure** – large scale, open arable fields at the foot of the scarp, contrasting with a strong sense of enclosure owing to the density of woodland cover, hedgerows, hedgerow trees and sunken lanes.<br>**Land Cover/ Land Use and Sense of 'Naturalness'** – mixed agricultural fields (including large areas of arable cropping on upper slopes) linked by a dense network of hedgerows, hedgerow trees and blocks of woodland, including ancient woodlands and important hanger woodlands associated with the Greensand terraces in the west. Streams, ditches, ponds and patches of wetland and chalk grassland increase the sense of 'naturalness'.<br>**Inter-visibility with Adjacent Landscapes** strong inter-visibility with the downs lying to the south; the escarpment is particularly prominent in | Most of this landscape type falls within the **South Downs National Park** whose special qualities are described above. | Although the gentle topography and presence of cropping systems (including existing harvesting operations) reduce sensitivity to bioenergy crops, the landscape's naturalistic habitats, areas of historic parkland, long views, and levels of peace and tranquillity increase sensitivity to crops and their harvesting operations.<br>The landscape strategy[22] for these areas is to *conserve the largely secluded, tranquil character of the area* (WG1); *conserve and maintain the open character of the scarp footslopes and views to scarp slope* (WG8); and to *conserve and enhance the quiet, rural qualities of the western part of the area and the environment of the spring line villages, encourage landscape restoration and woodland management, and ensure that new development is well-integrated within the landscape*. (LW11)<br>Overall, it is considered that the landscape type has a **moderate** sensitivity to SRC and **moderate-low** to Miscanthus crop.<br>The key landscape attributes that could be sensitive to bioenergy crop planting are:<br>• The open character of the footslopes and strong visual links with the adjacent | • All of WG1 and WG8 and part of LW11 within South Downs National Park which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• There may be opportunity to incorporate Miscanthus crops into existing cropped areas.<br>• There may be some opportunity to link some SRC with existing woodlands or new areas of woodland planting, to strengthen the landscape framework.<br>• Miscanthus crops should only be grown in fields already affected by cropping systems, rather than converting pastoral areas to cropping.<br>• Ensure crop planting does not block key views to the scarp slope of the downs.<br>• Ensure crops and harvesting machinery do not affect the character or setting of areas of historic parkland, historic hedgerows or sunken lanes. Avoid planting on areas of parkland.<br>• Ensure bioenergy crop planting does not |

[22] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| | | | |
|---|---|---|---|
| views from the footpslopes.<br>**Perceptual Aspects -** this is a strongly rural landscape with peaceful villages, pastoral parklands and a low incidence of overt built human impact. However, the sense of tranquillity is eroded in localised areas in the east (LW11) by roads and railways which tend to follow the scarp foot. | | scarp slope;<br>• the complex, small scale of the landscape;<br>• pastoral character and naturalistic habitats, including unimproved grasslands and wetlands;<br>• historic features including areas of historic parkland, field boundaries and sunken lanes;<br>• sense of peace and tranquillity (particularly sensitive to harvesting operations). | encroach onto areas of semi-natural habitat such as chalk grassland, wetlands or ancient woodland (including the native hanger woodlands on the Greensand).<br>• Keep harvesting operations away from the most tranquil areas.<br>• Reduce the impact of any bioenergy planting by small-scale harvesting, and incorporating mixed species where possible.<br>• Aim for irregular patterns of planting rather than geometric blocks. |
| **A note on cumulative issues:** Although there may be some opportunity for planting of bioenergy crops on a small scale, in accordance with the guidance above, the landscape would be sensitive to large scale planting that could reduce the complexity of the landscape, mask historic features, alter the relationship between the scarp and footslopes, mask views of the escarpment, or reduce tranquillity. | | | |

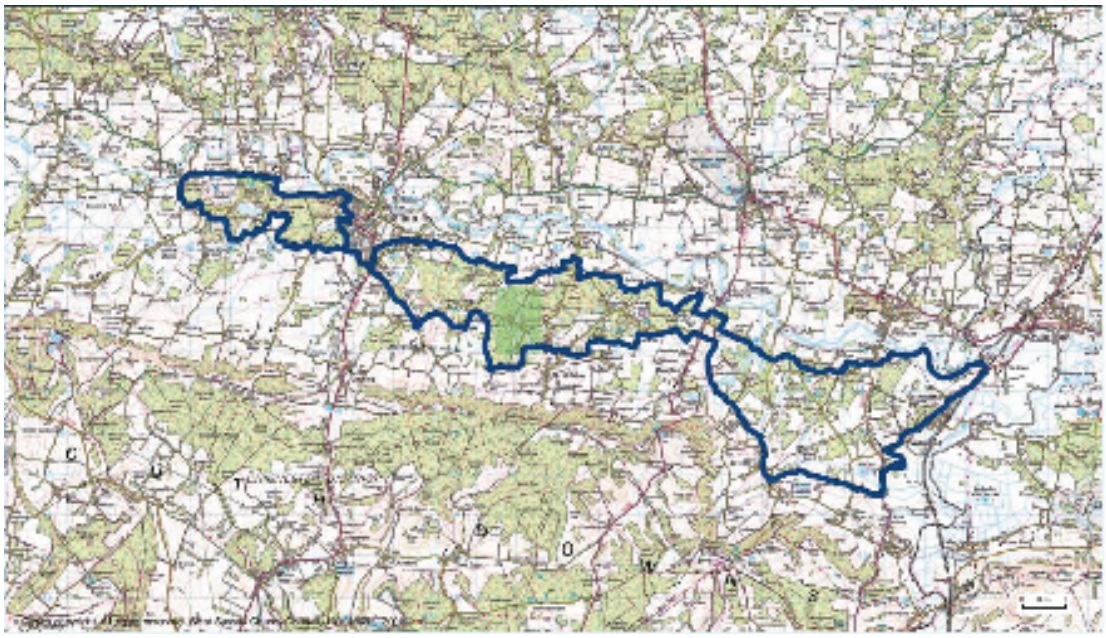
## LANDSCAPE TYPE H: MIXED FARMLAND /WOODLAND /HEATH MOSAIC

### Key characteristics of Landscape Type (from CBA Report)

- Low, flat-topped ridges, sometimes bounded by low escarpments;
- Mosaic of mixed farmland, unenclosed heath, common land and woodland;
- Oak-birch, oak and coniferous woodland;
- Pattern of small to medium-sized fields with straight boundaries;
- Ancient earthworks and banks;
- Sand quarries and pits;
- Narrow, mostly straight, sometimes sunken lanes.

### Component Character Areas: WG5 Rother Woods and Heaths; WG7 Storrington Woods and Heaths.

***WG5: Rother Woods and Heaths***



***Key characteristics (directly lifted from West Sussex LCA)***

- Very low, flat topped sandstone ridges cut by small streams running south to north.
- Large swathes of heather dominate the distinctive heaths of Iping and Ambersham Commons, with smaller patches occurring elsewhere.
- Extensive areas of pine and oak-birch woodland which border the heaths.
- Rough-grazed agricultural land and horse paddocks.
- A few straight roads and dead-end tracks.

- Ancient earthworks and banks.
- Isolated cottages and farms.
- Views limited by tracts of dense woodland.
- Localised suburban style development along roads.
- Sand quarries.
- Ponds.
- Extensive tracts of Common Land.

***WG7: Storrington Woods and Heaths***

***Key characteristics (directly lifted from West Sussex LCA)***

- Low ridges with shallow valleys (ridge and vale).
- Heavily wooded ridges of large pine plantations and oak-birch woodland to the south around Storrington and Parham.
- Smaller broadleaved woods.
- Wooded northern escarpment.
- Mixed arable and pasture farmland with predominantly small to medium-sized fields with a variable density of hedgerows. Hedgerows tend to be more fragmented around arable farmlands.
- Small patches of heathland.
- Numerous small streams with fringing woodland.
- Orchards and vineyards.
- Many narrow, winding lanes, some sunken with exposed sandstone outcrops.
- Major historic parkland of Parham.

- Sand quarries.
- Small villages with many stone buildings (purple ironstones and honey coloured sandstones) and scattered cottages linked by narrow lanes.
- Localised suburban development around Storrington and West Chiltington.
- Extensive rights of way network.

| TYPE H: MIXED FARMLAND/WOODLAND/HEATH MOSAIC<br>WG5: Rother Woods and Heaths<br>WG7: Storrington Woods and Heaths | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **WIND TURBINES** | | | |
| **Scale** – Large-scale landscape owing to its characteristic tracts of open common land and extensive woodland and forestry plantations.<br>**Landform** – Slightly elevated, flat topped plateaux with low ridges cut by shallow valleys.<br>**Landscape pattern and complexity** – irregular, organic mosaic of open heathland, oak-birch woodland, acidic grassland, gorse and bracken scrub, interspersed with areas of rough grazing, pasture and arable in small to medium fields. Orchards and vineyards are a feature of the east of the landscape type (WG7).<br>**Settlement and Man-made Influence** – isolated sandstone farmsteads of 18th-19th century origin set within areas of recent enclosure, and 'squatter' settlement on the edges of the common land. Sand quarries and localised suburban development, including along roadsides, are the main features of modern development,<br>**Skylines** – Undeveloped skylines often characterised by woodland, and stands of Scots Pine or oak clumps.<br>**Inter-visibility with Adjacent Landscapes** – Outward views | All of Landscape Character Area WG5, and some of WG7, lie within the **South Downs National Park** whose special qualities for the park as a whole are described as:<br>(NB these have been summarised to focus on those most relevant to this study)<br>A **dramatic and distinctive topography** that reflects the diversity of underlying geology.<br>**Strong skylines** with a sense of elevation, expansive views and big open skies.<br>A contrast between **expansive open downland** and intimate wooded landscapes.<br>Dramatic **chalk cliffs** between Seaford and Beachy Head defined as Heritage Coast and affording **panoramic sea views**.<br>A collection of **habitats of international importance** - ancient chalk grassland, flood-plain pastures of the river valleys, lowland heathlands of the Greensand, magnificent 'hanging' woodlands of the Chalk scarp and Upper Greensand, and coastal habitats.<br>Internationally important **archaeological sites**; funerary monuments; ancient field systems and settlements; historic field enclosures; ancient sunken lanes and trackways; water meadows and dewponds; and more recent reminders of the last two | The large landscape scale, flat plateaux landforms and presence of industrial quarrying may indicate lower levels of sensitivity to wind turbine development. However, the complexity of the landscape, its heaths and commons, inter-visibility with South Downs scarp, its dispersed settlement pattern, and its relative sense of remoteness increase sensitivity to this type of development.<br>The landscape strategy[23] for these areas is to *conserve the largely undeveloped character of the landscape* (WG5) and to *conserve the rich mosaic of woodland and heathland habitats, encouraging heathland landscape restoration and woodland management. Ensure that new development is well-integrated within the landscape.*<br>This landscape type is therefore considered to have a **high** sensitivity to the development of large scale wind turbines; a **moderate-high** sensitivity to medium turbines and a **moderate** sensitivity to small scale wind turbines. The key landscape attributes that could be sensitive to any scale of wind turbine development are:<br>• the complexity of the landscape including valued tracts of lowland heathland and | • Most of WG5 and a small part of WG7 are in the South Downs National Park which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• There may be some opportunities to locate turbines within quarried areas or associated with existing development, as long as it is in accordance with the following guidance.<br>• Keep turbines away from valued tracts of lowland heathland and historic commons.<br>• Ensure turbines do not detract from the woodland, stands of Scots Pine or oak clumps that characterise undeveloped skylines.<br>• Avoid areas of fragile vegetation (particularly heathland) which is difficult to restore.<br>• Keep development away from the edges of the plateaux to minimise visibility with adjacent landscapes.<br>• Keep development away from the most tranquil parts of the landscape.<br>• Consider landform when developing wind farm proposals of more than one turbine - |

[23] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE H: MIXED FARMLAND/WOODLAND/HEATH MOSAIC<br>WG5: Rother Woods and Heaths<br>WG7: Storrington Woods and Heaths | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| constrained by the area's high woodland cover, and particularly the presence of tall conifer species. However, more open areas (e.g. heathland commons) are overlooked by the South Downs scarp.<br>**Perceptual Aspects** – very little overt human impact, although there are some active sand pits hidden within the woodland. Settlement tends to be located around the edges of the heaths and commons and these areas are perceived as remote and tranquil. | World Wars.<br>A **serene and peaceful** landscape.<br>An **unspoilt landscape**, lacking the intrusion of modern or inappropriate development.<br>A concentration of **estates and designed parklands**. | historic commons;<br>• undeveloped skylines characterised by woodland, and stands of Scots Pine or oak clumps;<br>• dispersed settlement patterns and relative sense of remoteness and tranquillity with a strong historic relationship between settlement and its landscape setting. | ensure layouts reflect the shape of the landform, to optimise screening opportunities and to avoid visual confusion. Aim to achieve good composition from key viewpoints.<br>• Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, careful location and screening of ancillary buildings or use of existing buildings.<br>• Seek opportunities to achieve wider landscape management objectives identified in the West Sussex landscape assessment and management strategy, the South Downs integrated landscape character assessment and management plan, and the Horsham landscape character assessment in association with any proposed development. |
| **A note on cumulative issues:** Although this landscape may be able to accommodate a limited number of turbines, sensitively sited according to the above guidance, the landscape would become progressively more sensitive to development of multiple turbines. In this protected and open landscape it is likely to be better to avoid substituting a greater number of smaller turbines for fewer larger turbines. Any development of multiple developments would need to take into account the above guidance, respect the scale of the landscape and be judged on its own merits, being informed by an assessment of cumulative landscape and visual impacts. | | | |

| TYPE H: MIXED FARMLAND/WOODLAND/HEATH MOSAIC<br>WG5: Rother Woods and Heaths<br>WG7: Storrington Woods and Heaths<br>Landscape attributes | Special Qualities (if relevant) | Sensitivity Judgement & Key Landscape Sensitivities | Guidance |
|---|---|---|---|
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform** – Slightly elevated, flat topped plateaux with low ridges cut by shallow valleys.<br>**Landscape pattern** – irregular, organic mosaic of open heathland, oak-birch woodland, acidic grassland, gorse and bracken scrub, interspersed with areas of rough grazing, pasture and arable in small to medium fields. Orchards and vineyards are a feature of the east of the landscape type (WG7).<br>**Enclosure** – strong sense of enclosure in places, particularly where there are tall conifer stands and extensive woodland cover. Large tracts of open common land.<br>**Land Cover/ Land Use and Sense of 'Naturalness'** – a high sense of 'naturalness' deriving from the mix of woodland and heathland - including open heather heath, acid grassland, bracken, gorse, woody scrub, oak-birch woodland, some sweet chestnut coppice and conifer plantation. Ponds, mires and wet grassland in low lying areas. The agricultural land includes fields under arable cropping and horticulture (including orchards and vineyards).<br>**Inter-visibility with Adjacent Landscapes** – Outward views | All of Landscape Character Area WG5, and some of WG7, lie within the **South Downs National Park** whose special qualities for the park as a whole are described above. | Although the presence of cropping systems (including existing harvesting operations) and forestry plantations, along with the landscape's strong sense of enclosure in parts reduces sensitivity to bioenergy crops, the landscape's extensive cover of naturalistic habitats and sense of tranquillity and remoteness increases sensitivity to crops and their harvesting.<br>The landscape strategy[24] for these areas is to *conserve the largely undeveloped character of the landscape* (WG5) and to *conserve the rich mosaic of woodland and heathland habitats, encouraging heathland landscape restoration and woodland management. Ensure that new development is well-integrated within the landscape.*<br>Overall, it is considered that the landscape type has a **moderate-high** sensitivity to Miscanthus cropping, and a **moderate** sensitivity to SRC.<br>The key landscape attributes that could be sensitive to bioenergy crop planting are:<br>• irregular mosaic of land uses and extensive tracts of valued naturalistic habitat;<br>• little overt human impact within the | • Most of WG5 and a small part of WG7 are in the South Downs National Park which is protected for its special qualities. Ensure energy crops do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• There may be opportunity to incorporate Miscanthus crops into existing cropped areas, or to link some SRC with existing woodlands and forestry plantation.<br>• Miscanthus crops should only be grown in fields already affected by cropping systems, rather than converting pastoral areas to cropping.<br>• Avoiding planting on valley or plateaux slopes, which will be more visible in the landscape.<br>• Ensure bioenergy crop planting does not encroach onto areas of semi-natural habitat, particularly heathland, native woodland, ponds, mires and wet grassland.<br>• Keep harvesting operations away from the most tranquil areas.<br>• Reduce the impact of any bioenergy planting by small-scale harvesting, and incorporating mixed species where |

[24] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| | | | |
|---|---|---|---|
| constrained by the area's high woodland cover, and particularly the presence of tall conifer species. However, more open areas (e.g. heathland commons) are overlooked by the South Downs scarp.<br>**Perceptual Aspects** – very little overt human impact, although there are some active sand pits hidden within the woodland. Settlement tends to be located around the edges of the heaths and commons and these areas are perceived as remote and tranquil. | | landscape and remote/ tranquil character. | possible.<br>• Aim for irregular patterns of planting rather than geometric blocks. |
| **A note on cumulative issues:** Although there may be some opportunity for planting of bioenergy crops on a small scale, in accordance with the guidance above, the landscape would be sensitive to large scale planting that could detract from the mix of semi-natural habitats and the overall levels of tranquillity. | | | |

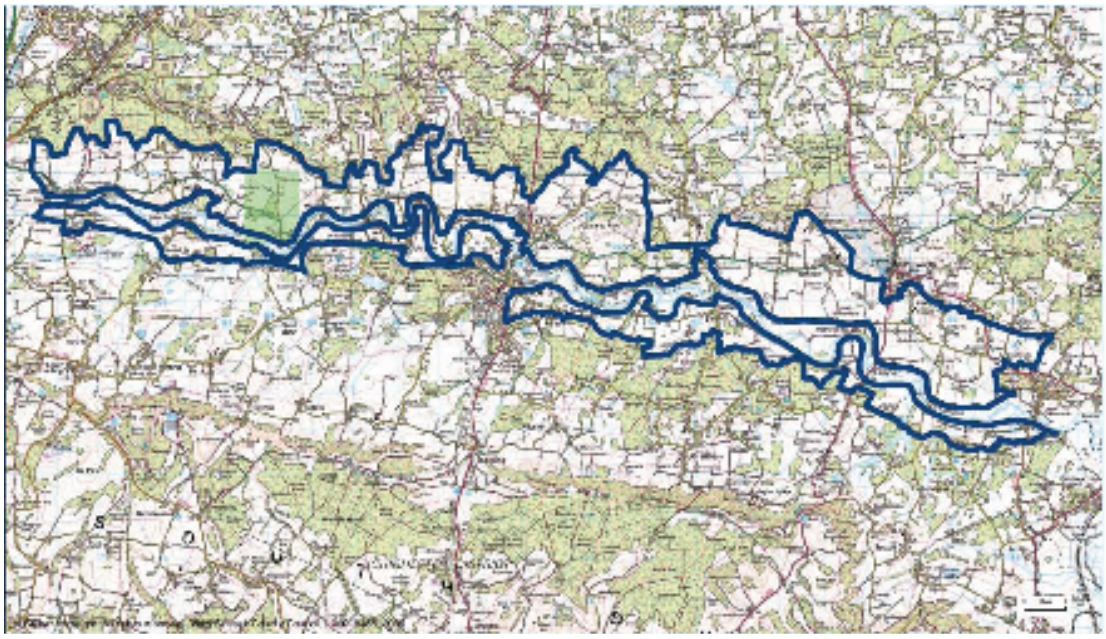
## LANDSCAPE TYPE I: SANDY ARABLE FARMLANDS

### Key characteristics of Landscape Type (from CBA Report)

- Narrow vale;
- Regular, large arable fields with bold geometric shapes;
- Fields enclosed by hedgerows with individual specimen oaks;
- Sunken lanes, sometimes with sandstone walls;
- Small sandstone villages clustered at road junctions, with scattered pattern of farms and cottages.

### Component Character Areas: WG2 Rother Farmlands

***WG2: Rother Farmlands***



***Key characteristics (directly lifted from West Sussex LCA)***

- Rolling vale.
- Distinctive sandy yellow or red soils.
- Large arable fields with fragmented hedgerow boundaries, typically containing over-mature stag-headed oak trees.
- Individual isolated mature hedgerow oaks.
- Scattered woodland cover.
- Long views across the large arable fields.
- Small sandstone villages clustered at road junctions. Numerous small hamlets, scattered farms and cottages.
- Parks, estates and manor houses which influence the vernacular styles of boundaries and buildings.

- Localised suburban development around the market towns of Petworth and Midhurst.
- Historic parkland provides a more wooded character to the north east of the area.
- Small streams with woodland fringes.
- Deeply sunken lanes, running north to south, with bracken clad banks and sandstone walls.

| TYPE I: SANDY ARABLE FARMLANDS<br>WG2: Rother Farmlands | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **WIND TURBINES** | | | |
| **Scale** – Large-scale, open landscape with long views across arable fields.<br>**Landform** – Gently undulating lowland vale landscape.<br>**Landscape pattern and complexity** – simple pattern of geometric arable fields with fragmented hedgerow boundaries, limited woodland cover and areas of historic parkland in the north-east of the type. Linear wetlands found along the corridor of the River Rother.<br>**Settlement and Man-made Influence** – small nucleated sandstone settlements clustered at road junctions, interspersed with isolated farmsteads and cottages. Localised suburban development around Petworth and Midhurst.<br>**Skylines** – Skylines are not prominent, but are generally undeveloped. Church towers form local landmark features on the skyline (including All Hallows Church, Tillington).<br>**Inter-visibility with Adjacent Landscapes** – Views to the south are dominated by the wooded South Downs scarp.<br>**Perceptual Aspects** – The intensive agriculture, presence of built development and traffic on the main roads contribute to visible human impact. The landscape by | All of this landscape type falls within the **South Downs National Park** whose special qualities for the park as a whole are described as:<br>(NB these have been summarised to focus on those most relevant to this study)<br>A **dramatic and distinctive topography** that reflects the diversity of underlying geology.<br>**Strong skylines** with a sense of elevation, expansive views and big open skies.<br>A contrast between **expansive open downland** and intimate wooded landscapes.<br>Dramatic **chalk cliffs** between Seaford and Beachy Head defined as Heritage Coast and affording **panoramic sea views**.<br>A collection of **habitats of international importance** - ancient chalk grassland, flood-plain pastures of the river valleys, lowland heathlands of the Greensand, magnificent 'hanging' woodlands of the Chalk scarp and Upper Greensand, and coastal habitats.<br>Internationally important **archaeological sites**; funerary monuments; ancient field systems and settlements; historic field enclosures; ancient sunken lanes and trackways; water meadows and dewponds; and more recent reminders of the last two World Wars. | The large scale of the landscape, its gentle landform, simple pattern and the presence of built development and infrastructure reduce sensitivity to this type of development. Aspects that increase sensitivity include its open undeveloped skylines punctuated by church towers, and the sense of tranquillity by the River Rother.<br>The landscape strategy[25] for this area is to *conserve the rural qualities of the area generally, maintaining the farmland mosaic.*<br>This landscape type is therefore considered to have a **high** sensitivity to development of large scale wind turbines; a **moderate-high** sensitivity to medium turbines and a **moderate** sensitivity to small scale wind turbines. The key landscape attributes that could be sensitive to any scale of wind turbine development are:<br>• the vernacular settlements;<br>• open undeveloped skylines punctuated by historic church towers;<br>• inter-visibility with higher ground;<br>• sense of tranquillity by the River Rother. | • This area lies entirely within the South Downs National Park which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• Ensure turbines do not detract from key views of church towers (including All Hallows Church in Tillington).<br>• Avoid locating turbines close to the River Rother, to maintain its tranquil character and the integrity of its wetland habitats.<br>• Consider views to / from the surrounding ridge/plateaux landscapes when planning the location of turbines.<br>• Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, careful location and screening of ancillary buildings or use of existing buildings.<br>• Seek opportunities to achieve wider landscape management objectives identified in the West Sussex landscape assessment and management strategy, the South Downs integrated landscape character assessment and management plan, and any assessments / strategies for Chichester District in association with any |

[25] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE I: SANDY ARABLE FARMLANDS<br>WG2: Rother Farmlands | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| the River Rother is calm and still in comparison. | A **serene and peaceful** landscape.<br>An **unspoilt landscape**, lacking the intrusion of modern or inappropriate development.<br>A concentration of **estates and designed parklands**. | | proposed development. |
| **A note on cumulative issues:** Although this landscape may be able to accommodate a limited number of turbines, sensitively sited according to the above guidance, the landscape would become progressively more sensitive to development of multiple turbines. In this protected and open landscape it is likely to be better to avoid substituting a greater number of smaller turbines for fewer larger turbines. Any development of multiple developments would need to take into account the above guidance, respect the scale of the landscape and be judged on its own merits, being informed by an assessment of cumulative landscape and visual impacts. | | | |
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform** – Gently undulating lowland landscape.<br>**Landscape pattern** – simple pattern of geometric arable fields with fragmented hedgerow boundaries, limited woodland cover and areas of historic parkland in the north-east of the type.<br>**Enclosure** – this is an open landscape with long views across arable fields. Landscape is more enclosed in the north east where historic parkland provides a more wooded character.<br>**Land Cover/ Land Use and Sense of 'Naturalness'** – predominantly intensive arable land use with limited woodland cover and small areas of naturalistic wetland habitats along the corridor of the River Rother. | All of this landscape type lies within the **South Downs National Park** whose special qualities for the park as a whole are described above. | Although the gentle topography, simple landscape pattern and presence of existing cropping systems reduce sensitivity to bioenergy crops (and harvesting operations), the open character, presence of naturalistic habitat along the river, and inter-visibility with surrounding landscapes in the South Downs National Park increase sensitivity.<br>The landscape strategy[26] for this area is to *conserve the rural qualities of the area generally, maintaining the farmland mosaic.*<br>Overall, it is considered that the landscape type has a **moderate** sensitivity to growth and harvesting of bioenergy crops.<br>The key landscape attributes that could be sensitive to bioenergy crops are:<br>• the open character and long views to | • This area lies entirely within the South Downs National Park which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• There may be opportunities to incorporate Miscanthus crops into existing cropped areas, or to link SRC with existing woodlands or new planting to strengthen the landscape framework.<br>• Miscanthus crops should be grown in fields already affected by cropping systems, rather than converting pastoral areas to cropping.<br>• Ensure crops and harvesting machinery do not affect the character of historic |

[26] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE I: SANDY ARABLE FARMLANDS<br>WG2: Rother Farmlands | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **Inter-visibility with Adjacent Landscapes** – Views to the south are dominated by the wooded South Downs scarp.<br>**Perceptual Aspects** – The intensive agriculture, presence of built development and traffic on the main roads contribute to visible human impact. The landscape by the River Rother is calm and still in comparison. | | historic church towers;<br>• areas of naturalistic habitat along the River Rother corridor;<br>• inter-visibility with higher ground within the South Downs National Park. | parkland in the north-east of the area.<br>• Ensure crops do not block key views to church towers or the South Downs.<br>• Ensure bioenergy crop planting does not encroach onto areas of semi-natural habitat, particularly wetlands along the corridor of the River Rother.<br>• Keep harvesting operations away from the most tranquil areas, particularly the river.<br>• Reduce the impact of any bioenergy planting by small-scale harvesting, and incorporating mixed species where possible. |
| **A note on cumulative issues:** Although there may be some opportunity for planting of bioenergy crops, in accordance with the guidance above, the landscape would become increasingly sensitive to planting on a large scale. | | | |

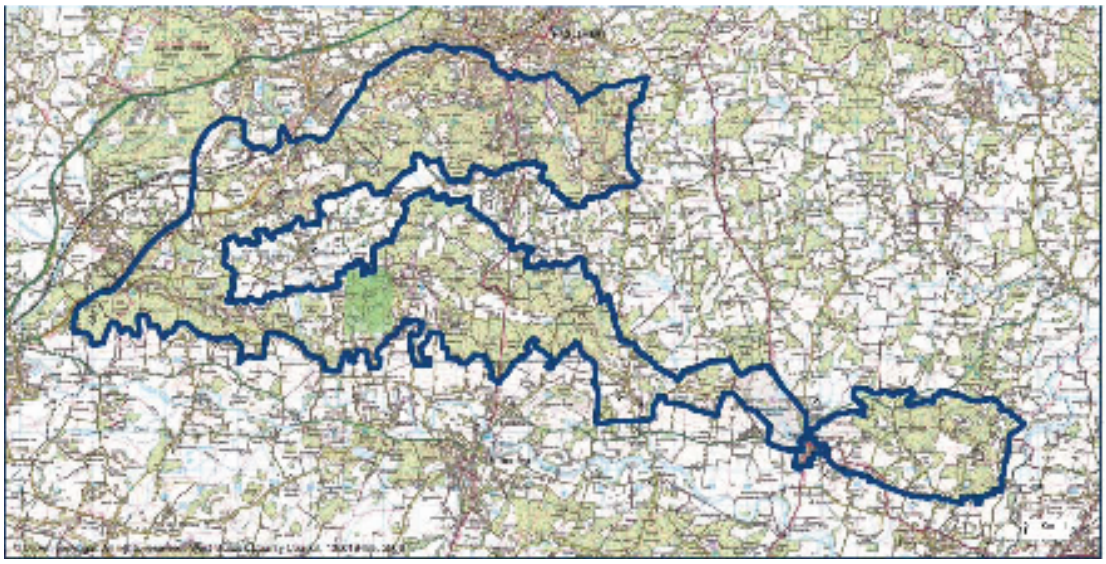
## LANDSCAPE TYPE J: WOODED RIDGES

### Key characteristics of Landscape Type (from CBA Report)

- Wooded sandstone ridges;
- Steep, deeply indented, stepped escarpment;
- Dense mixed woodlands, conifer plantations and ancient broadleaved woodlands;
- Pasture and rough grazing enclosed by woodlands, and at woodland edges;
- Narrow twisting lanes, often deeply sunken;
- Isolated farmsteads and localised suburban development.

### Component Character Area: WG4 North Western Ridges

***WG4: North Western Ridges***



***Key characteristics (directly lifted from West Sussex LCA)***

- Prominent, wooded sandstone ridges and plateaux.
- Steep, horseshoe-shaped escarpment enclosing the Milland and Fernhurst Basins.
- Dense woodland cover with coniferous forestry and chestnut on higher slopes.
- Amongst the woodland are areas of fragmented heathland.
- Pasture and rough grazing in clearings and at the woodland edges.
- Hidden valleys and streams in deep gullies within the upper catchments.
- Narrow, twisting, often deeply-sunken lanes.
- Scattered, isolated farmsteads and small groups of cottages.
- Localised linear, suburban development along roads.
- Highly enclosed, secluded landscape, but with some long views across the basins.
- Historic parkscapes.
- Small horse paddocks and small ponds.

| TYPE J: WOODED RIDGES<br>WG4: North Western Ridges | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **WIND TURBINES** | | | |
| **Scale** – Large-scale open plateaux, contrasting with more intimate valleys.<br>**Landform** – Prominent sandstone ridges and plateaux, with a steep horseshoe-shaped escarpment at their inner edge.<br>**Landscape pattern and complexity** – rich and varied landscape pattern with a mixture of extensive woodland, coniferous plantation, remnant areas of open heath, acid grassland and meadows, along with areas of historic parkland, wood pasture and horse paddocks.<br>**Settlement and Man-made Influence** – scattered, isolated farmsteads and small groups of stone and Wealden cottages linked by narrow and winding often deeply-sunken lanes. Localised spread of suburban development including detached houses and small-holdings. Evidence of past industry in the valleys, including lime kilns, hammer ponds and iron workings.<br>**Skylines** – prominent skylines typically dominated by woodland.<br>**Inter-visibility with Adjacent Landscapes** –Generally this is a highly enclosed, secluded landscape with views constrained by dense woodland cover, sunken lanes and deep gullies. However, there are panoramic views from the open heathland on hilltops across the surrounding basin landscapes. Conversely | All of this landscape type falls within the **South Downs National Park** whose special qualities for the park as a whole are described as:<br>(NB these have been summarised to focus on those most relevant to this study)<br>A **dramatic and distinctive topography** that reflects the diversity of underlying geology.<br>**Strong skylines** with a sense of elevation, expansive views and big open skies.<br>A contrast between **expansive open downland** and intimate wooded landscapes.<br>Dramatic **chalk cliffs** between Seaford and Beachy Head defined as Heritage Coast and affording **panoramic sea views**.<br>A collection of **habitats of international importance** - ancient chalk grassland, flood-plain pastures of the river valleys, lowland heathlands of the Greensand, magnificent 'hanging' woodlands of the Chalk scarp and Upper Greensand, and coastal habitats.<br>Internationally important **archaeological sites**; funerary monuments; ancient field systems and settlements; historic field enclosures; ancient sunken lanes and trackways; water meadows and dewponds; and more recent reminders of the last two World Wars. | Although this is a large scale landscape, its rich and varied landscape pattern, prominent undeveloped skylines, steep escarpment landform, strong level of perceived naturalness, and strong sense of tranquillity/ remoteness increase sensitivity to wind turbine development.<br>The landscape strategy[27] for this area is to *conserve the remote and tranquil character of the area.*<br>This landscape type is therefore considered to have a **high** sensitivity to the development of large and medium scale wind turbines; and a **moderate-high** sensitivity to small scale wind turbines. The key landscape attributes that could be sensitive to any scale of wind turbine development are:<br>• the distinctive landform;<br>• the prominent undeveloped skylines;<br>• the strong level of perceived naturalness;<br>• the rich and varied landscape pattern including historic parkland;<br>• inter-visibility with the surrounding basin landscapes;<br>• the sparse settlement pattern and strong sense of tranquillity and remoteness. | • This area lies entirely within the South Downs National Park which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• Avoid locating turbines on the escarpment or prominent ridges (for example at the edge of plateaux) where they would be highly visible.<br>• Utilise the area's extensive woodland cover to screen ground level features and integrate any development into the landscape.<br>• Ensure turbines do not adversely affect the character or designed views within historic parkland or the setting of former iron workings (including lime kilns and hammer ponds).<br>• Keep development away from the most tranquil and remote parts of the landscape.<br>• Consider landform when developing wind farm proposals of more than one turbine - ensure layouts reflect the shape of the landform, to optimise screening opportunities and to avoid visual confusion. Aim to achieve good composition from key viewpoints. |

[27] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE J: WOODED RIDGES<br>WG4: North Western Ridges | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| there are views from the surrouding low-lying landscapes to the wooded ridges.<br>**Perceptual Aspects** – highly tranquil landscape with a strong level of perceived naturalness (due to the presence of native deciduous woodland, heathland and wetland habitats), lack of visible overt human impact, low density of settlement, and associated dark skies and low noise levels. | A **serene and peaceful** landscape.<br>An **unspoilt landscape**, lacking the intrusion of modern or inappropriate development.<br>A concentration of **estates and designed parklands**. | | • Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, careful location and screening of ancillary buildings or use of existing buildings.<br>• Consider views from the surrounding lowlands, particularly those within the National Park, when planning the location of any turbines.<br>• Avoid areas of fragile vegetation (particularly remnant heathland) which is difficult to restore.<br>• Seek opportunities to achieve wider landscape management objectives identified in the West Sussex landscape assessment and management strategy, the South Downs integrated landscape character assessment and management plan, and any assessments / strategies for Chichester District in association with any proposed development. |
| **A note on cumulative issues:** Although this landscape may be able to accommodate a limited number of turbines, sensitively sited according to the above guidance, the landscape would become progressively more sensitive to development of multiple turbines. In this protected landscape it is likely to be better to avoid substituting a greater number of smaller turbines for fewer larger turbines. Any development of multiple developments would need to take into account the above guidance, respect the scale of the landscape and be judged on its own merits, being informed by an assessment of cumulative landscape and visual impacts. | | | |

| TYPE J: WOODED RIDGES<br>WG4: North Western Ridges<br>Landscape attributes | Special Qualities (if relevant) | Sensitivity Judgement & Key Landscape Sensitivities | Guidance |
|---|---|---|---|
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform** – Prominent sandstone ridges and plateaux, with a steep horseshoe-shaped escarpment at their inner edge.<br>**Landscape pattern** – rich and varied landscape pattern with a strong combination of woodland, semi-natural habitats, grassland and pasture.<br>**Enclosure** – strong contrast between the open heathland with panoramic views and the very enclosed, intimate valleys and deep-sunken lanes.<br>**Land Cover/ Land Use and Sense of 'Naturalness'** –a mixture of extensive woodland, coniferous plantation, remnant areas of open heath, acid grassland and meadows, along with areas of historic parkland, wood pasture, rough grazing and horse paddocks. As such, this landscape has a strong sense of 'naturalness'.<br>**Inter-visibility with Adjacent Landscapes** –Generally this is a highly enclosed, secluded landscape with views constrained by dense woodland cover, sunken lanes and deep gullies. However, there are panoramic views from the open heathland on hilltops across the surrounding basin landscapes. Conversely there are views from the surrouding low-lying landscapes to the wooded ridges. | All of this landscape type lies within the **South Downs National Park** whose special qualities for the park as a whole are described above. | Although the steep landform, large tracts of naturalistic habitats, inter-visibility with adjacent lowlands and high levels of tranquillity and remoteness indicate an increased sensitivity to growth of bioenergy crops and their harvesting operations, the landscape's heavily wooded character and presence of commercial forestry reduces sensitivity to bioenergy crops (particularly SRC).<br>The landscape strategy[28] for this area is to *conserve the remote and tranquil character of the area.* The Strategy includes an aim to plant new woodlands, trees belts and hedgerow trees to closely reflect the landform, using new planting to strengthen and link existing woodland and hedgerows.<br>Overall, it is considered that the landscape type has a **moderate-high** sensitivity to Miscanthus cropping and a **moderate** sensitivity to SRC.<br>The key landscape attributes that could be sensitive to bioenergy crop planting are:<br>• the steep landform where crops would be highly visible;<br>• areas of naturalistic habitat and historic parkland;<br>• inter-visibility with the surrounding | • This area lies entirely within the South Downs National Park which is protected for its special qualities. Ensure energy crops do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• This type would be highly sensitive to the planting of Miscanthus due to an absence of existing cropping systems and the high proportion of naturalistic habitats found across the landscape.<br>• There may be an opportunity to incorporate SRC into proposals for new woodland and tree planting, in line with the landscape strategy. .<br>• Avoid planting on the most prominent ridgelines or the escarpment to reduce visual impacts from crop growth and harvesting operations.<br>• Ensure crops and harvesting machinery do not affect the character or setting of historic parkland or features associated with the area's industrial heritage (lime kilns, iron workings, hammer ponds).<br>• Ensure bioenergy crop planting does not encroach onto areas of semi-natural habitat, including open heathland, acid |

[28] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| | | | |
|---|---|---|---|
| **Perceptual Aspects** – highly tranquil landscape with a strong level of perceived naturalness (due to the presence of native deciduous woodland, heathland and wetland habitats), lack of visible overt human impact, low density of settlement, and associated dark skies and low noise levels. | | lowland landscapes;<br>• the strong sense of tranquillity and remoteness. | grassland, wood pasture, meadows and ancient woodlands.<br>• Keep harvesting operations away from the most tranquil areas.<br>• Reduce the impact of any bioenergy planting by small-scale harvesting, and incorporating mixed species where possible.<br>• Aim for irregular patterns of planting rather than geometric blocks. |
| **A note on cumulative issues:** Although there may be some opportunity for planting of small areas of bioenergy crops (and particularly SRC), in accordance with the guidance above, the landscape would be highly sensitive to large scale planting that could alter the existing landcover mix or erode the sense of remoteness/solitude. | | | |

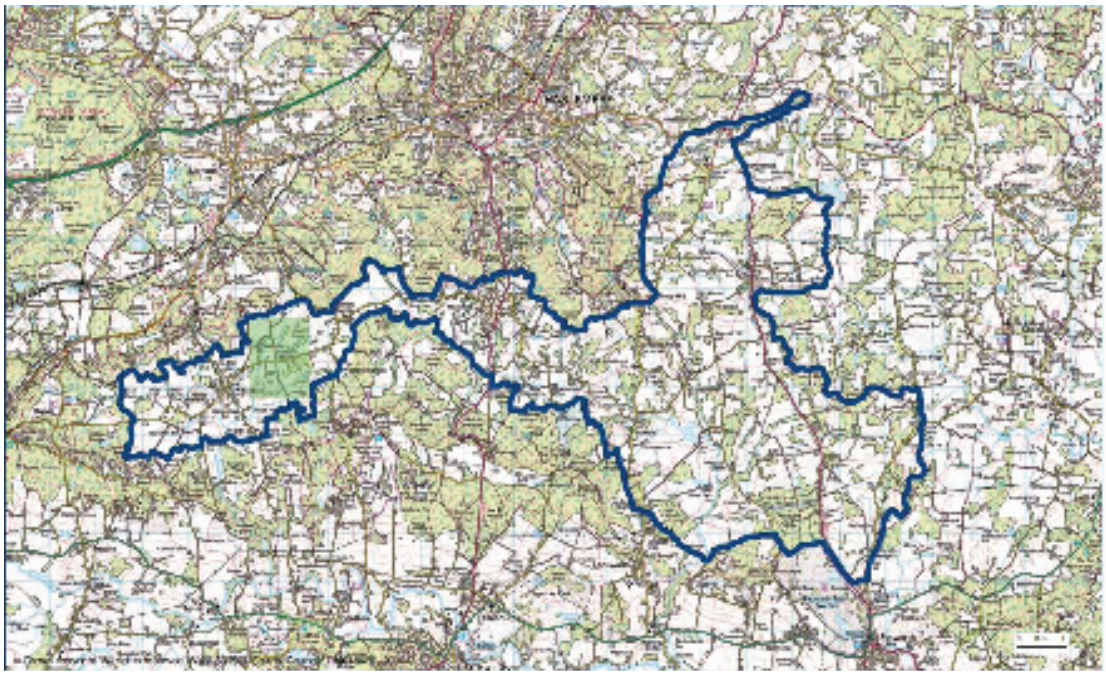
## LANDSCAPE TYPE K: UNDULATING WOODED FARMLANDS

### Key characteristics of Landscape Type (from CBA Report)

- Undulating relief;
- Dense network of medium-sized woodlands, shaws and hedgerows;
- Mature single oaks in hedgerows and fields;
- Deep cut streams in gullies and ghylls;
- Small and medium-sized pastures and occasional arable fields;
- Traditional Wealden Villages and scattered farmsteads and cottages built from local stone, timber and brick.

### Component Character Areas: LW1North Western Valleys; LW2 North Western Low Weald; LW4 Low Weald Hills; LW6 Central Low Weald

***LW1: North Western Valleys***

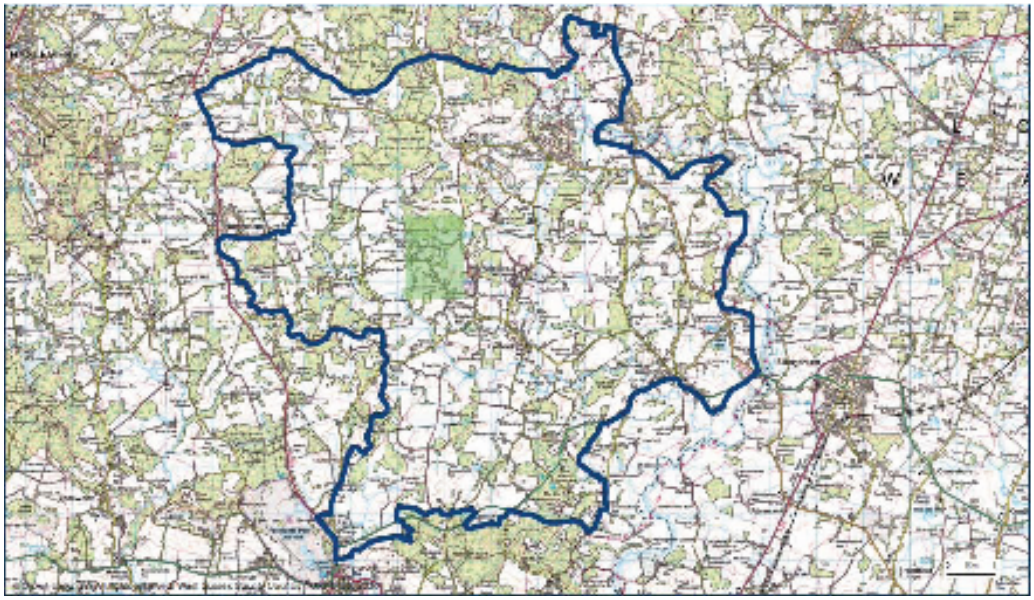


***Key characteristics (directly lifted from West Sussex LCA)***

- Enclosed and contained landscape.
- Dense cover of medium sized woodlands, shaws and hedgerows.
- Ancient semi-natural woodland and old wood pasture.
- Small to medium sized fields of pasture with well linked hedgerow network.
- Strong hedgerow tree cover, predominantly oak.
- Wealden villages, some centred on village greens.

- Scattered farmsteads and cottages.
- Network of narrow winding lanes.
- Winding rivers of the Hammer Stream and the River Lod drain south to the River Rother.
- Remote and tranquil character.

***LW2: North Western Low Weald***



***Key characteristics (directly lifted from West Sussex LCA)***

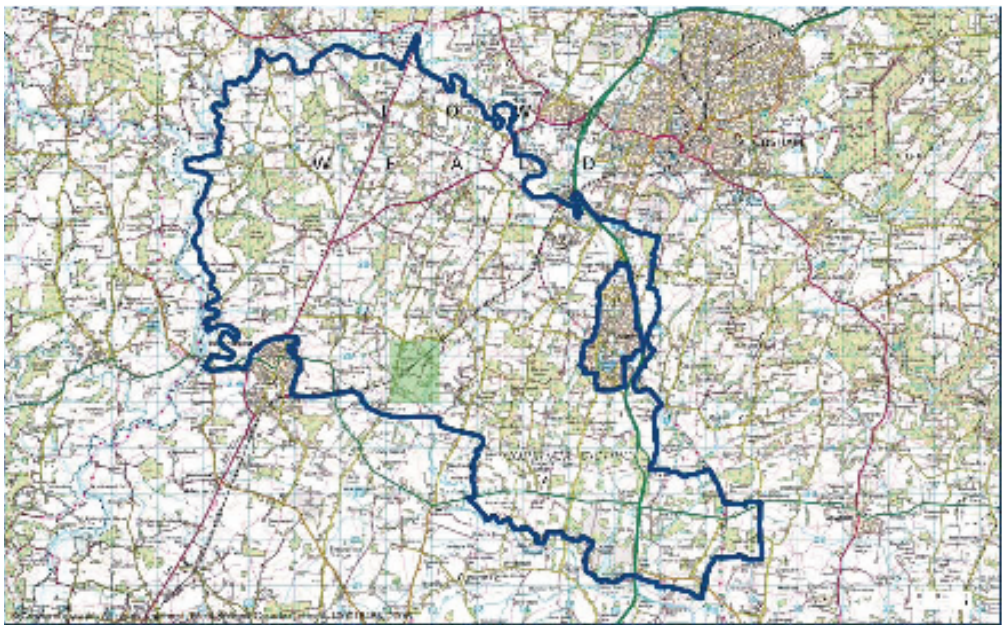
- Gently undulating pastoral landscape.
- Dense network of medium sized woodlands, shaws and hedges with mature hedgerow trees.
- Mature and over-mature oak trees.
- Woodlands often following winding streams.
- Ancient semi-natural woodland and old woodland pasture.
- Oak - hazel coppice.
- Small and medium sized fields of predominantly pasture with some larger arable fields.
- Wealden villages, some centred on village greens, scattered farmsteads and cottages.
- Varied local building materials of stone, brick, weatherboard and half timber.
- Dominant east-west pylon line.
- Winding narrow lanes linking scattered hamlets and farms.

***LW4: Low Weald Hills***

***Key characteristics (directly lifted from West Sussex LCA)***

- Undulating, low and densely wooded ridges running mostly east-west. Distinct escarpment to the north of Horsham and low escarpment at Rowhook.
- Blocks and strips of interconnecting woodland, including a large number of blocks of ancient woodland. Western area characterised by woodland of some size.
- Mostly rural character with intricate patchwork of small to medium size pasture fields with a combination of sinuous and straight boundaries. Larger, more open, field patterns in the east.
- Strong pattern of shaws and hedgerows enclosing fields with mature single oaks in hedgerows and fields.
- Network of narrow lanes, sometimes sunken, cross the area with strong definition northsouth. Many of them are former droveways for cattle, pigs and sheep.
- Steep, secretive wooded gills.
- Hidden hammer ponds near Roman Woods with characteristic narrow form.

***LW6: Central Low Weald***



***Key characteristics (directly lifted from West Sussex LCA)***

- Gently undulating landform.
- Predominantly small to medium-sized pasture fields, enclosed by woodlands, shaws and hedgerows.
- Some larger arable fields.
- Local concentrations of horse grazed paddocks and golf course development.
- Dense cover of ancient broadleaved woodlands and conifer plantations.
- Small stream valleys draining to the Adur and the Arun.
- Some large country houses and parkland.
- Green lanes and droveways.
- Many scattered, traditional Wealden farmsteads and cottages and a few linear villages.
- Crossed by major transport links north south, both road and rail.

### *LW7: Wiston Low Weald*


***Key characteristics (directly lifted from West Sussex LCA)***

- Gently undulating landform.
- Predominantly small to medium-sized pasture fields, enclosed by woodlands, shaws and hedgerows.
- Isolated trees in pasture.
- Local concentrations of horse grazed paddocks, giving a ranch like appearance.
- Dense cover of ancient broadleaved woodlands and conifer plantations.
- Small stream valleys draining to the Adur.
- Scattered country houses, some suburban in character.
- Network of rights of way, green lanes and droveways.
- Scattered, traditional Wealden farmsteads, cottages and a few linear villages.
- Many small farms and cottages are concentrated along lanes with the few historic linear villages located at crossroads or road junctions.
- Low density of winding rural lanes.

| TYPE K: UNDULATING WOODED FARMLAND<br>LW1: North Western Valleys<br>LW2: North Western Low Weald<br>LW4: Low Weald Hills<br>LW6: Central Low Weald<br>LW7: Wiston Low Weald | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **WIND TURBINES** | | | |
| **Scale** – Small to medium scale landscape with an intricate pattern of fields and woodlands and a number of human scale features such as trees, villages and Wealden farmsteads.<br>**Landform** – Gently undulating landscape, with low ridges and a distinctive escarpment characterising the northern edge of the Low Weald (LW6).<br>**Landscape pattern and complexity** – Strong pattern of small to medium pasture fields linking with a dense network of hedgerows, shaws, ancient woodland, old wood pasture and parkland, coppice, coniferous plantations and larger arable fields.<br>**Settlement and Man-made Influence** – dispersed settlement pattern of scattered farmsteads and cottages of local stone, timber and brick, and traditional Wealden villages, some centred on village greens linked by a network of green lanes and droveways. Golf courses are found in the Central Low Weald (LW6), along with major road and rail transport links. The area's industrial heritage is reflected in the presence of lime kilns, hammer ponds, iron | The western half of LW1 North Western Valleys lies within the **South Downs National Park** whose special qualities for the park as a whole are described as:<br>(NB these have been summarised to focus on those most relevant to this study)<br>A **dramatic and distinctive topography** that reflects the diversity of underlying geology.<br>**Strong skylines** with a sense of elevation, expansive views and big open skies.<br>A contrast between **expansive open downland** and intimate wooded landscapes.<br>Dramatic **chalk cliffs** between Seaford and Beachy Head defined as Heritage Coast and affording **panoramic sea views**.<br>A collection of **habitats of international importance** - ancient chalk grassland, flood-plain pastures of the river valleys, lowland heathlands of the Greensand, magnificent 'hanging' woodlands of the Chalk scarp and Upper Greensand, and coastal habitats.<br>Internationally important **archaeological sites**; funerary monuments; ancient field systems and settlements; historic field | Although the absence of strong topographical variety and the presence of contemporary structures such as pylons, and low inter-visibility with adjacent landscapes, indicate a lower sensitivity to wind turbines, the small scale of the landscape, presence of human scale features, historic settlements and rural character increase levels of sensitivity.<br>The landscape strategy[29] for these areas is to *conserve and enhance the remote, tranquil and pastoral rural character of the area* (LW1); *conserve existing tranquil rural and predominantly wooded character of the area* (LW2); *conserve the rural quality of the area including the pattern of the agricultural landscape, the intricate patchwork of small scale fields, and linked woodland, and the intimate and unobtrusive settlement* (LW4) and to *conserve predominantly wooded character of the area, and its existing tranquil, rural qualities, and ensure that new development is well-integrated within the landscape. pattern throughout much of the area.*<br>This landscape type is therefore considered to have a **high** sensitivity to the | • Area LW1 falls entirely within South Downs National Park and area LW2 lies partly within South Downs National Park which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• Avoid locating turbines on the escarpment of the Central Low Weald.<br>• Ensure turbines do not adversely affect the character of areas of historic parkland, including designed views, or industrial heritage sites (including lime kilns and hammer ponds).<br>• Keep development away from the most tranquil and remote parts of the landscape, e.g. the areas within the South Downs National Park.<br>• Consider landform when developing wind farm proposals of more than one turbine - ensure layouts reflect the shape of the landform, to optimise screening opportunities and to avoid visual confusion. Aim to achieve good composition from key viewpoints. |

[29] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| **TYPE K: UNDULATING WOODED FARMLAND**<br>**LW1: North Western Valleys**<br>**LW2: North Western Low Weald**<br>**LW4: Low Weald Hills**<br>**LW6: Central Low Weald**<br>**LW7: Wiston Low Weald** | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| workings and brickworks.<br>**Skylines** – Non-prominent skylines are mainly wooded and undeveloped. Prominent pylons cross the landscape in parts, particularly on the edge of Billingshurst.<br>**Inter-visibility with Adjacent Landscapes** – Owing to the high levels of woodland cover, this is an enclosed and contained landscape with little inter-visibility with adjacent areas (except for some views to the adjacent wood ridges particularly from LW1).<br>**Perceptual Aspects** – Mostly rural and relatively tranquil character, broken locally by traffic on roads particularly around the larger settlements, prominent pylons including in the North Western Valleys (LW1), some areas of suburban development, and the proximity of Gatwick Airport to the Low Weald Hills (LW4). | enclosures; ancient sunken lanes and trackways; water meadows and dewponds; and more recent reminders of the last two World Wars.<br>A **serene and peaceful** landscape.<br>An **unspoilt landscape**, lacking the intrusion of modern or inappropriate development.<br>A concentration of **estates and designed parklands**. | development of large scale wind turbines; a **moderate-high** sensitivity to medium turbines and a **moderate** sensitivity to small scale wind turbines. The key landscape attributes that could be sensitive to any scale of wind turbine development are:<br>• its intimate scale and presence of human scale features;<br>• the presence of historic parkland and industrial heritage features;<br>• the historic settlement pattern of Wealden villages and scattered vernacular farms and cottages;<br>• the relative sense of tranquillity and ruralness. | • Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, careful location and screening of ancillary buildings or use of existing buildings.<br>• Seek opportunities to achieve wider landscape management objectives identified in the West Sussex landscape assessment and management strategy, the South Downs integrated landscape character assessment and management plan, Horsham District landscape character assessment and any assessments / strategies for Chichester District in association with any proposed development. |
| **A note on cumulative issues:** Although this landscape may be able to accommodate a limited number of small or medium turbines, sensitively sited according to the above guidance, the landscape would become progressively more sensitive to development of multiple turbines. In this small scale landscape it is likely to be better to avoid substituting a greater number of smaller turbines for fewer larger turbines. Any development of multiple developments would need to take into account the above guidance, respect the scale of the landscape and be judged on its own merits, being informed by an assessment of cumulative landscape and visual impacts. | | | |

| TYPE K: UNDULATING WOODED FARMLAND<br>LW1: North Western Valleys<br>LW2: North Western Low Weald<br>LW4: Low Weald Hills<br>LW6: Central Low Weald<br>LW7: Wiston Low Weald<br>Landscape attributes | Special Qualities (if relevant) | Sensitivity Judgement & Key Landscape Sensitivities | Guidance |
|---|---|---|---|
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform** – Gently undulating landscape, with low ridges and a distinctive escarpment characterising the northern edge of the Low Weald (LW6).<br>**Landscape pattern** – Strong pattern of small to medium fields linking with a dense network of hedgerows and woodland, with larger fields in places.<br>**Enclosure** – this is largely a well enclosed with relatively short views, owing to its dense woodland cover.<br>**Land Cover/ Land Use and Sense of 'Naturalness'** – this is a strongly pastoral landscape with small areas under cropping and other land uses including golf courses and horse paddocks. A sense of naturalness derives from the dense network of hedgerows, shaws, ancient woodland, old wood pasture and parkland, coppice and coniferous plantations.<br>**Inter-visibility with Adjacent Landscapes** – Owing to the high levels of woodland cover, this is an enclosed and contained landscape with little inter-visibility with adjacent areas (except for some views to the adjacent wood ridges | The western half of LW1 North Western Valleys lies within the **South Downs National Park** whose special qualities for the park as a whole are described above. | Although the gently undulating landform, heavily wooded character (including forestry plantations), presence of existing arable cropping and presence of visible and audible signs of human activity indicate reduced sensitivity to energy crop planting and harvesting, the presence of large areas of valued ancient semi-natural woodland, strongly pastoral character, strong field patterns and perceived levels of tranquillity heighten sensitivity to energy crop planting and harvesting operations.<br>The landscape strategy[30] for these areas is to *conserve and enhance the remote, tranquil and pastoral rural character of the area* (LW1); *conserve existing tranquil rural and predominantly wooded character of the area* (LW2); *conserve the rural quality of the area including the pattern of the agricultural landscape, the intricate patchwork of small scale fields, and linked woodland, and the intimate and unobtrusive settlement* (LW4) and to *conserve predominantly wooded character of the area, and its existing tranquil, rural qualities, and ensure that new development is well-integrated within the* | • Area LW1 falls entirely within South Downs National Park and area LW2 lies partly within South Downs National Park which is protected for its special qualities. Ensure energy crops do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• There may be opportunity to incorporate Miscanthus crops into existing cropped areas. Avoid locating turbines on prominent undeveloped scarp slopes or skylines where they form an important backdrop to views.<br>• Miscanthus crops should only be grown in fields already affected by cropping systems, rather than converting pastoral areas to cropping.<br>• Aim for irregular patterns of planting rather than geometric blocks.<br>• There may be opportunities to link SRC to areas of existing woodland and forestry plantation, or new planting.<br>• Avoid planting on the steep land that |

[30] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| | | | |
|---|---|---|---|
| particularly from LW1).<br>**Perceptual Aspects** – Mostly rural and relatively tranquil character, broken locally by traffic on roads particularly around the larger settlements, prominent pylons including in the North Western Valleys (LW1), some areas of suburban development, and the proximity of Gatwick Airport to the Low Weald Hills (LW4). | | *landscape. pattern throughout much of the area*<br>Overall, it is considered that the landscape type has a **moderate** sensitivity to SRC and Miscanthus planting and harve.<br>The key landscape attributes that could be sensitive to bioenergy crop planting are:<br>• the steep landform on the distinctive scarp of the Central Low Weald;<br>• the relatively small scale of the landscape including historic field patterns;<br>• its pastoral character and large areas of naturalistic habitat including ancient woodlands and wood pasture;<br>• the presence of important areas of historic parkland;<br>• the relative sense of tranquillity. | forms the escarpment to the Central Low Weald to reduce the visual impacts of energy crop planting.<br>• Ensure crops and harvesting machinery do not affect the character or setting of historic parkland or block designed views.<br>• Ensure bioenergy crop planting does not encroach onto areas of semi-natural habitat, including ancient semi-natural woodlands and old wood pasture.<br>• Keep harvesting operations away from the most tranquil areas, particularly within the South Downs National Park.<br>• Reduce the impact of any bioenergy planting by small-scale harvesting, and incorporating mixed species where possible. |
| **A note on cumulative issues:** Although there may be some opportunity for planting of small areas of bioenergy crops, in accordance with the guidance above, the landscape would be highly sensitive to large scale planting that could change the intricate pattern of pastoral farmland and woodlands, so characteristic of this area. | | | |

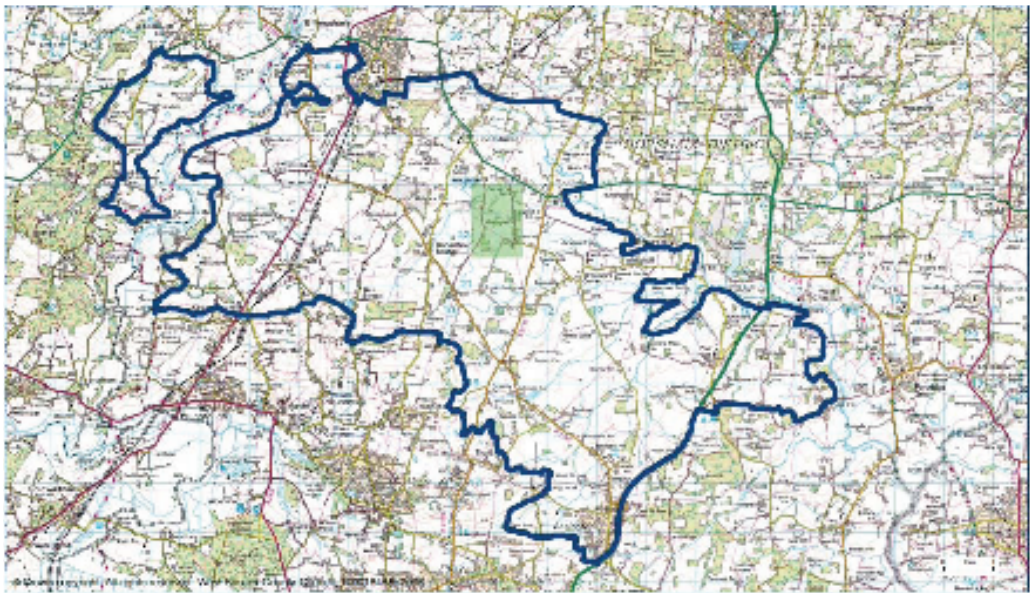
## LANDSCAPE TYPE L: CLAY VALE FARMLANDS

### Key characteristics of Landscape Type (from CBA Report)

- Flat to gently undulating lowland clay vales and occasional low ridges;
- Mixed arable and pasture farmland;
- Medium density of hedgerows;
- Small woods, copses and coppice;
- Mixed settlement character with scattered hamlets and farmsteads, with strong suburban components in parts.

### Component Character Areas: LW5 Southern Low Weald; LW8 Northern Vales; LW10 Eastern Low Weald

***LW5: Southern Low Weald***

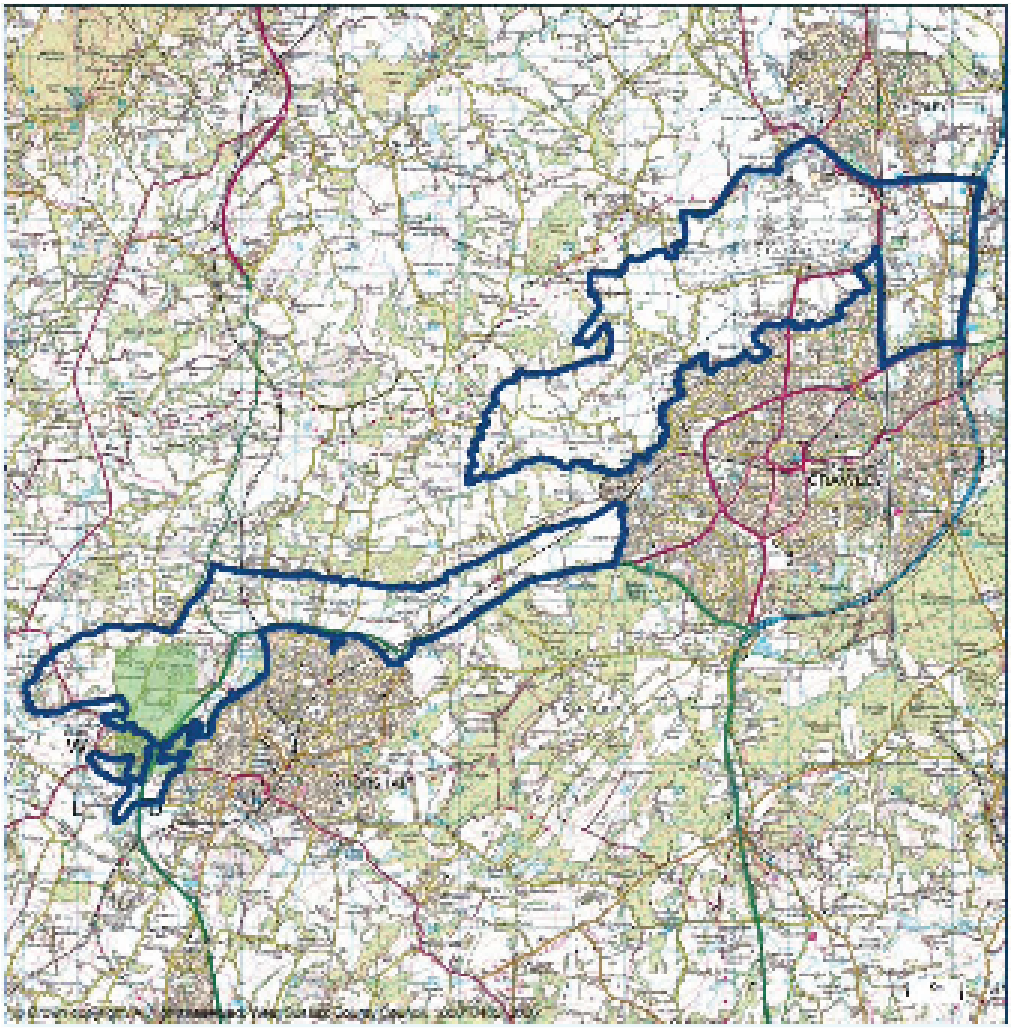


***Key characteristics (directly lifted from West Sussex LCA)***

- Mostly low-lying, flat to gently undulating landscape.
- Occasional low wooded ridges in the east of the area.
- Intricate patterns of small pastures and large arable fields.
- Where field sizes have been enlarged by removal of hedgerows, remnants of irregular ancient field patterns are still visible.
- Variable hedgerow network, fragmented and depleted in places.
- Old hedgerow alignments are indicated by isolated oak trees standing in broken lines.
- Distinctive scatter of isolated semi-natural copses, woodlands and linear streamside woodlands.
- Many hedgerow oak trees, some stag-headed.

- Occasional long views to the South Downs and the High Weald.
- Remote rural character in the west. Roads, pylons and suburban influences evident in the east.
- Traditional building materials are of timber frame, brick, tile and Horsham Stone.
- Winding lanes, some narrow, some with wide verges, link scattered hamlets and farms.

***LW8: Northern Vales***



***Key characteristics (directly lifted from West Sussex LCA)***

- Flat to gently undulating narrow clay vale, with floodplain and upper tributaries of the River Mole in the north east.
- Crossed by the upper reaches of the River Arun in the south west including one of its main tributaries, Boldings Brook.
- Pattern of small, medium and large fields with a variable density of hedgerows.
- Predominantly pasture farmland in the north east changing to arable farmland with smaller areas of pasture around Warnham and Faygate to the south west.

- Scattered tree cover, isolated woodlands and copses.
- Distinctive field trees and farm ponds.
- Major road and rail corridors and pylon lines.
- Strong suburban and urban fringe influences of Crawley, Horsham and Gatwick Airport.
- Some localities retain an enclosed rural character, for instance, west of Ifield.
- Significant area of historic parkland of Warnham Court.
- Large golf course near Ifield.
- Visual intrusion in parts from retail and industrial areas, housing, and sand and gravel workings.

***LW10: Eastern Low Weald***

***Key characteristics (directly lifted from West Sussex LCA)***

- Gently undulating low ridges and clay vales.
- Views dominated by the steep downland scarp to the south and the High Weald fringes to the north.
- Arable and pastoral rural landscape, a mosaic of small and larger fields, scattered woodlands, shaws and hedgerows with hedgerow trees.
- Quieter and more secluded, confined rural landscape to the west, much more development to the east, centred on Burgess Hill.
- Biodiversity in woodland, meadowland, ponds and wetland.
- Historic village of Cowfold and suburban village development at Partridge Green, Shermanbury and Sayers Common.
- Mix of farmsteads and hamlets favouring ridgeline locations, strung out along lanes.
- A modest spread of designed landscapes.

- Crossed by north-south roads with a rectilinear network of narrow rural lanes.
- London to Brighton Railway Line crosses the area through Burgess Hill.
- Varied traditional rural buildings built with diverse materials including timber-framing, weatherboarding, Horsham Stone roofing and varieties of local brick and tile-hanging.
- Major landmarks include Hurstpierpoint College and St Hugh's Charterhouse Monastery at Shermanbury.
- Principal visitor attraction is the Hickstead All England Equestrian Showground.

| TYPE L: CLAY VALE FARMLANDS<br>LW5 Southern Low Weald<br>LW8 Northern Vales<br>LW10 Eastern Low Weald | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **WIND TURBINES** | | | |
| **Scale** – landscape varies in scale owing to different field sizes found across the area. Frequent hedgerow oaks and scattered buildings give a human scale to the landscape.<br>**Landform** – Gently undulating clay vales with occasional low ridges.<br>**Landscape pattern and complexity** – Pattern of small, medium and large mixed fields surrounded by a variable hedgerow network linking to scattered woodlands, copses and shaws. Designed landscapes and parklands and medieval earthworks add an extra layer of complexity into the landscape.<br>**Settlement and Man-made Influence** – Mixed settlement character with scattered hamlets and farmsteads of a range of vernacular styles. Strong suburban influence, particularly around Crawley, Horsham and Gatwick Airport, including main roads, pylons, retail and industrial areas and sand / gravel workings.<br>**Skylines** – skylines are not prominent, and built development is visible on skylines. The Grade II* Listed Hurstpierpoint College and the spire of St Hugh's Charterhouse Monastery at Shermanbury are landmark features. | None of the landscape type is covered by a landscape designation. | The gently undulating landform, strong suburban influences, lack of prominent skylines and relatively little inter-visiblity with adjacent landscapes reduce sensitivity to wind turbine development. However, its small scale, varied landscape pattern, presence of human scale features, landmark features, inter-visibility with the South Downs National Park and High Weald AONB and pockets of relative tranquillity increase sensitivity to wind turbines.<br>The landscape strategy[31] for these areas is to *conserve and enhance pastoral rural character. Maintain the historic character of the area, including moated sites, and the pattern of small irregular fields.* (LW5), *conserve the mostly rural character of the area* (LW8), and to *conserve and enhance the quiet, rural qualities of the western part of the area, encourage landscape restoration and woodland management, and ensure that new development is well-integrated within the landscape.* (LW10).<br>This landscape type is therefore considered to have a **moderate-high** sensitivity to development of large scale wind turbines; a **moderate** sensitivity to medium turbines and a **moderate-low** sensitivity to small scale wind turbines. The key landscape | • There may be opportunities to locate turbines within this landscape where linked to existing development (including industrial and retail sites) and following the guidance below.<br>• Ensure development does not adversely affect designed landscapes (including blocking views), ancient field patterns and medieval earthworks, including moated sites.<br>• Ensure turbines do not detract from key views of the spire of St Hugh's Charterhouse Monastery and Hurstpierpoint College.<br>• Ensure turbines do not detract from key views to the High Weald AONB and the escarpment of the South Downs National Park.<br>• Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, careful location and screening of ancillary buildings or use of existing buildings.<br>• Keep development away from the most tranquil parts of the landscape, particularly locations away from the main settlements of Billingshurst, Crawley and Horsham, and |

[31] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE L: CLAY VALE FARMLANDS<br>LW5 Southern Low Weald<br>LW8 Northern Vales<br>LW10 Eastern Low Weald | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **Inter-visibility with Adjacent Landscapes** – Occasional long views to the escarpment of the South Downs and the High Weald AONB, particularly from ridges. Some localities have an enclosed character, including the area west of Ilford (LW8).<br>**Perceptual Aspects** – Some areas within this landscape retain a remote, rural character. Suburban influences are strong around main settlements, with major road and rail corridors, pylons, industry and retail development intruding into the landscape and impacting on levels of peace and tranquillity. | | attributes that could be sensitive to any scale of wind turbine development are:<br>• the presence of human scale features;<br>• the small scale, varied landscape pattern;<br>• landmark features on the skyline – Hurstpierpoint College and St Hugh's Charterhouse Monastery;<br>• inter-visibility with the South Downs National Park and High Weald AONB;<br>• pockets of relative tranquillity. | Gatwick Airport.<br>• Seek opportunities to achieve wider landscape management objectives identified in the West Sussex landscape assessment and management strategy, Horsham District landscape character assessment, and other assessments/ strategies for Chichester, Crawley and Mid Sussex districts in association with any proposed development. |
| **A note on cumulative issues:** Although this landscape may be able to accommodate some turbines, sensitively site according to the above guidance, the landscape would become progressively more sensitive to development of multiple turbines. In this human scale landscape with scattered development, it is likely to be better to avoid substituting a greater number of smaller turbines for fewer larger turbines. Any development of multiple developments would need to take into account the above guidance, respect the scale of the landscape and be judged on its own merits, being informed by an assessment of cumulative landscape and visual impacts. | | | |

| TYPE L: CLAY VALE FARMLANDS<br>LW5 Southern Low Weald<br>LW8 Northern Vales<br>LW10 Eastern Low Weald<br>Landscape attributes | Special Qualities (if relevant) | Sensitivity Judgement & Key Landscape Sensitivities | Guidance |
|---|---|---|---|
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform** – Gently undulating clay vales with occasional low ridges.<br>**Landscape pattern** – Pattern of small, medium and large mixed fields surrounded by a variable hedgerow network linking to scattered woodlands, copses, shaws and parkland. Ancient, irregular pasture fields survive in many locations.<br>**Enclosure** – Some areas retain an enclosed character, whilst elsewhere fragmented hedgerows and sparse tree result in a more open character.<br>**Land Cover/ Land Use and Sense of 'Naturalness'** – mixture of pasture and arable farming, with hedgerows, woodlands, wetlands and farm ponds contributing to a sense of naturalness. Suburban and industrial land uses have a strong influence in parts, as well as recreational spaces including golf courses and the equestrian showground at Hickstead.<br>**Inter-visibility with Adjacent Landscapes** – Occasional long views to the escarpment of the South Downs and the High Weald AONB, particularly from ridges. Some localities have an enclosed character, including the area west of Ilford | None of the landscape type is covered by a landscape designation. | The gently undulating landform, presence of existing cropped areas, sense of enclosure, relatively little inter-visbility with adjacent sensitive landscapes and suburban influences indicate a reduced sensitivity to energy crops and harvesting operations. Elements that increase sensitivity include the pastoral character of the landscape, the small scale field patterns (including ancient and irregular fields), and views to the High Weald AONB and the escarpment of the South Downs National Park.<br>The landscape strategy[32] for these areas is to *conserve and enhance pastoral rural character. Maintain the historic character of the area, including moated sites, and the pattern of small irregular fields.* (LW5), *conserve the mostly rural character of the area* (LW8), and to *conserve and enhance the quiet, rural qualities of the western part of the area, encourage landscape restoration and woodland management, and ensure that new development is well-integrated within the landscape.* (LW10).<br>Overall, it is considered that the landscape type has a **moderate** sensitivity to | • There may be opportunity to incorporate Miscanthus crops into existing cropped areas, or to link some SRC with existing woodlands or new planting to strengthen the landscape framework.<br>• Biomass crops should be grown in fields already affected by cropping systems, rather than converting pastoral areas to cropping.<br>• Ensure crops and harvesting machinery do not affect the character of historic parkland, ancient field patterns and medieval earthworks, including moated sites.<br>• Ensure crops do not block key views of skyline features such as the spire of St Hugh's Charterhouse Monastery and Hurstpierpoint College.<br>• Ensure planting does not block key views to the High Weald AONB and the escarpment of the South Downs National Park.<br>• Ensure bioenergy crop planting does not encroach onto areas of semi-natural habitat, particularly ponds, wetlands and native woodland. |

[32] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| | | | |
|---|---|---|---|
| (LW8).<br>**Perceptual Aspects** – Some areas within this landscape retain a remote, rural character. Suburban influences are strong around main settlements, with major road and rail corridors, pylons, industry and retail development intruding into the landscape and impacting on levels of peace and tranquillity. | | bioenergy planting and harvesting operations.<br>The key landscape attributes that could be sensitive to bioenergy crop planting are:<br>• the pastoral character of the landscape;<br>• ancient, small scale field patterns;<br>• important views to the High Weald AONB and the scarp of the South Downs National Park;<br>• relative sense of tranquillity and remoteness in some parts of the landscape (particularly the western part of the Northern Vales). | • Reduce the impact of any bioenergy planting by small-scale harvesting, and incorporating mixed species where possible. |
| **A note on cumulative issues:** Although there may be some opportunity for planting of bioenergy crops on a small scale, in accordance with the guidance above, the landscape would be increasingly sensitive to large scale planting that could erode the small scale and varied patterns of the landscape. | | | |

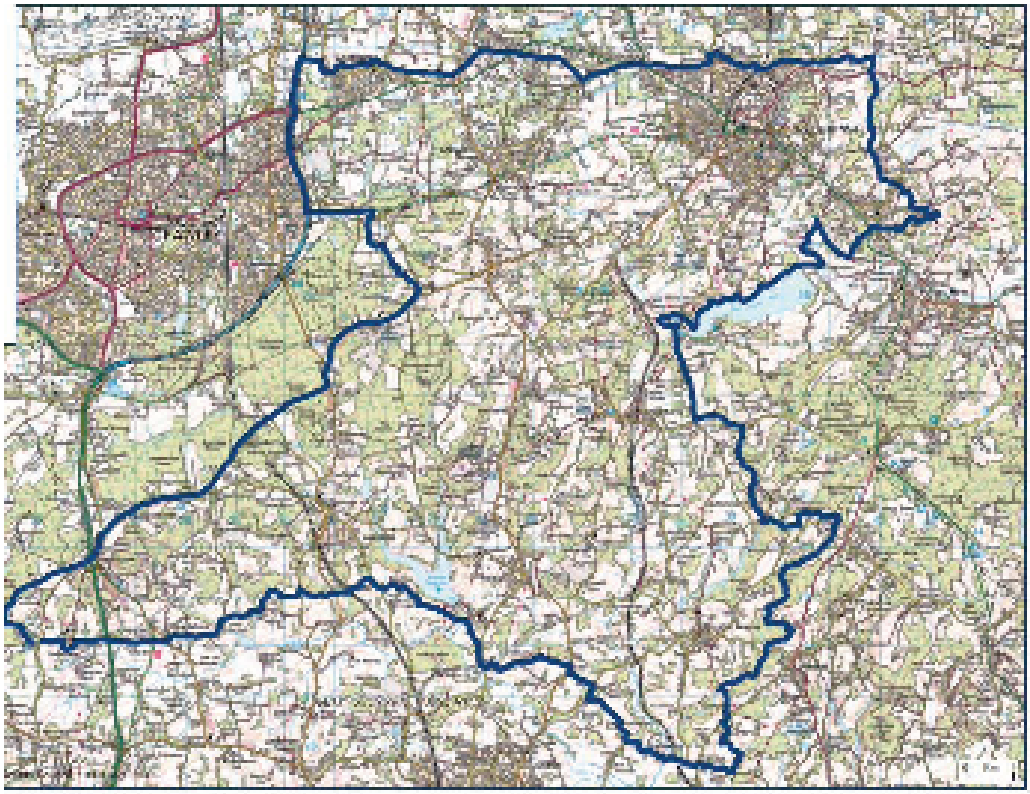
# LANDSCAPE TYPE M: WOODED RIDGES AND VALLEYS

## Key characteristics of Landscape Type (from CBA Report)

- Steep-sided ghylls;
- Extensive areas of parks and gardens;
- Extensive ancient broadleaved woodland and a dense network of hedgerows;
- Small scattered farms;
- Historic ridgetop settlement.

## Component Character Areas: HW1 High Weald; HW4 High Weald Fringes

### *HW1: High Weald*

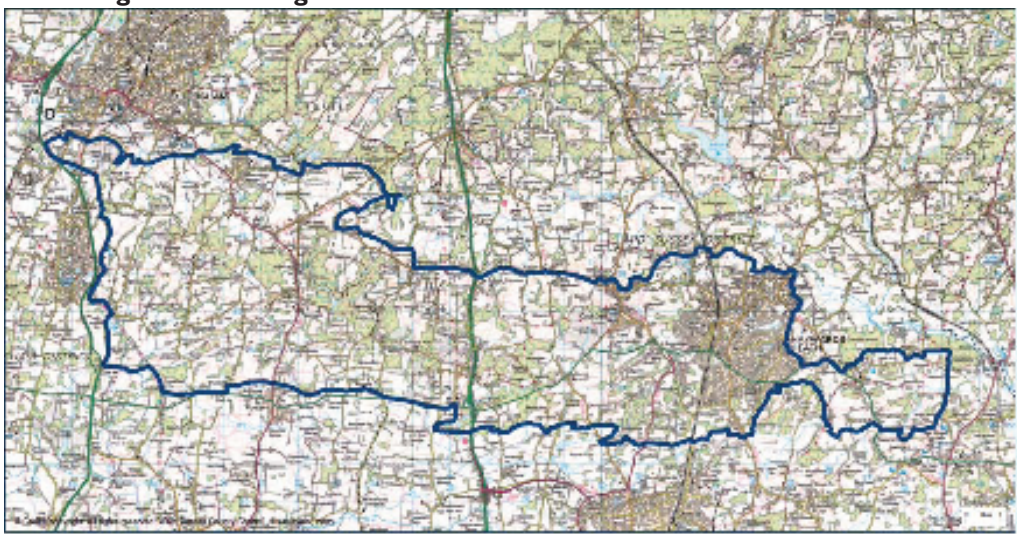


### *Key characteristics (directly lifted from West Sussex LCA)*

- Wooded, confined rural landscape of intimacy and complexity within the High Weald Area of Outstanding Natural Beauty (AONB).
- Plateau, ridges and deep, secluded valleys cut by gill streams.
- Headwater drainage of the Rivers Eden, Medway, Ouse and Mole.
- Long views over the Low Weald to the downs, particularly from the high Forest Ridge.
- Includes major reservoir at Ardingly and adjoins Weir Wood Reservoir.

- Significant woodland cover, a substantial portion of it ancient, and a dense network of shaws, hedgerows and hedgerow trees.
- Pattern of small, irregular-shaped assart fields, some larger fields and small pockets of remnant heathland.
- Pockets of rich biodiversity concentrated in the valleys, heathland, and woodland.
- Dense network of twisting, deep lanes, droveways, tracks and footpaths.
- Dispersed historic settlement pattern on high ridges, hilltops and high ground, the principal settlements East Grinstead and some expanded and smaller villages.
- Some busy lanes and roads including along the Crawley–East Grinstead corridor.
- London to Brighton Railway Line crosses the area.
- Mill sites, hammer ponds and numerous fish and ornamental lakes and ponds.
- Varied traditional rural buildings built with diverse materials including timber-framing,Wealden stone and varieties of local brick and tilehanging.
- Designed landscapes and exotic treescapes associated with large country houses.
- Visitor attractions include Wakehurst Place, Nymans Gardens, the South of England Showground and the Bluebell Line Steam Railway.

***HW4: High Weald Fringes***



***Key characteristics (directly lifted from West Sussex LCA)***

- Wooded, often confined rural landscape of intimacy and complexity partly within the High Weald Area of Outstanding Natural Beauty (AONB).
- South and east-draining gills and broad ridges sweeping gently down to the Low Weald.
- Western part drained by the headwaters of the River Arun, eastern part around Scaynes Hill by the River Ouse.
- Long views over the Low Weald to the downs.

- Significant woodland cover, a substantial portion of it ancient, and a dense network of shaws, hedgerows and hedgerow trees.
- Pattern of small, irregular-shaped assart fields and larger fields, and small pockets of remnant heathland.
- Orchards and horticulture on lower slopes, particularly to the west.
- Biodiversity concentrated in the valleys, heathland, and woodland.
- Network of lanes, droveways, tracks and footpaths.
- Dispersed historic settlement pattern, close to Horsham, the principal settlements Cuckfield, Haywards Heath and Lindfield and a few villages and hamlets.
- Some busy lanes and roads including A and B roads bounding the area to the west, and other roads crossing north to south, including the A23 Trunk Road.
- London to Brighton Railway Line crosses the area at Haywards Heath.
- Mill sites, hammerponds and ornamental lakes and ponds.
- Varied traditional rural buildings built with diverse materials including timber-framing, Horsham Stone roofing,Wealden stone and varieties of local brick and tile-hanging.
- Designed landscapes and exotic treescapes associated with large country houses.
- Major gill woodland garden and visitor attraction at Leonardslee.

| TYPE M: WOODED RIDGES AND VALLEYS<br>HW1: High Weald<br>HW4: High Weald Fringes | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **WIND TURBINES** | | | |
| **Scale** – Intimate, wooded landscape with many human scale features including trees and rural buildings. Top of plateau is larger in scale.<br>**Landform** – Flattish plateau, with strong topographical variety on the edges including steep gills and ridges sweeping down to the Low Weald.<br>**Landscape pattern and complexity** – complex landscape with a strong network of hedgerows surrounding assarted fields, orchards, horticulture and remnant heath, linked to large areas of ancient woodland and shaws. Designed landscapes, mill sites, hammer ponds and numerous ornamental lakes and ponds make up the rich mosaic.<br>**Settlement and Man-made Influence** –main settlements of Haywards Heath and East Grinstead. Outside these is an unobstrusive dispersed settlement pattern comprising traditional buildings of diverse local vernacular historically located on ridgetops, linked by a dense network of deep lanes, droveways, tracks and footpaths. Some busy roads, including the A23, as well as the London to Brighton railway crossing through the area. Large reservoir at Ardingly.<br>**Skylines** – prominent, undeveloped skylines, often characterised by the outline | Most of the landscape character area falls within the **High Weald AONB** whose special qualities are described as:<br>**Geology, landform, water systems and climate**: deeply incised, ridged and faulted landform of clays and sandstone. The ridges tend east-west, and from them spring numerous gill streams that form the headwaters of rivers. Wide river valleys dominate the eastern part of the AONB. The landform and water systems are subject to, and influence, a local variant of the British sub-oceanic climate.<br>**Settlement**: dispersed historic settlements of farmsteads and hamlets, and late medieval villages founded on trade and non-agricultural rural industries.<br>**Routeways**: ancient routeways (now roads and Rights of Way) in the form of ridge-top roads and a dense system of radiating droveways. The droveways are often narrow, deeply sunken, and edged with trees, hedges, wildflower-rich verges and boundary banks.<br>**Woodland**: the great extent of ancient woods, gills, and shaws in small holdings, the value of which is inextricably linked to long-term management.<br>**Field and heath**: small, irregularly shaped and productive fields often bounded by (and | Although this landscape has a large scale plateau landform and includes existing built infrastructure (including reservoirs), its strong topographical variety on the edges of the plateau, complex and intimate landscape pattern, presence of human scale features, dispersed settlement pattern, historic landscape features, inter-visibility with the Low Weald and the South Downs National Park, and tranquil qualities increase sensitivity to this type of development.<br>The landscape strategy[33] for these areas is to *conserve the rich mosaic of woodland and other habitats and the intimate nature of the agricultural landscape, the high level of perceived naturalness of the area including its rural, tranquil qualities, and the unobtrusive settlement pattern throughout much of the area.*<br>This landscape type is therefore considered to have a **high** sensitivity to the development of large scale wind turbines; a **moderate-high** sensitivity to medium scale turbines and a **moderate** sensitivity to and small scale wind turbines. The key landscape attributes that could be sensitive to any scale of wind turbine development are: | • HW1 lies mostly within the High Weald AONB and HW4 lies partly within High Weald AONB which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the AONB. These qualities are set out in the AONB Management Plan.<br>• Keep turbines away from the plateau edges or in areas of strong topographical variety where they would be highly visible – use the convex nature of the landform to minimise visibility from surrounding areas.<br>• Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, careful location and screening of ancillary buildings or use of existing buildings.<br>• Avoid areas of fragile vegetation (particularly heathland) which is difficult to restore.<br>• Ensure development does not affect the character of areas of historic parkland, ornamental lakes or industrial heritage sites (including mill sites and hammer ponds).<br>• Keep development away from the most tranquil and remote parts of the landscape. There may be some opportunities for |

[33] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE M: WOODED RIDGES AND VALLEYS<br>HW1: High Weald<br>HW4: High Weald Fringes | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| of woodlands.<br>**Inter-visibility with Adjacent Landscapes** – Long views over the adjacent Low Weald and to the adjacent Clay Vale Farmlands (type L).<br>**Perceptual Aspects** – Strong historic sense of place with high levels of tranquillity; disrupted in parts by traffic on main roads, the mainline railway line and popular visitor attractions including the South of England Showground. Urban influences close to Haywards Heath and East Grinstead. | forming a mosaic with) hedgerows and small woodlands, and typically used for livestock grazing; small holdings; and a non-dominant agriculture; within which can be found distinctive zones of heaths and inned river valleys.<br>These fundamental characteristics of the High Weald AONB are enriched by locally distinctive and nationally important details. These include castles and abbeys; hop gardens and orchards; oast houses and parish churches; and Veteran Trees and local populations of key threatened species. | • the topographical variety and distinctive landform features (prominent ridge lines and steep gills) on the edge of the plateau;<br>• the complex and intimate mosaic of farmland, woodland and heathland;<br>• the presence of human scale features and historic features (including historic parkland, ancient trackways and industrial heritage features);<br>• strong inter-visibility with the Low Weald and the South Downs National Park;<br>• the historic settlement pattern and tranquil qualities. | turbines associated with existing built development, man-made features, or infrastructure.<br>• Consider views from the Low Weald and South Downs National Park when considering the location of turbines.<br>• Seek opportunities to achieve wider landscape management objectives identified in the West Sussex landscape assessment and management strategy, Horsham District landscape assessment, and any other local landscape character assessments or strategies for Mid Sussex (including those produced by the AONB) in association with any proposed development. |
| **A note on cumulative issues:** Although this landscape may be able to accommodate a limited number of small or medium turbines, sensitively sited according to the above guidance, the landscape would become progressively more sensitive to development of multiple turbines. In this human scale landscape it is likely to be better to avoid substituting a greater number of smaller turbines for fewer larger turbines. Any development of multiple developments would need to take into account the above guidance, respect the scale of the landscape and be judged on its own merits, being informed by an assessment of cumulative landscape and visual impacts. | | | |
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform** – Plateau, ridges and deep, secluded valleys cut by gill streams, lying adjacent to the Low Weald.<br>**Landscape pattern** – rich mosaic of small irregular-shaped assarted fields, some larger fields and small pockets of heathland linked by a dense network of shaws, hedgerows, hedgerow trees and ancient woodland.<br>**Enclosure** – Strong sense of enclosure | Most of the landscape character area falls within the **High Weald AONB** whose special qualities are described as above. | The landscape's heavily wooded character (including coniferous forestry), strong sense of enclosure, and presence of existing areas of cropping may indicate a lower sensitivity to energy crop planting and harvesting operations. However, the steep landform, small scale and rich mosaic of land uses, large tracts of naturalistic habitats, strongly pastoral character views to adjacent landscapes and its tranquil | • HW1 lies mostly within the High Weald AONB and HW4 lies partly within High Weald AONB which is protected for its special qualities. Ensure energy crops do not adversely affect the special qualities of the AONB. These qualities are set out in the AONB Management Plan.<br>• Miscanthus crops should only be grown in fields already affected by cropping systems, rather than converting pastoral areas to |

| TYPE M: WOODED RIDGES AND VALLEYS<br>HW1: High Weald<br>HW4: High Weald Fringes | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| owing to the landscape's dense tree cover, opening up on the higher ridges and plateau.<br>**Land Cover/ Land Use and Sense of 'Naturalness'** – Predominantly pastoral and rough grazing land use, with orchards and horticulture on the lower slopes of the High Weald fringes and some areas of arable cropping The landscape is strongly characterised by a dense network of hedgerows linking to important areas of remnant heath, species-rich meadows, large blocks of ancient woodland, parkland and shaws which give the landscape a strong sense of naturalness.<br>**Inter-visibility with Adjacent Landscapes** – Long views over the adjacent Low Weald and to the adjacent Clay Vale Farmlands (type L).<br>**Perceptual Aspects** – Strong historic sense of place with high levels of tranquillity; disrupted in parts by traffic on main roads, the mainline railway line and popular visitor attractions including the South of England Showground. | | qualities increase levels of sensitivity.<br>The landscape strategy[34] for these areas is to *conserve the rich mosaic of woodland and other habitats and the intimate nature of the agricultural landscape, the high level of perceived naturalness of the area including its rural, tranquil qualities, and the unobtrusive settlement pattern throughout much of the area.*<br>Overall, it is considered that the landscape type has **moderate-high** sensitivity to Miscanthus cropping and a **moderate** sensitivity to SRC.<br>The key landscape attributes that could be sensitive to bioenergy crop planting are:<br>• the steep sopes that are highly visible;<br>• the rich and small scale mosaic of ancient pastoral assarts and dense network of naturalistic habitats, including remnant heathland and ancient woodland;<br>• views to the Low Weald and adjacent Clay Vale Farmlands;<br>• its tranquil qualities. | cropping.<br>• Aim for irregular patterns of planting rather than geometric blocks.<br>• Ensure harvesting operations do not affect the historic hedgerow pattern – ensure preservation of the irregular assarted fields.<br>• Areas of existing woodland and forestry plantation could provide an opportunity to link with areas of SRC.<br>• Avoid planting on steep slopes to reduce visual impact.<br>• Ensure crops do not replace orchards that are typical of this area.<br>• Ensure crops and harvesting machinery do not affect the character of historic parkland (or block designed views).<br>• Ensure crops do not interrupt important views across the Low Weald and to the South Downs National Park.<br>• Ensure bioenergy crop planting does not encroach onto areas of semi-natural habitat, including heathland, species-rich meadows and ancient woodlands.<br>• Keep harvesting operations away from the most tranquil areas, focussing them in areas already affected by such operations.<br>• Reduce the impact of any bioenergy planting by small-scale harvesting, and |

[34] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE M: WOODED RIDGES AND VALLEYS<br>HW1: High Weald<br>HW4: High Weald Fringes | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| | | | incorporating mixed species where possible. |
| **A note on cumulative issues:** Although there may be some opportunity for planting of small areas of energy crop, sensitively sited in accordance with the guidance above, the landscape would be highly sensitive to large scale planting that could change the intimate, small scale character of the landscape and its rich diversity of land uses. | | | |

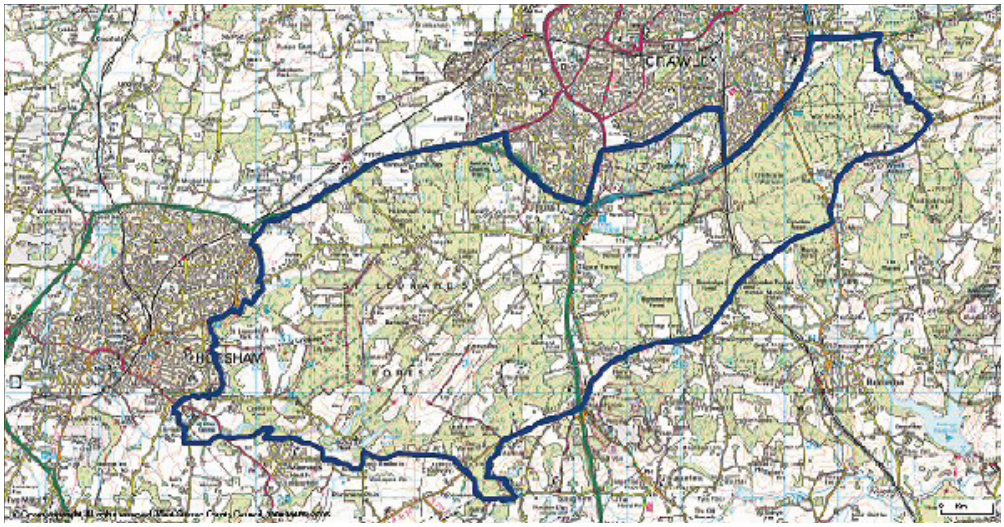
# LANDSCAPE TYPE N: FOREST PLATEAU

## Key Characteristics of Landscape Type (from CBA report)

- Heavily forested plateau and ridges;
- Steep, wooded ghylls;
- Extensive coniferous plantations and birch pine woodlands with smaller areas of oak, ash, beech and coppiced sweet chestnut;
- Patches of heathland;
- Ridgeline roads and buildings.

## Component Character Areas: HW2 High Weald Forests

### *HW2: High Weald Forests*



### *Key Characteristics (directly lifted from West Sussex LCA)*

- Densely wooded, confined, dissected plateau landscape with extensive coniferous and mixed afforestation within the High Weald Area of Outstanding Natural Beauty (AONB).
- The Worth forests mark the plateau-like western end of the High Weald Forest Ridge, drained by the Rivers Mole and Ouse.
- Drained by the River Arun, St Leonards Forest is a unique High Wealden wooded and pastoral landscape of long, parallel ridges and steep-sided narrow valleys.
- Long views over the Low Weald to the downs, but fewer long views north.
- Large, regularly-enclosed and some smaller, irregular, assart fields within a woodland setting comprising an arable and pastoral landscape enclosed by shaws, hedgerows (including tall hedges) and fencing.
- Despite the closeness of large towns and roads, a secluded, tranquil nature exists in many parts the forests.
- Clearance and re-planting of large tracts of ancient woodland.

- Heathland remnants and significant areas of rich woodland biodiversity.
- Network of ridge-top roads and lanes, droveways, tracks and footpaths.
- Sparse, dispersed settlement pattern of hamlets, farmsteads and ridgetop development, mainly in St Leonards Forest.
- Adjoins Crawley to the north and Horsham to the east.
- Bounded by A and B roads, some busy, and crossed from north to south by the A23 Trunk Road and by the M23 Motorway at Tilgate Park.
- The London to Brighton Railway Line crosses the area via the Balcombe Tunnel.
- Secluded mill sites, sizeable hammerponds and ornamental lakes and ponds.
- Varied traditional rural buildings built with diverse materials including timber-framing, Horsham Stone roofing, Wealden stone and varieties of local brick and tile-hanging.
- Designed landscapes and exotic treescapes including rhododendron hedgerows.
- Country parks at Buchan and Tilgate and golf courses.

| TYPE N: FOREST PLATEAU<br>HW2: High Weald Forests<br>Landscape attributes | Special Qualities (if relevant) | Sensitivity Judgement & Key Landscape Sensitivities | Guidance |
|---|---|---|---|
| **WIND TURBINES** | | | |
| **Scale** - a large scale dissected plateau with a simple image that is heavily-afforested.<br>**Landform** - a dissected plateau of long, parallel ridges and steep-sided narrow valleys. Strong topographical variety on edges and around valleys.<br>**Landscape pattern and complexity –** extensive coniferous and mixed afforestation enclosing a more complex post-medieval rural landscape cut from the forest (including pasture with some arable, heathland remnants, designed landscapes, and exotic treescapes) and historic features such as droveways, boundary banks, assart field boundaries, 'pillow mounds', or Wealden iron hammerponds, pond bays and mill sites.<br>**Settlement and Man-made Influence -** sparse, dispersed settlement pattern of hamlets, farmsteads and ridgetop development, mainly in St Leonards Forest. Adjoins Crawley to the north and Horsham to the east. Bounded by A and B roads, some busy, and crossed from north to south by the A23 Trunk Road and by the M23 Motorway at Tilgate Park. The London to Brighton Railway Line crosses the area via the Balcombe Tunnel Adjoins Crawley and Horsham. Country | Most of the landscape character area falls within the **High Weald AONB** whose special qualities are described as:<br>**Geology, landform, water systems and climate**: deeply incised, ridged and faulted landform of clays and sandstone. The ridges tend east-west, and from them spring numerous gill streams that form the headwaters of rivers. Wide river valleys dominate the eastern part of the AONB. The landform and water systems are subject to, and influence, a local variant of the British sub-oceanic climate.<br>**Settlement**: dispersed historic settlements of farmsteads and hamlets, and late medieval villages founded on trade and non-agricultural rural industries.<br>**Routeways**: ancient routeways (now roads and Rights of Way) in the form of ridge-top roads and a dense system of radiating droveways. The droveways are often narrow, deeply sunken, and edged with trees, hedges, wildflower-rich verges and boundary banks.<br>**Woodland**: the great extent of ancient woods, gills, and shaws in small holdings, the value of which is inextricably linked to long-term management. | Although the large scale landform indicates that the landscape could accommodate large scale features such as wind turbines, the incised valleys, complex post-medieval rural landscape, dispersed settlement patterns, visible skylines, and sense of tranquillity in the AONB increase sensitivity to such development.<br>The landscape strategy[35] for this area is to conserve and enhance the secluded, tranquil nature of the forests and the agricultural landscape, and the unobtrusive settlement pattern throughout the area.<br>Overall, this landscape character type has a **high** sensitivity to development of large scale turbines, reducing to **moderate-high** on heavily coniferised plateau tops and alongside the M23 motorway; **moderate-high** sensitivity to medium scale wind turbines; and a **moderate** sensitivity to small scale wind turbines.<br>The key landscape attributes that could be sensitive to any scale of wind turbine development are:<br>• The dissected landform and steep sided valleys;<br>• The historic landscape and settlement; | • Most of this area is within the High Weald AONB which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the AONB. These qualities are set out in the AONB Management Plan.<br>• Keep any turbines away from plateau edges or areas of dissected landform/ steep sided valleys.<br>• The heavily coniferised plateau tops may provide opportunities for the siting of large scale features such as wind turbines – where their visibility could be screened by topography and land cover.<br>• Ensure any turbine developments do not affect the historic features such as droveways, boundary banks, assart field boundaries, 'pillow mounds', or Wealden iron hammerponds, pond bays and mill sites.<br>• Avoid semi-natural land cover elements such as heaths and native woodlands.<br>• Consider views from the South Downs National Park when locating any turbines or tracks.<br>• Keep development away from the most tranquil parts of the landscape – this is |

[35] from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE N: FOREST PLATEAU<br>HW2: High Weald Forests<br>Landscape attributes | Special Qualities (if relevant) | Sensitivity Judgement & Key Landscape Sensitivities | Guidance |
|---|---|---|---|
| parks and golf courses.<br>**Skylines** – undeveloped wooded skylines.<br>**Inter-visibility with Adjacent Landscapes** - views from plateau tops are limited by woodland cover. Some inter-visibility to the adjacent Low Weald and Clay Vale Farmlands (type L).<br>**Perceptual Aspects -** despite the closeness of large towns and roads, a secluded, tranquil nature exists in many parts of the forests. | **Field and heath**: small, irregularly shaped and productive fields often bounded by (and forming a mosaic with) hedgerows and small woodlands, and typically used for livestock grazing; small holdings; and a non-dominant agriculture; within which can be found distinctive zones of heaths and inned river valleys.<br>These fundamental characteristics of the High Weald AONB are enriched by locally distinctive and nationally important details. These include castles and abbeys; hop gardens and orchards; oast houses and parish churches; and Veteran Trees and local populations of key threatened species. | • The semi-natural land cover elements such as heaths and native woods;<br>• The prominent undeveloped skylines;<br>• The inter-visibility with the South Downs National Park;<br>• The relative sense of tranquillity away from the urban areas;<br>• Distinctive features such as hop gardens and orchards, castles and abbeys, oast houses and parish churches and veteran trees. | particularly applicable to areas within the High Weald AONB.<br>• There may be some opportunity for wind turbines within or on the edges of existing urban areas and commercial/industrial sites outside the AONB.<br>• In other areas ensure *small scale* turbines are associated with existing buildings or settlements in the landscape.<br>• Ensure development does not detract from distinctive features such as hop gardens and orchards, castles and abbeys, oast houses and parish churches and veteran trees.<br>• Consider landform when developing wind farm proposals of more than one turbine - ensure layouts reflect the shape of the landform, to optimise screening opportunities and to avoid visual confusion. Aim to achieve good composition from key viewpoints.<br>• Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, careful location and screening of ancillary buildings or use of existing buildings.<br>• Avoid areas of fragile vegetation (particularly heathland) which is difficult to restore.<br>• Seek opportunities to achieve wider landscape management objectives identified |

| TYPE N: FOREST PLATEAU<br>HW2: High Weald Forests<br>Landscape attributes | Special Qualities (if relevant) | Sensitivity Judgement & Key Landscape Sensitivities | Guidance |
|---|---|---|---|
| | | | in the West Sussex landscape assessment and management strategy, Horsham District landscape assessment, and any other local landscape character assessments or strategies for Mid Sussex (including those produced by the AONB) in association with any proposed development. |
| **A note on cumulative issues:** Although this landscape may be able to accommodate some sensitively sited turbines according to the above guidance, the tranquil nature of much of the landscape means that presence of a large number of turbines is unlikely to be suitable in this landscape if the current landscape strategy is to be observed. In this relatively large scale plateau landscape it may be the case that one larger turbine may result in a lower overall landscape and visual impact than multiple smaller turbines, if sensitively located according to the above guidance. | | | |
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform** - a dissected plateau of long, parallel ridges and steep-sided narrow valleys.<br>**Landscape pattern** - extensive coniferous and mixed afforestation enclosing a more complex post-medieval rural landscape cut from the forest.<br>**Enclosure** - heavily-afforested and enclosed except for edges of plateau.<br>**Land Cover/ Land Use / Sense of 'Naturalness' -** extensive coniferous and mixed afforestation enclosing a post-medieval rural landscape cut from the forest (including assart pastures) – a predominantly wooded and pastoral landscape with some arable, heathland | Most of the landscape character area falls within the **High Weald AONB** whose special qualities are described as above. | Although the presence of woodland, arable cropping, sense of enclosure, and low inter-visibility with sensitive viewpoints reduces sensitivity to bioenergy crops, the steep slopes, complex landscape patterns, semi-natural and pastoral habitats and tranquil nature of the landscape increase sensitivity to crops and their harvesting operations. The wooded nature of the landscape makes it more suitable for SRC than Miscanthus.<br>The landscape strategy for this area is to conserve and enhance the secluded, tranquil nature of the forests and the agricultural landscape, and the unobtrusive settlement pattern throughout the area[36]. | • Most of this area is within the High Weald AONB which is protected for its special qualities. Ensure energy crops do not adversely affect the special qualities of the AONB. These qualities are set out in the AONB Management Plan.<br>• There may be opportunity to link some SRC with existing woodlands.<br>• Focus Miscanthus crops in fields already affected by cropping systems rather than conversion of pastoral areas to cropping.<br>• Plant away from steep landforms, plateau edges and steep valley sides where crops would be highly visible.<br>• Ensure crops and harvesting machinery do |

[36] from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE N: FOREST PLATEAU<br>HW2: High Weald Forests<br>Landscape attributes | Special Qualities (if relevant) | Sensitivity Judgement & Key Landscape Sensitivities | Guidance |
|---|---|---|---|
| remnants, designed landscapes, exotic treescapes, country parks at Buchan and Tilgate and golf courses.<br>**Inter-visibility with Adjacent Landscapes** - views from plateau tops are limited by woodland cover. Some inter-visibility to the adjacent Low Weald and Clay Vale Farmlands (type L).<br>**Perceptual Aspects** - despite the closeness of large towns and roads, a secluded, tranquil nature exists in many parts of the forests. | | Overall, the landscape has a **moderate-high** sensitivity to growth and harvesting of Miscanthus and a **moderate** sensitivity to growth of and harvesting of SRC.<br>The key landscape attributes that could be sensitive to bioenergy crop planting are:<br>• The areas of steep landform (where crops would be highly visible);<br>• The historic field patterns and designed landscapes;<br>• The semi-natural land cover elements such as heaths and native woods;<br>• The relative sense of tranquillity away from the urban areas (particularly sensitive to harvesting operations);<br>• Distinctive features such as hop gardens and orchards, castles and abbeys, oast houses and parish churches and veteran trees. | not affect the survival of historic field patterns (e.g. assart pastures) and hedgerows.<br>• Ensure bioenergy crop planting does not encroach onto areas of semi-natural habitat such as heath, native woodland (including wet woodland) and water margins.<br>• Aim for irregular patterns of planting rather than geometric blocks.<br>• Keep harvesting operations away from the most remote areas - there may be particular opportunities for planting on the rural urban fringe including within the Horsham-Crawley corridor.<br>• Reduce the impact of any bioenergy planting by small-scale harvesting, and incorporating mixed species where possible.<br>• Ensure development does not detract from distinctive features such as hop gardens and orchards, castles and abbeys, oast houses and parish churches and veteran trees. |
| **A note on cumulative issues:** Although there may be some opportunity for planting of bioenergy crops, particularly SRC, in accordance with the guidance above, the landscape would be sensitive to large scale planting that could erode the complexity of landcover, and large scale harvesting that would affect the tranquillity of the forests. | | | |

## LANDSCAPE TYPE O: RIVER VALLEYS

### Key characteristics of Landscape Type (from CBA report)

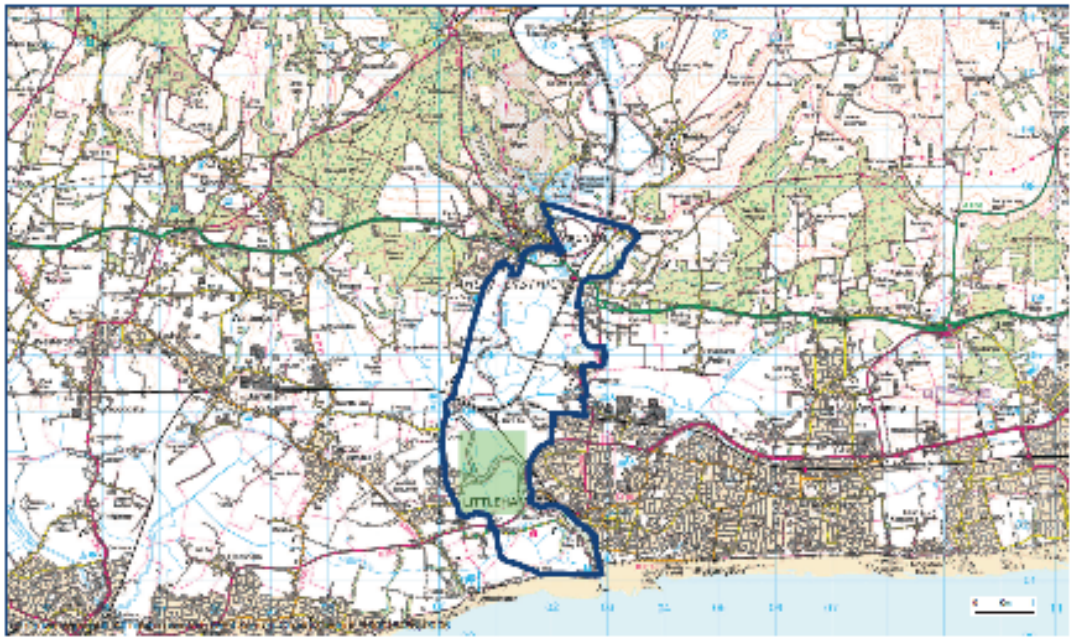
- Flat, alluvial floodplains;
- Relatively small floodplain pastures with regular and irregular shapes;
- River flows with grassland s embankments on lower reaches;
- Patches of marsh and scrub;
- Mixed or arable farmland on valley sides;
- Variable hedgerow and hedgerow tree cover;
- Curving narrow strips of woodland;
- Small farms on valleysides and occasional small hamlets and villages at bridging points;
- Stone and brick bridges.

### Component Character Areas: SC10 Lower Arun Valley; SD5 Downland Adur Valley; SD2 Downland Arun Valley; WG6 Arun Wildbrooks; LW9 Upper Adur Valley; LW3 Upper Arun Valley; WG3 Rother Valley; HW3 Ouse Valley.

Because of the clear differences in character between the different valleys, this assessment has structured the Character Areas into three groups:

- SC10 Lower Arun Valley (river with tidal influence and bordering urban areas);
- SD2 Downland Arun and SD5 Downland Adur (river valleys cutting through the chalk largely within the South Downs National Park)
- WG6 Arun Wildbrooks (broad river valley in its middle reaches with distinctive water meadows known as 'wildbrooks'); and
- LW9 Upper Adur Valley, LW3 Upper Arun Valley, WG3 Rother Valley and HW3 Ouse Valley (narrow rivers mainly in their upper catchments).

***SC10: Lower Arun Valley***



***Key characteristics (directly lifted from West Sussex LCA)***

- Extensive areas of drained pasture and floodplain.
- Wide wandering river course throughout, with meanders increasing in size to the south.
- Tidal character up to Pallington Lock.
- Meandering river, fed by rifes and dykes with adjacent reed beds.
- Stretches of engineered concrete river banks.
- Very shallow valley sides, consisting of slightly undulating farmland or the urban edge of the coastal development, in particular Littlehampton.
- Little riverside vegetation.
- Intrusive surrounding suburban activities.
- Prominent railway on embankment.
- Extensive high level views onto the area.
- Key close dramatic views of Arundel (castle, Roman Catholic cathedral, parish church, clustered hillside housing) from the south.
- Seaward views from elevated positions.
- Long views of river valley towards the Chalk Downs and Arundel from the south.

| TYPE O: RIVER VALLEYS<br>SC10 Lower Arun Valley | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **WIND TURBINES** | | | |
| **Scale** – wide river valley with a large, meandering river giving a large scale to the landscape.<br>**Landform** – Wide, flat river valley with shallow sides.<br>**Landscape pattern and complexity** – relatively simple landscape dominated by the meandering river course; fringed by farmland, water meadows, reed beds and extensive built development. The tidal stretches include areas of mudflat, saltmarsh and sand dunes at West Beach.<br>**Settlement and Man-made Influence** – significant man-made influence – including major rail infrastructure, golf courses, engineered rivers banks and suburban influences from Littlehampton.<br>**Skylines** – Although the skyline is not prominent, the open character allows extensive views along the valley. The castle and cathedral at Arundel (partially falling outside this character area) features on the skyline.<br>**Inter-visibility with Adjacent Landscapes** – Long views towards the chalk downs of the South Downs National Park and across the developed coastal plain towards the sea.<br>**Perceptual Aspects** – Significant visual and noise intrusion from the surrounding urban / industrial areas. This contrasts with the adjacent tranquil and relatively remote landscapes of the South Downs National | Most of the area lies outside any designated landscapes. However, the very northern edge of this character area lies within the **South Downs National Park** whose special qualities for the park as a whole are described as:<br>(NB these have been summarised to focus on those most relevant to this study)<br>A **dramatic and distinctive topography** that reflects the diversity of underlying geology.<br>**Strong skylines** with a sense of elevation, expansive views and big open skies.<br>A contrast between **expansive open downland** and intimate wooded landscapes.<br>Dramatic **chalk cliffs** between Seaford and Beachy Head defined as Heritage Coast and affording **panoramic sea views**.<br>A collection of **habitats of international importance** - ancient chalk grassland, flood-plain pastures of the river valleys, lowland heathlands of the Greensand, magnificent 'hanging' woodlands of the Chalk scarp and Upper Greensand, and coastal habitats.<br>Internationally important **archaeological sites**; funerary monuments; ancient field systems and settlements; historic field enclosures; ancient sunken lanes and trackways; water meadows and dewponds; and more recent reminders of the last two World Wars.<br>A **serene and peaceful** landscape. | The large scale of the landscape, flat landform, simple landscape pattern, non-prominent skylines and presence of significant built infrastructure within and on the edges of this landscape, could indicate a lower sensitivity to wind turbine development. However, the presence of watermeadows and reed beds, long views and inter-visibility with the South Downs National Park increase levels of sensitivity to wind turbines.<br>The landscape strategy[37] for this area is to *conserve and maintain key views across valley*.<br>This landscape type is therefore considered to have a **moderate-high** sensitivity to the development of large scale wind turbines; a **moderate** sensitivity to medium turbines and a **moderate-low** sensitivity to small scale wind turbines. The key landscape attributes that could be sensitive to any scale of wind turbine development are:<br>• the semi-natural habitats such as mudflats, saltmarsh, sand dunes, watermeadows and reed beds.<br>• the open skylines and long views along the valleys, particularly to features such as Arundel;<br>• the inter-visibility with the South Downs National Park. | • The northern tip of SC10 is in the South Downs National Park which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• Avoid locating turbines on the most elevated positions of the valley, which would be particularly prominent in views from the surrounding landscapes.<br>• Keep development away from unenclosed semi-natural habitats such as mudflats, saltmarsh, sand dunes, watermeadows and reed beds.<br>• Link development to existing man-modified areas and keep development away from the most tranquil parts of the landscape – particularly the edges of the historic settlement of Arundel and within the South Downs National Park.<br>• Ensure turbines do not detract from views of, or dwarf, landmark features such as the castle and cathedral at Arundel.<br>• Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, careful location and screening of ancillary buildings or use of existing buildings.<br>• Protect long views along the valleys towards the Downs, and south out to sea. Ensure |

[37] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE O: RIVER VALLEYS<br>SC10 Lower Arun Valley | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| Park. | An **unspoilt landscape**, lacking the intrusion of modern or inappropriate development.<br>A concentration of **estates and designed parklands**. | | that the location of turbines does not detract from the special qualities of the National Park.<br>• Seek opportunities to achieve wider landscape management objectives identified in the West Sussex landscape assessment and management strategy, the South Downs integrated landscape character assessment and management plan, and any assessments/strategies produced for Arun District in association with any proposed development. |
| **A note on cumulative issues:** Although this landscape may be able to accommodate a limited number of turbines, sensitively sited according to the above guidance, the landscape would become progressively more sensitive to development of multiple turbines. In this large scale landscape it may well be beneficial to have fewer larger turbines rather than a larger number of smaller turbines to minimise cumulative effects, but any decision would need to take into account the above guidance, respect the scale of the landscape and be judged on its own merits, being informed by an assessment of landscape and visual impacts. It will be important that any turbines that are visible from the same place respect each in terms of scale and design. | | | |
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform** – Wide, flat river valley with shallow sides.<br>**Landscape pattern** – medium to large scale mixed agricultural fields. The pattern is generally simple across the landscape.<br>**Enclosure** – Open character owing to the wide form of the river valley and general absence of high level vegetation.<br>**Land Cover/ Land Use and Sense of 'Naturalness'** – landscape dominated by river course (engineered in many places); fringed by farmland including significant areas of arable cropping, with smaller areas of water meadows, reed beds and extensive built development. The tidal stretches include areas of mudflat, saltmarsh and sand | Most of the area lies outside any designated landscapes. However, the very northern edge of this character area lies within the **South Downs National Park** whose special qualities are described as above. | The presence of significant areas of arable cropping (including in large scale fields), flat landform of the valley bottom and strong man-made influence indicate lower sensitivity to energy crop planting and harvesting operations. However, its open character, important areas of naturalistic habitat, and strong intervisibility with adjacent landscapes including the South Downs National Park increase levels of sensitivity.<br>The landscape strategy[38] for this area is to *conserve and maintain key views across valley*.<br>Overall, it is considered that the landscape type has a **moderate** sensitivity to bioenergy crops. | • The northern tip of SC10 is in the South Downs National Park which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• Biomass crops may provide some opportunity to screen existing man-made development in this open landscape.<br>• Miscanthus crops should only be grown in fields already affected by cropping systems, rather than converting pastoral areas to cropping.<br>• Aim for irregular patterns of planting rather |

[38] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE O: RIVER VALLEYS<br>SC10 Lower Arun Valley | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| dunes at West Beach.<br>**Inter-visibility with Adjacent Landscapes** – Long views towards the chalk downs of the South Downs National Park and across the coastal plain towards the sea.<br>**Perceptual Aspects** – Significant visual and noise intrusion from the surrounding urban / industrial areas. This contrasts with the adjacent tranquil and relatively remote landscapes of the South Downs National Park. | | The key landscape attributes that could be sensitive to bioenergy crop planting are:<br>• the valley's open character;<br>• presence of important naturalistic habitats including historic water meadows and tidal habitats including reedbeds and saltmarsh;<br>• long views along the valley and beyond to the wider South Downs National Park. | than geometric blocks.<br>• Areas of existing woodland and hedgerows could provide an opportunity to link with areas of SRC – including new planting as a screen to urban development.<br>• Ensure planted crops do not interrupt the key views to the South Downs ridge, key views of Arundel or key views to the coast.<br>• Ensure bioenergy crop planting does not encroach onto areas of semi-natural habitat, including water meadows, coastal saltmarsh and reedbeds.<br>• The floodplain immediately adjacent to the river may be particularly sensitive to scarring as a result of harvesting operations.<br>• Reduce the impact of any bioenergy planting by small-scale harvesting, and incorporating mixed species where possible. |
| **A note on cumulative issues:** Although there may be opportunity for planting areas of Miscanthus and small areas of SRC, in accordance with the guidance above, the landscape would be sensitive to large scale planting that could change its open character and affect its naturalistic habitats. | | | |

***SD2: Downland Arun Valley***

***Key characteristics (directly lifted from West Sussex LCA)***

- Isolated and unspoilt character.
- Wide flat bottomed valley.
- Small lush pastures subject to seasonal flooding divided by ditches.
- Steep undulating chalk valley sides with branching dry valleys within the downland.
- Some hedgerows towards the edge of the floodplain.
- Meandering river but confined within embankments close to valley sides.
- Curving linear strips of woodland on lower valley sides, with open chalkland slopes on higher valley sides.
- Lack of settlement apart from small historic hamlet of North Stoke elevated above the river on a projecting spur.
- Building materials of mainly flint with brick detailing.
- Open cross valley views including dramatic views of Arundel (castle, Roman Catholic cathedral, parish church, clustered hillside housing).

***SD5 Downland Adur Valley***

***Key characteristics (directly lifted from West Sussex LCA)***

- Wide open flat bottomed valley, with gently meandering river.
- Wide sloping chalk valley sides with steep tops.
- Main river tidal, with salt marsh and mud flats. Mostly canalised, and contained by levees.
- River levees carrying recreational routes adjacent to river on both sides.
- Wet floodplain meadows, streams and water channels.
- Some significant areas of arable farmland on the valley floor and lower slopes.
- Relatively open character, with a denser network of hedgerows and small woodlands on the tributaries.
- Downland turf and invading scrub on the valley sides.
- Small lanes and brick bridges.
- Impressive views across the valley including striking views of Lancing College.
- Visual intrusion from the disused cement works and chalk quarries, major roads and pylons.
- Bounded on the south by the complex of flyovers where the A27 trunk road and the A283 intersect.
- Small hamlets and farmsteads on lower sides using varied materials including flint, brick and tile hanging.
- Two disused railways, now major recreational routes, and also crossed by the South Downs Way.

| TYPE O: RIVER VALLEYS<br>SD2: Downland Arun Valley<br>SD5: Downland Adur Valley | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **WIND TURBINES** | | | |
| **Scale** – Large scale landscape owing to the broad floodplain landform and its open character; smaller scale on the steep valley sides. Human scale features include stone and brick bridges.<br>**Landform** – Wide floodplain landscape – steep undulating chalk valley sides edging the floodplains producing strong topographical variety.<br>**Landscape pattern and complexity** – Pattern of small wet pasture fields, water meadows and some arable fields fringing the rivers, with curving strips of woodland and hedgerows on the edge of the floodplains and tributary valleys. The Downland Adur is fringed by saltmarsh and mudflats in its tidal reaches. The higher valley slopes are under open chalk grassland.<br>**Settlement and Man-made Influence** – Lack of settlement in the Downland Arun Valley, apart from the small historic hamlet of North Stoke elevated on a spur above the river. Small hamlets and farmsteads of mixed local vernacular are located on the lower sides of the Adur Valley, with some urban fringe influences in the south, including disused cement works, quarries and the impacts of the nearby Shoreham airport and flyovers from the A27 trunk road and A283. Historic stone and brick bridges are a feature of the landscape.<br>**Skylines** – Open, undeveloped skylines on | Both Character Areas fall within the **South Downs National Park** whose special qualities for the park as a whole are described as:<br>(NB these have been summarised to focus on those most relevant to this study)<br>A **dramatic and distinctive topography** that reflects the diversity of underlying geology.<br>**Strong skylines** with a sense of elevation, expansive views and big open skies.<br>A contrast between **expansive open downland** and intimate wooded landscapes.<br>Dramatic **chalk cliffs** between Seaford and Beachy Head defined as Heritage Coast and affording **panoramic sea views**.<br>A collection of **habitats of international importance** - ancient chalk grassland, flood-plain pastures of the river valleys, lowland heathlands of the Greensand, magnificent 'hanging' woodlands of the Chalk scarp and Upper Greensand, and coastal habitats.<br>Internationally important **archaeological sites**; funerary monuments; ancient field systems and settlements; historic field enclosures; ancient sunken lanes and trackways; water meadows and dewponds; and more recent reminders of the last two World Wars.<br>A **serene and peaceful** landscape.<br>An **unspoilt landscape**, lacking the intrusion | The large scale of the broad floodplains and intrusion of development in the southern part of the Downland Adur Valley could indicate a lower sensitivity to wind turbine development. However, the strong topographical variety in these valleys, small pattern of pasture fields and historic water meadows, dispersed settlement pattern, general absence of modern development, and overall sense of tranquillity all increase levels of sensitivity to wind turbines.<br>The landscape strategy[39] for these areas is to *conserve the unspoilt undeveloped character of the area* (SD2) and to *conserve the open character of the floodplain and open skylines of the valley slopes* (SD5).<br>This landscape type is therefore considered to have a **high** sensitivity to the development of large and medium scale wind turbines; and a **moderate-high** sensitivity to small scale wind turbines. The key landscape attributes that could be sensitive to any scale of wind turbine development are:<br>• strong topographical variety;<br>• open skylines of the valley slopes and cross-valley views;<br>• dispersed settlement pattern;<br>• location within the South Downs National Park;<br>• historic built form and overall lack of | • These areas fall within the South Downs National Park which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• There are few opportunities to accommodate turbines without changing character, except perhaps close to existing man-made features on the southern fringes of the Downland Adur Valley or small scale turbines associated with existing buildings.<br>• Avoid locating turbines on the prominent skylines of the valley slopes.<br>• Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, careful location and screening of ancillary buildings or use of existing buildings.<br>• Keep development away from the most tranquil parts of the landscape – particularly within the Downland Arun Valley which contains little built development.<br>• Ensure that turbines do not detract from views of landmark features on the skylines, including Arundel when viewed from the Downland Arun Valley, the spire of the church at North Stoke, and Lancing College in the Downland Adur Valley. |

[39] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

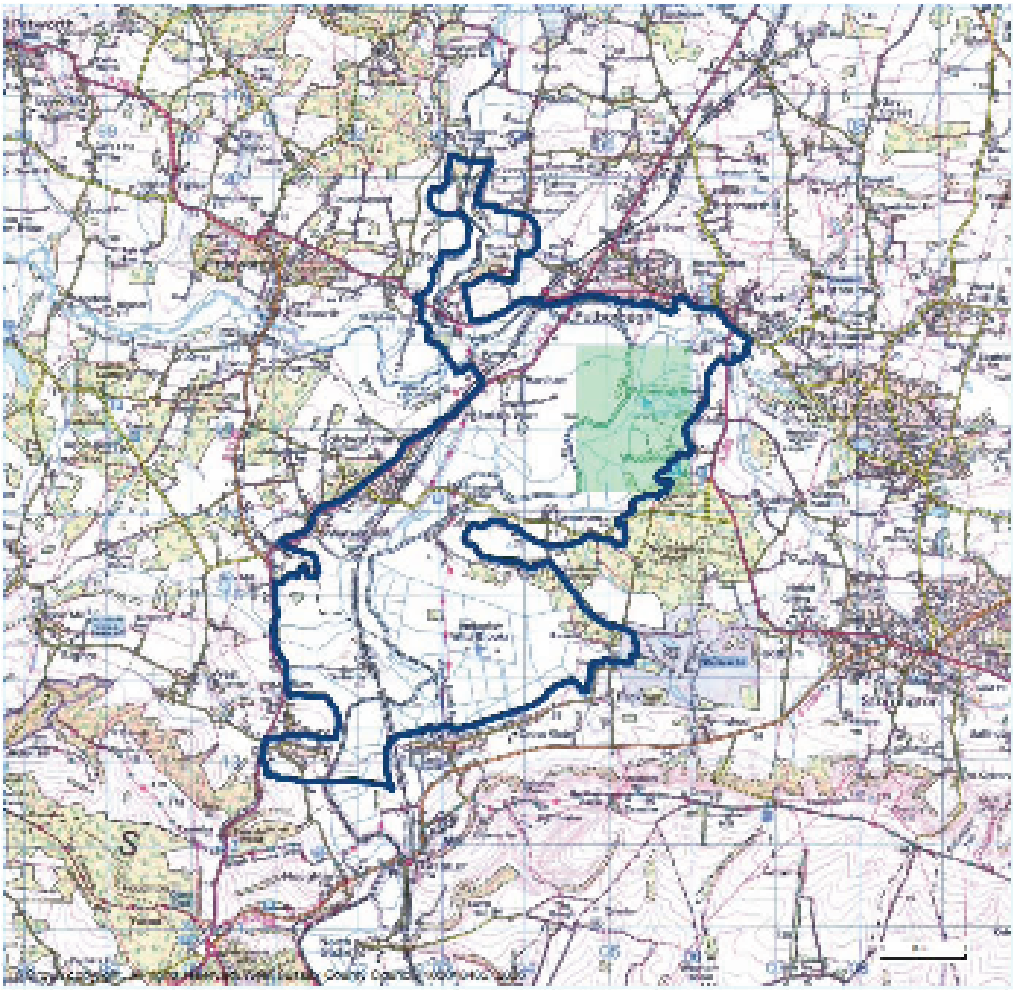
| TYPE O: RIVER VALLEYS<br>SD2: Downland Arun Valley<br>SD5: Downland Adur Valley | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| the valley slopes, with the spire of North Stoke church, and dramatic views of Arundel, prominent on the Downland Arun Valley skyline, and Lancing College a landmark feature visible from the Downland Adur Valley in adjacent character areas.<br>**Inter-visibility with Adjacent Landscapes** – The river valleys are overlooked by the higher ground of the Downs, and within them are important cross-valley views. Also views from elevated positions in the Downland Adur Valley to the coastal plain landscapes and sea beyond, including the urban areas of Worthing, Littlehampton and Shoreham.<br>**Perceptual Aspects** – The dispersed settlement pattern and strong historic sense of place give these river valleys a tranquil character. The southern stretches of the Downland Adur Valley are, however, influenced by the nearby urban development, lowering levels of tranquillity – including road traffic from flyovers and noise from Shoreham Airport. | of modern or inappropriate development.<br>A concentration of **estates and designed parklands**. | modern development, particularly in the Downland Arun Valley;<br>• the tranquil character. | • Avoid areas of fragile vegetation (particularly chalk grassland) which are difficult to restore.<br>• Protect cross-valley views and views from the adjacent chalk downs. Ensure that turbines do not detract from the special qualities of the National Park.<br>• Seek opportunities to achieve wider landscape management objectives identified in the West Sussex landscape assessment and management strategy, and the South Downs integrated landscape character assessment and management plan, in association with any proposed development. |
| **A note on cumulative issues:** Although this landscape may be able to accommodate a limited number of turbines, sensitively sited according to the above guidance, the landscape would become progressively more sensitive to development of multiple turbines. In this protected and open landscape it is likely to be better to avoid substituting a greater number of smaller turbines for fewer larger turbines. Any development of multiple developments would need to take into account the above guidance, respect the scale of the landscape and be judged on its own merits, being informed by an assessment of cumulative landscape and visual impacts. | | | |

| TYPE O: RIVER VALLEYS<br>SD2: Downland Arun Valley<br>SD5: Downland Adur Valley<br>Landscape attributes | Special Qualities (if relevant) | Sensitivity Judgement & Key Landscape Sensitivities | Guidance |
|---|---|---|---|
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform** – Flat floodplain landscape enclosed by steep undulating chalk valley sides.<br>**Landscape pattern** – Pattern of small historic wet pasture fields and water meadows fringing the rivers**.** Some rectilinear arable fields along parts of the floodplains, with open chalk grasslands and scrub on the upper valley slopes.<br>**Enclosure** – Open character owing to the wide form of the river valleys and little high level vegetation, with long views.<br>**Land Cover/ Land Use and Sense of 'Naturalness'** – rivers fringed by mainly pasture fields (with some fields of intensive arable cultivation) and historic water meadows. Naturalistic habitats include broadleaved woodlands, remnant chalk grassland, extensive wet grazing marshes, meadows, and reedbeds. The tidal reaches of the Adur are surrounded by saltmarsh and mud flats, contributing to the sense of naturalness.<br>**Inter-visibility with Adjacent Landscapes** – The river valleys are overlooked by the higher ground of the Downs, and within them are important cross-valley views as well as long views from valley sides. Also views from elevated positions in the Downland Adur Valley to the coastal plain landscapes and sea beyond, | Both Character Areas fall within the **South Downs National Park** whose special qualities are described as above. | The presence of fields of intensive arable cropping, flat landform of the valley bottoms and woodland cover on the valley sides could lower levels of sensitivity to bioenergy crop planting. However, the open character of the floodplains, steep landform of the valley sides, small scale historic field patterns, important areas of naturalistic habitat including wetlands and chalk grassland, intervisibility with the elevated downs and levels of tranquillity increase sensitivity to crop planting and harvesting operations.<br>The landscape strategy[40] for these areas is to *conserve the unspoilt undeveloped character of the area* (SD2) and to *conserve the open character of the floodplain and open skylines of the valley slopes* (SD5).<br>Overall, it is considered that the landscape type has a **moderate-high** sensitivity to bioenergy crops.<br>The key landscape attributes that could be sensitive to bioenergy crop planting are:<br>• the pastoral character of much of the landscape;<br>• presence of important naturalistic habitats including historic water meadows, unimproved chalk grassland and wetlands;<br>• small scale, ancient field patterns along the flood plains; | • These areas fall within the South Downs National Park which is protected for its special qualities. Ensure energy crops do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• Areas of existing woodland and hedgerows could provide some opportunity to link with small areas of SRC, as long as they are located away from the open floodplains and upper valley sides.<br>• Miscanthus crops should only be grown in fields already affected by cropping systems, rather than converting pastoral areas to cropping, avoiding the most open parts of the floodplain.<br>• Aim for irregular patterns of planting rather than geometric blocks.<br>• Avoid planting on the upper slopes of the valley sides where crops would be prominent.<br>• Ensure crops do not interrupt the small scale ancient field patterns found across large areas of the floodplains.<br>• Ensure planted crops do not interrupt key views across the valleys or from the chalk downs.<br>• Ensure planting and harvesting do not affect the special qualities of the National Park. |

[40] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| | | | |
|---|---|---|---|
| including the urban areas of Worthing, Littlehampton and Shoreham.<br>**Perceptual Aspects** – The dispersed settlement pattern and strong historic sense of place give these river valleys a tranquil character. The southern stretches of the Downland Adur Valley are, however, influenced by the nearby urban development, lowering levels of tranquillity – including road traffic from flyovers and noise from Shoreham Airport. | | • open character of the floodplain and skylines with long views across the valleys and from the elevated downs;<br>• the tranquil, unspoilt character of the valleys. | • Ensure bioenergy crop planting does not encroach onto areas of semi-natural habitat, including water meadows, chalk grassland, native woodland and wetlands.<br>• Keep harvesting operations away from the most tranquil areas, particularly in the Downland Arun Valley.<br>• Reduce the impact of any bioenergy planting by small-scale harvesting, and incorporating mixed species where possible. |
| **A note on cumulative issues:** Although there may be opportunity for planting small areas of Miscanthus and SRC in accordance with the guidance above, the landscape would be sensitive to large scale planting that could change its open pastoral character, landscape pattern, and affect its naturalistic habitats. | | | |

***WG6 Arun Wildbrooks***



***Key characteristics (directly lifted from West Sussex LCA)***

- Wide views of middle reaches of the River Arun across broad alluvial floodplain.
- Pastoral landscape with cattle grazing.
- Small rectilinear and irregular pasture fields subject to seasonal flooding divided by reedy drainage ditches.
- Few trees or hedges.
- Widely dispersed patches of floodplain woodland.
- Sweeping river loops and abandoned meanders.
- Gentle valley sides of mixed farmland.
- Distinctive curving strips of woodland adjacent to the valley sides.
- Scattered manor houses, farmsteads and linear villages with a varied mix of building materials predominantly tile, brick, flint, half timber and sandstone.
- Distinctive stone bridges.
- Local landmark of Amberley Castle.
- Mostly tranquil unspoilt rural character.

| TYPE O: RIVER VALLEYS<br>WG6: Arun Wildbrooks | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **WIND TURBINES** | | | |
| **Scale** – Large scale landscape owing to the broad floodplain landform and its open character. Historic stone bridges give a human scale to the landscape.<br>**Landform** – Sweeping river loops and abandoned meanders set in a broad, flat floodplain with gentle valley sides.<br>**Landscape pattern and complexity** – Pattern of small rectilinear and irregular wet pasture fields, water meadows and patches of floodplain woodland divided by drainage ditches and hedgerows, with curving strips of woodland edging the valley sides and mixed farmland on slopes.<br>**Settlement and Man-made Influence** – A scattering of manor houses, farmsteads and linear villages with a mixture of vernacular styles. Historic stone bridges are characteristic features.<br>**Skylines** – Skylines are not prominent, but are open and undeveloped, with Amberley Castle a landmark feature on the southern fringes of the Character Area.<br>**Inter-visibility with Adjacent Landscapes** – Open views across the floodplain including from the surrounding villages on the valley slopes and the wooded ridges of the Mixed Farmland /Woodland /Heath Mosaic Landscape Type.<br>**Perceptual Aspects** – The sparse settlement pattern and strong historic sense of place give this landscape a tranquil, unspoilt character. | This Character Area falls within the **South Downs National Park** whose special qualities for the park as a whole are described as:<br>(NB these have been summarised to focus on those most relevant to this study)<br>A **dramatic and distinctive topography** that reflects the diversity of underlying geology.<br>**Strong skylines** with a sense of elevation, expansive views and big open skies.<br>A contrast between **expansive open downland** and intimate wooded landscapes.<br>Dramatic **chalk cliffs** between Seaford and Beachy Head defined as Heritage Coast and affording **panoramic sea views**.<br>A collection of **habitats of international importance** - ancient chalk grassland, flood-plain pastures of the river valleys, lowland heathlands of the Greensand, magnificent 'hanging' woodlands of the Chalk scarp and Upper Greensand, and coastal habitats.<br>Internationally important **archaeological sites**; funerary monuments; ancient field systems and settlements; historic field enclosures; ancient sunken lanes and trackways; water meadows and dewponds; and more recent reminders of the last two World Wars.<br>A **serene and peaceful** landscape.<br>An **unspoilt landscape**, lacking the intrusion of modern or inappropriate development. | The large scale of the open floodplain and absence of strong topographical variety could indicate lower sensitivity to wind turbine development. However, the small scale landscape pattern, presence of historic water meadows, sparse settlement pattern, open, undeveloped skylines, inter-visibility with adjacent landscapes in the National Park, and sense of tranquillity all increase levels of sensitivity to wind turbines.<br>The landscape strategy[41] for this area is to *conserve the remote tranquil undeveloped character of the area and open views across the floodplain*.<br>This landscape type is therefore considered to have a **high** sensitivity to the development of large and medium scale wind turbines; and a **moderate-high** sensitivity to small scale wind turbines. The key landscape attributes that could be sensitive to any scale of wind turbine development are:<br>• open, undeveloped skylines and cross-valley views;<br>• inter-visibility with adjacent landscapes;<br>• historic built form and overall lack of modern development;<br>• high levels of tranquillity and relative remoteness. | • This area falls within the South Downs National Park which is protected for its special qualities. Ensure wind turbines do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• There is likely to only be opportunities for small scale turbines in association with existing buildings in this area, without changing landscape character.<br>• Keep development away from the most tranquil parts of the landscape.<br>• Ensure that turbines do not detract from key views of Amberley Castle.<br>• Consider views from adjacent landscapes within the National Park when considering the location of turbines - ensure turbines do not detract from the special qualities of the National Park.<br>• Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, careful location and screening of ancillary buildings or use of existing buildings.<br>• Seek opportunities to achieve wider landscape management objectives identified in the West Sussex landscape assessment and management strategy, the Horsham District LCA and the South Downs integrated landscape character assessment |

[41] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE O: RIVER VALLEYS<br>WG6: Arun Wildbrooks | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| | A concentration of **estates and designed parklands**. | | and management plan, in association with any proposed development. |
| **A note on cumulative issues:** Although this landscape may be able to accommodate a limited number of small scale turbines, sensitively sited according to the above guidance, the landscape would become progressively more sensitive to development of multiple turbines. In this protected and open landscape it is likely to be better to avoid substituting a greater number of smaller turbines for fewer larger turbines. Any development of multiple developments would need to take into account the above guidance, respect the scale of the landscape and be judged on its own merits, being informed by an assessment of cumulative landscape and visual impacts. | | | |
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform** – Sweeping river loops and abandoned meanders set in a broad, flat floodplain with gentle valley sides.<br>**Landscape pattern** – Pattern of small historic wet pasture fields and water meadows ('wildbrooks') fringing the river, with mixed farmland in larger, more regular fields on the gentler valley slopes. Patches of floodplain woodland, hedgerows and curving bands of woodland on valley sides make up the mosaic.<br>**Enclosure** – Open character owing to the wide form of the river valley and lack of tall vegetation.<br>**Land Cover/ Land Use and Sense of 'Naturalness'** – river fringed by mainly pasture fields and historic water meadows, with mixed fields on the valley slopes. Naturalistic habitats include broadleaved woodlands, extensive wet grazing marshes and species-rich drainage ditches.<br>**Inter-visibility with Adjacent** | This Character Area falls within the **South Downs National Park** whose special qualities are described as above. | Although there are fields of arable cropping and woodland on the gentle valley slopes, the open character of the floodplain, important areas of naturalistic habitat including historic 'wildbrooks', open views across the floodplain and high levels of tranquillity increase sensitivity to energy crop planting and harvesting operations.<br>The landscape strategy[42] for this area is to *conserve the remote tranquil undeveloped character of the area and open views across the floodplain.*<br>Overall, it is considered that the landscape type has a **moderate-high** sensitivity to all bioenergy crops.<br>The key landscape attributes that could be sensitive to bioenergy crop planting are:<br>• the open pastoral character of the floodplain;<br>• the presence of important naturalistic habitats including historic water meadows, | • Areas of existing crops and woodland on the gentle valley sides could provide some opportunity for small areas of bioenergy crop, as long as they are located away from the open floodplains.<br>• Miscanthus crops should only be grown in fields already affected by cropping systems, rather than converting pastoral areas to cropping.<br>• Avoid planting within historic fields on the floodplain.<br>• Avoid planting in the historic field patterns in the floodplain.<br>• Ensure that the locations of planting and harvesting do not affect the special qualities of the National Park.<br>• Ensure bioenergy crop planting does not encroach onto areas of semi-natural habitat, including water meadows ('wildbrooks'), native woodland and wet grazing marsh.<br>• Keep harvesting operations away from the |

[42] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE O: RIVER VALLEYS<br>WG6: Arun Wildbrooks | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **Landscapes** – Open views across the floodplain including from the surrounding villages on the valley slopes and the wooded ridges of the Mixed Farmland /Woodland /Heath Mosaic Landscape Type.<br>**Perceptual Aspects** – The sparse settlement pattern and strong historic sense of place give this landscape a tranquil, unspoilt character. | | wetlands and ditches;<br>• small scale historic field patterns on the floodplain;<br>• long views across the valleys and inter-visibility with adjacent landscapes;<br>• high levels of tranquillity and relative remoteness. | most tranquil areas.<br>• This area falls within the South Downs National Park which is protected for its special qualities. Ensure energy crops do not adversely affect the special qualities of the National Park. These qualities are set out in the Management Plan for the South Downs.<br>• Reduce the impact of any bioenergy planting by small-scale harvesting, and incorporating mixed species where possible. |
| **A note on cumulative issues:** Although there may be opportunity for planting areas of small areas of bioenergy crops, in accordance with the guidance above, the landscape would be increasingly sensitive to larger scale planting that could change its open pastoral character and sense of naturalness. | | | |

### *LW9 Upper Adur Valley*

Some of the lower parts of the 'Upper Adur Valley' are similar to the 'Arun Wildbrooks' landscape character area and the analysis above may be more appropriate to those parts.

***Key characteristics (directly lifted from West Sussex LCA)***

- Extensive upper river catchment drained by a network of long, leisurely streams in confined narrow, shallow valleys;
- Relatively few panoramic or long views within the valley although views to the south are dominated by the steep downland scarp.
- Small woodlands and networks of hedgerows with hedgerow trees.
- Smaller pastures in the valley bottoms and mixed arable and pastoral farming, medium to large-sized fields on the valley sides.
- Expansive, open brooks pastures of the Henfield and Beeding Brooks including small fields, occasional scrub and a small area of remnant ancient woodland.
- Canalisation and embankment of the main river throughout the brooks pastures and localised river straightening elsewhere.
- Wildlife corridor with pockets of rich biodiversity.
- Local roads, farmsteads and the old townships of Bramber, Henfield and Steyning lie on higher ground flanking the brooks pastures.

- Varied traditional rural buildings built with diverse materials including flint, timber-framing and varieties of local brick and tilehanging.
- Brick and stone bridges.

***LW3: Upper Arun Valley***

***Key characteristics (directly lifted from West Sussex LCA)***

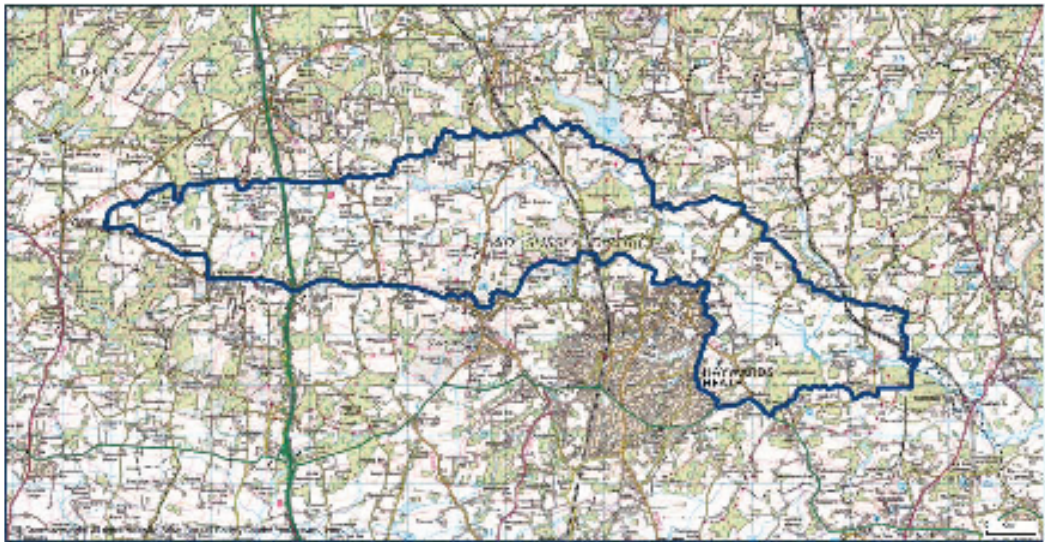
- Mostly narrow valleys with undulating valley sides.
- Lush valley bottoms with small, drained, irregularly shaped pastures.
- Occasional curving strips of woodland on valley sides.
- Tightly meandering and steeply banked river and stream courses.
- A few widely dispersed small farms on elevated valley sides.
- The Wey and Arun Junction Canal which is currently being restored.
- Mostly rural unspoilt character except for urban edge influence around Horsham and some road and aircraft noise in places.
- Distinctive stone and brick bridges.

***WG3 Rother Valley***

***Key characteristics (directly lifted from West Sussex LCA)***

- Incised, narrow valley within Sussex Downs Area of Outstanding Natural Beauty (AONB).
- Fast west to east flowing river.
- Hidden river alignment with willow and alder trees overhanging for much of its length.
- Patchwork of traditional watermeadows and pastures with patterns of small, irregular fields and curving, narrow strips of woodland on the edges of the floodplain.
- Hump backed medieval brick and sandstone bridges at bridging points.
- Small stone-built villages and hamlets at bridging points.
- Busy minor roads and deep cut lanes.
- Narrow floodplain used for cattle pasture.
- Dense hedgerows surround the meadows and pasture.
- Glimpses through the trees of small medieval churches complete the impression of a secluded rural landscape.

***HW3: Ouse Valley***



***Key characteristics (directly lifted from West Sussex LCA)***

- Shallow but well-defined attractive rural valley landscape largely within the High Weald Area of Outstanding Natural Beauty (AONB).
- Small, tree-lined stream in the western part amidst confined parallel streams and ridges.
- Broader valley and meandering river with water meadows in the eastern part.
- Relatively few panoramic or long views across or down the valley.
- Woodland cover less extensive than that of the High Weald fringes, despite an impression in places of a strong woodland presence strengthened by shaws, hedgerows and hedgerow trees.
- Pattern of mixed arable and pastoral medium to large-sized fields.
- Numerous crossing and flanking roads and lanes, including the A23 Trunk Road, many of which are busy.
- London to Brighton Railway Line crosses the valley, spectacularly so at the Ouse Valley (Balcombe) Viaduct.
- Pockets of rich biodiversity including ancient woodlands at Haywards Heath.
- No settlements in the valley other than dispersed farmsteads although towns and villages lie on the valley edges.
- Varied traditional rural buildings built with diverse materials including timber-framing,
- Horsham Stone roofing,Wealden stone and varieties of local brick and tile-hanging.
- Old mills, weirs and bridges.
- Extensive designed landscape at Borde Hill.

| TYPE O: RIVER VALLEYS<br>LW9: Upper Adur Valley<br>LW3: Upper Arun Valley<br>WG3: Rother Valley<br>HW3: Ouse Valley | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| **WIND TURBINES** | | | |
| **Scale** – Small scale landscape owing to the level of containment provided by the valley sides and small scale field pattern. Human scale features include farmsteads and stone built bridges.<br>**Landform** – Mainly narrow, incised valleys containing streams and rivers in their upper catchments. The Ouse Valley includes a broader landscape with meandering river course in the east of the Character Area and the Upper Adur Valley includes a broader area similar to the Arun Wildbrooks.<br>**Landscape pattern and complexity** – Valley bottoms comprising small scale, often irregularly shaped pasture fields and traditional watermeadows. A mixture of pasture and arable fields within the Ouse Valley and valley sides of the Upper Adur. Woodlands (including some areas of ancient woodland) and hedgerows make up a the landscape mosaic. Extensive designed landscape at Borde Hill in the Ouse Valley.<br>**Settlement and Man-made Influence** – Largely dispersed settlement pattern with farmsteads and small settlements located on the valley sides or at bridging points, linked by a network of often busy lanes (including the A23 Trunk Road in the Ouse Valley). Urban edge influence around Horsham in the Upper Arun Valley. Distinctive stone | The Rother Valley (WG3) and southern stretches of the Upper Arun Valley (LW3) lie within the **South Downs National Park** whose special qualities for the park as a whole are described as:<br>(NB these have been summarised to focus on those most relevant to this study)<br>A **dramatic and distinctive topography** that reflects the diversity of underlying geology.<br>**Strong skylines** with a sense of elevation, expansive views and big open skies.<br>A contrast between **expansive open downland** and intimate wooded landscapes.<br>Dramatic **chalk cliffs** between Seaford and Beachy Head defined as Heritage Coast and affording **panoramic sea views**.<br>A collection of **habitats of international importance** - ancient chalk grassland, flood-plain pastures of the river valleys, lowland heathlands of the Greensand, magnificent 'hanging' woodlands of the Chalk scarp and Upper Greensand, and coastal habitats.<br>Internationally important **archaeological sites**; funerary monuments; ancient field systems and settlements; historic field enclosures; ancient sunken lanes and trackways; water meadows and dewponds; and more recent reminders of the last two World | The non-prominent skylines and decreased levels of tranquillity in some of the valley locations could indicate a lower sensitivity to wind turbine development within these river valleys. However, the small scale of the valleys ands presence of human scale features, the dispersed settlement pattern and high levels of tranquillity increase levels of sensitivity to wind turbines.<br>The landscape strategy[43] for these areas is to *conserve and enhance the tranquil, secluded character of the tributary valleys and the landscape pattern and wildlife of the brooks pastures.* (LW9); *conserve the rural character of the valley* (LW3); *conserve the rural secluded character of the valley* and to *conserve the rural quality of the valley including the pattern of the agricultural landscape, the mosaic of woodland and other habitats, and the intimate and unobtrusive settlement farmstead pattern* (HW3); and to *conserve the rural secluded character of the valley* (WG3).<br>This landscape type is therefore considered to have a **high** sensitivity to the development of large and medium scale wind turbines; and a **moderate-high** sensitivity to small scale wind turbines. The key landscape attributes that could be sensitive to any scale of wind turbine development are:<br>• small scale of the valleys and presence of | • The southern tip of LW3 and the whole of WG3 lie within the South Downs National Park and most of area HW3 lies within the High Weald AONB – these areas are protected for their special qualities. Ensure wind turbines do not adversely affect the special qualities of these designated areas as set out in the relevant management plans.<br>• For broader areas within the Upper Adur Valley, refer to the guidance for the Arun Wildbrooks character area.<br>• There may be some opportunities to integrate wind turbines with existing built development, such as locations adjacent to the A23 Trunk Road and urban fringe of Horsham, or smaller scale turbines associated with existing buildings in more rural areas.<br>• Minimise the effects of accompanying infrastructure and ancillary development by making use of existing tracks for the access tracks, burying cabling underground, careful location and screening of ancillary buildings or use of existing buildings.<br>• Ensure that turbines do not detract from views to medieval churches in the Rother Valley and the Balcombe Viaduct in the Ouse Valley.<br>• Ensure turbines do not adversely affect the |

[43] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE O: RIVER VALLEYS<br>LW9: Upper Adur Valley<br>LW3: Upper Arun Valley<br>WG3: Rother Valley<br>HW3: Ouse Valley | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| and brick built bridges are important local features. The Balcombe Viaduct is a prominent landmark feature crossing the Ouse.<br>**Skylines** – Although skylines are not prominent, they are generally open and undeveloped. Small medieval churches feature on the skyline of the Rother Valley,<br>**Inter-visibility with Adjacent Landscapes** – The valleys are overlooked by adjacent landscapes including the vale landscape of the Rother Farmlands and South Downs (overlooking the Rother Valley); the plateau of the High Weald (overlooking the Ouse Valley); and the undulating farmland of the Low Weald (overlooking the Upper Arun and Upper Adur valleys). Views from the valleys are often confined by their steep landform.<br>**Perceptual Aspects** – The valleys have a largely unspoilt character, although tranquillity is broken in places by traffic noise on the busy rural lanes (aswell as the A23 Trunk Road in the Ouse Valley). The tranquillity of the Upper Arun Valley is interrupted by urban edge influence around Horsham, as well as aircraft noise from Gatwick Airport. | Wars.<br>A **serene and peaceful** landscape.<br>An **unspoilt landscape**, lacking the intrusion of modern or inappropriate development.<br>A concentration of **estates and designed parklands**.<br>Most of the Ouse Valley (HW3) lies within the **High Weald AONB** whose special qualities are described as:<br>**Geology, landform, water systems and climate**: deeply incised, ridged and faulted landform of clays and sandstone. The ridges tend east-west, and from them spring numerous gill streams that form the headwaters of rivers. Wide river valleys dominate the eastern part of the AONB. The landform and water systems are subject to, and influence, a local variant of the British sub-oceanic climate.<br>**Settlement**: dispersed historic settlements of farmsteads and hamlets, and late medieval villages founded on trade and non-agricultural rural industries.<br>**Routeways**: ancient routeways (now roads and Rights of Way) in the form of ridge-top roads and a dense system of radiating droveways. The droveways are often narrow, deeply sunken, and edged with trees, hedges, wildflower-rich verges and boundary banks.<br>**Woodland**: the great extent of ancient woods, gills, and shaws in small holdings, the value of which is inextricably linked to long-term management.<br>**Field and heath**: small, irregularly shaped and productive fields often bounded by (and | human scale features;<br>• the dispersed settlement pattern;<br>• the tranquil, unspoilt character of the large parts of the valleys. | character of the extensive designed landscape of Borde Hill in the Ouse Valley.<br>• Consider views from the prominent chalk scarp of the South Downs National Park and from the High Weald AONB when considering the location of turbines - ensure turbines do not detract from the special qualities of the protected landscapes.<br>• Seek opportunities to achieve wider landscape management objectives identified in the West Sussex landscape assessment and management strategy in association with any proposed development. |

| TYPE O: RIVER VALLEYS<br>LW9: Upper Adur Valley<br>LW3: Upper Arun Valley<br>WG3: Rother Valley<br>HW3: Ouse Valley | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| | forming a mosaic with) hedgerows and small woodlands, and typically used for livestock grazing; small holdings; and a non-dominant agriculture; within which can be found distinctive zones of heaths and inned river valleys.<br>These fundamental characteristics of the High Weald AONB are enriched by locally distinctive and nationally important details. These include castles and abbeys; hop gardens and orchards; oast houses and parish churches; and Veteran Trees and local populations of key threatened species. | | |
| **A note on cumulative issues:** Although this landscape may be able to accommodate a limited number of turbines, sensitively sited according to the above guidance, the landscape would become progressively more sensitive to development of multiple turbines. In these small scale landscapes it is likely to be better to avoid substituting a greater number of smaller turbines for fewer larger turbines. Any development of multiple developments would need to take into account the above guidance, respect the scale of the landscape and be judged on its own merits, being informed by an assessment of cumulative landscape and visual impacts. | | | |
| **BIOMASS: ENERGY CROPS & HARVESTING OPERATIONS** | | | |
| **Landform** – Mainly narrow, incised valleys containing streams and rivers in their upper catchments. The Ouse Valley includes a broader landscape with meandering river course in the east of the Character Area and the Upper Adur Valley includes a broader area similar to the Arun Wildbrooks.<br>**Landscape pattern** – small scale, often irregularly shaped ancient fields on the valley bottoms, with larger scale, more regular fields on the valley sides (including the Upper Adur Valley and Ouse Valley).<br>**Enclosure** – Steep valley sides give a sense | The Rother Valley (WG3) and southern stretches of the Upper Arun Valley (LW3) lie within the **South Downs National Park** whose special qualities are described as above.<br>Most of the Ouse Valley (HW3) lies within the **High Weald AONB**, whose special qualities are also described above. | Although the presence of fields of arable cropping and woodland cover on the valley sides, the encosed character of the valleys and areas of urban fringe influence may indicate lower levels of sensitivity to bioenergy crop planting, the strongly pastoral character of the valleys, the presence of ancient field patterns, important areas of naturalistic habitat including semi-natural woodland and wet meadows, and high levels of tranquillity increase sensitivity to crop planting and harvesting operations.<br>The landscape strategy[44] for these areas is to | • Areas of existing crops and woodland on the valley sides could provide some opportunity for small areas of bioenergy crop, as long as they are located away from the open floodplains.<br>• Miscanthus crops should only be grown in fields already affected by cropping systems, rather than converting pastoral areas to cropping.<br>• Aim for irregular patterns of planting rather than geometric blocks.<br>• Areas of existing woodland and hedgerows |

[44] Interpreted from the West Sussex Landscape Character Assessment http://www.westsussex.gov.uk/ccm/content/environment/heritage-wildlife-and-landscape/west-sussex-character-project

| TYPE O: RIVER VALLEYS<br>LW9: Upper Adur Valley<br>LW3: Upper Arun Valley<br>WG3: Rother Valley<br>HW3: Ouse Valley | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| of enclosure – some parts are more open including the open brook pastures of the Henfield and Beeding Brooks in the Upper Adur Valley, and the broader valley of the eastern part of the Ouse.<br>**Land Cover/ Land Use and Sense of 'Naturalness'** – rivers fringed by mainly pasture fields and historic water meadows, with mixed fields on the valley sides of the Upper Adur and Ouse Valleys. Naturalistic habitats include broadleaved woodlands (including ancient and carr woodlands), wet meadows, species-rich pasture and riverside vegetation.<br>**Inter-visibility with Adjacent Landscapes** – The valleys are overlooked by adjacent landscapes including the vale landscape of the Rother Farmlands and South Downs (overlooking the Rother Valley); the plateau of the High Weald (overlooking the Ouse Valley); and the undulating farmland of the Low Weald (overlooking the Upper Arun and Upper Adur valleys). Views from the valleys are often confined by their steep landform.<br>**Perceptual Aspects** – The valleys have a largely unspoilt character, although tranquillity is broken in places by traffic noise on the busy rural lanes (as well as the A23 Trunk Road in the Ouse Valley). The tranquillity of the Upper Arun Valley is interrupted by urban edge influence around Horsham, as well as aircraft noise from Gatwick Airport. | | *conserve and enhance the tranquil, secluded character of the tributary valleys and the landscape pattern and wildlife of the brooks pastures.* (LW9); *conserve the rural character of the valley* (LW3); *conserve the rural secluded character of the valley* and to *conserve the rural quality of the valley including the pattern of the agricultural landscape, the mosaic of woodland and other habitats, and the intimate and unobtrusive settlement farmstead pattern*(HW3); and to *conserve the rural secluded character of the valley* (WG3).<br>Overall, it is considered that the landscape type has a **moderate-high** sensitivity to all bioenergy crops.<br>The key landscape attributes that could be sensitive to bioenergy crop planting are:<br>• the pastoral character of much of the landscape;<br>• the presence of important naturalistic habitats including historic water meadows, wetlands and semi-natural woodland;<br>• small scale, ancient field patterns in the valley bottoms;<br>• the open brook pastures of the Henfield and Beeding Brooks in the Upper Adur Valley, and the broader valley of the eastern part of the Ouse;<br>• the tranquil character of large parts of the valleys. | could provide an opportunity to link with areas of SRC.<br>• Ensure crops do not interrupt the small scale ancient field patterns of the valley bottoms.<br>• Consider views from the South Downs and High Weald when planning locations for crops - ensure planting and harvesting do not affect the special qualities of the National Park or High Weald AONB.<br>• Ensure bioenergy crop planting does not encroach onto areas of semi-natural habitat, including water meadows, ancient and carr woodland and wetlands.<br>• Keep harvesting operations away from the most tranquil areas.<br>• The southern tip of LW3 and the whole of WG3 lie within the South Downs National Park and most of area HW3 lies within the High Weald AONB – these areas are protected for their special qualities. Ensure energy crops do not adversely affect the special qualities of these designated areas as set out in the relevant management plans.<br>• Reduce the impact of any bioenergy planting by small-scale harvesting, and incorporating mixed species where possible. |

| **TYPE O: RIVER VALLEYS**<br>**LW9: Upper Adur Valley**<br>**LW3: Upper Arun Valley**<br>**WG3: Rother Valley**<br>**HW3: Ouse Valley** | | | |
|---|---|---|---|
| **Landscape attributes** | **Special Qualities (if relevant)** | **Sensitivity Judgement & Key Landscape Sensitivities** | **Guidance** |
| | | | |
| **A note on cumulative issues:** Although there may be opportunity for planting of small areas of Miscanthus and SRC, in accordance with the guidance above, the valleys would be sensitive to larger scale planting that could change the pastoral character of the valleys or affect their naturalistic habitats/ character. | | | |