Dorset Area of Outstanding Natural Beauty

Guidance for Wind Turbine Development in the Dorset Area of Outstanding Natural Beauty

Photo 1: Rew Manor Farm, West Dorset, chalk downland landscape (Planning application ref: 1/D/09/001280[1])
Scale & siting: 12m to hub / 16m to blade tip. A well sited small scale turbine, grouped with existing development, within the trough of the landform and well below the skyline.

1 INTRODUCTION

The demand for renewable energy is rapidly increasing as fossil fuel resources continue to deplete. The UK has the largest wind resource in Europe.[2]Dorset, as a coastal area, is particularly windy and there is good potential to harness the wind to bolster energy supplies. Nevertheless, wind development should be sensitive to Dorset's unique environment, in particular where it is located within the important landscapes of the Dorset Area of Outstanding Natural Beauty, that are highly protected for their outstanding natural beauty and scenic quality.

2 BACKGROUND

The Dorset AONB team has recently received several enquiries regarding proposed wind development within the designation and its setting. The quality of proposals has been varied and it is evident that there is a need for more clarity regarding the implications of AONB policy upon potential developments. This guidance has been produced to expand on the current national policy and to highlight the specific issues that should be taken into account, in line with the AONBs primary purpose to "conserve and enhance natural beauty."

With regards scale of development, this guidance is for small-scale wind turbines, generally consisting of a single turbine for individual and/or community use, it does not include large-scale commercial wind farms. The AONB team considers a small-scale turbine to have a hub height up to 15m; however the guidance can be applied to a large-scale turbine with a hub height greater than 15m. The scale of turbines is discussed in more detail under section 5.2.4 Turbine Size.

[1] You can view planning applications on-line at www.dorsetforyou.com
[2] 40% of Europe's total wind energy

3 AONB PLANNING CONTEXT

3.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF) states that, "Great weight should be given to conserving landscape and scenic beauty in…Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to landscape and scenic beauty." When determining planning applications, Local Planning Authorities should "approve the application[3] if its impacts are (or can be made) acceptable"

The NPPF recognises that small-scale renewable energy projects provide a valuable contribution to cutting greenhouse gas emissions and encourages local planning authorities to identify suitable areas for renewable sources. This guidance promotes a methodology for assessing landscape sensitivity to renewable energy development that may be adopted to identify such areas. For example, West Dorset District Council, in partnership with Dorset County Council and the Dorset AONB team, has produced a Draft assessment of "Landscape Sensitivity to Renewable Energy Developments" using a similar methodology to this guidance to inform their emerging New Local Plan.[4]

3.2 National Association of Areas of Outstanding Natural Beauty : Wind Energy Position Statement

The National Association of Areas of Outstanding Natural Beauty has a position statement for renewable energy, with regards wind development it states the following:

"Smaller-scale turbines for community or individual use within or adjacent to an AONB may be acceptable where they would not, individually or in conjunction with other existing installations, be to the detriment of the natural beauty, character, amenity and/or nature conservation interest of the AONB through visual intrusion, noise, activity or associated infrastructure such as overhead lines.

In assessing the appropriateness of scale (height and number of turbines) and of a proposed development as a whole, regard should be had to:

- the topography and character of the landscape
- the zones of visual impact of the proposals
- the proximity and likely effect upon rights of way and open access land
- the likely effect upon species or habitats of nature conservation interest
- the likely effect on any below or above ground historic assets
- the existence of other turbines in the locality and the potential cumulative effect

AONB boundaries rarely present a sharp border of landscape quality or character. Therefore in some cases, developments outside an AONB may adversely affect the special qualities and characteristics of an AONB. For these reasons, the above criteria should apply to wind energy developments in adjacent land or sea. The extent of the impact of developments will depend on visibility to and from the AONB and the precise character of the countryside or seascape."

[3] Unless material considerations indicate otherwise

[4] The assessment of landscape sensitivity is given without prejudice to any similar assessment carried out by the local planning authorities.

3.3 Dorset AONB Management Plan Policy

PH1k: Support renewable energy production where compatible with the objectives of the AONB designation.

A suite of special qualities[5] underpin the Dorset AONB designation and include an exceptional undeveloped rural character and coastline, intervisibility of striking sequences of landscapes, uninterrupted panoramic views, and tranquillity and remoteness. These qualities are particularly sensitive to wind development and are reflected within the following relevant AONB policies[6]:

L1a: Conserve and enhance landscape character and quality and promote the use of landscape and seascape character assessment to shape decisions affecting the AONB
L1c: Conserve and enhance the special qualities of the AONB such as tranquility and remoteness, wildness and dark skies
L3a: Use understanding of landscape and seascape character to assess landscape sensitivity and plan for positive change
PH1g: Conserve and enhance the AONB's undeveloped rural character, panoramic views, tranquility, remoteness and wildness
PH2a: Protect the AONB from inappropriate development and land use
PH2b: Protect the quality of uninterrupted panoramic views into, within and out of the AONB

3.3.1 Dorset AONB Planning Protocol

The Local Planning Authorities consult the AONB Team for advice on applications for renewable energy development under the AONB Planning Protocol.[7]

In considering wind development the AONB team will base its responses around the primary purpose of the designation to "conserve and enhance natural beauty." As such, it will be lead by the Countryside & Rights of Way Act 2000, relevant national planning policy[8], the current Dorset AONB Management Plan,[9] the Dorset AONB Landscape Character Assessment[10] and where appropriate the Dorset Coast Land and Seascape Assessment (Sept 2010).

Photo 2: Land adjacent to Patley Wood Farm, West Dorset, undulating river valley landscape (Planning application ref: 1/W/05/001215)
Scale & siting: 9.6m to hub / 12.35m to blade tip. Small scale turbine would benefit from being grouped closer with the buildings at a lower elevation below the horizon.

[5] Detailed within "A Framework for the Future" AONB Management Plan 2014-2019
[6] The list of AONB policies is not exhaustive
[7] To view the Planning Protocol refer to the Planning section of the Dorset AONB website at www.dorsetaonb.org.uk
[8] National Planning Policy Framework
[9] "A Framework for the Future" AONB Management Plan 2014-2019
[10] "Conserving Character" Landscape Character Assessment & Management Guidance for the Dorset AONB 2008

4 LANDSCAPE AND VISUAL IMPACT ASSESSMENT

Wind development can have a significant impact upon the environment. The tall and vertical nature of wind turbines, often requiring prominent and open locations in order to maximise energy generating potential, can detract from the natural beauty of the landscape.

In order to adequately demonstrate the impact of a proposed wind development, the AONB team may advise the local planning authority to request a comprehensive Landscape and Visual Impact Assessment (LVIA) to be submitted as part of a planning application. It should be produced to a high standard and follow best practice guidance.[11] It should be carried out from the inception of a scheme and assess each stage of the project including construction, operation, decommissioning and restoration. The LVIA should demonstrate that the proposal does not compromise the special qualities of the AONB designation and its policy objectives and show an understanding of impacts upon landscape/seascape character, landscape sensitivity, historic environment, visual amenity, and impacts upon remoteness and tranquillity. The following elements should be addressed within the LVIA.

4.1 Visual Impact

The visual appraisal should identify the Zone of Visual Influence[12] (ZVI) and assess the developments impact upon key viewpoints from within the AONB and its setting. The viewpoints should be agreed with the local planning authority and include photomontages. In line with best practice guidance it is expected that the sensitivity of views from within the AONB and its setting are considered high due to the designations high value and national level of protection.

4.2 Landscape Impact

The landscape baseline should identify the existing landscape and nature conservation constraints[13] and refer to the landscape character as defined within the Dorset AONB Landscape Character Assessment, the Dorset County Historic Landscape Characterisation and where appropriate the Dorset Land and Seascape Character Assessment. It should also demonstrate an understanding of the landscape character areas sensitivity to the type of wind development proposed and refer to any existing relevant landscape sensitivity studies, refer to Section 5.1.1 Landscape Sensitivity.

4.3 Tranquillity

Tranquillity[14] is a special quality that underpins the Dorset AONB designation. Elements of tranquillity include seeing a natural landscape and hearing peace and quiet, it is therefore threatened by manmade development and noise and light pollution. With regards wind development there is consideration for the impact of noise and shadow flicker upon tranquillity.

4.4 Cumulative Impacts and Buffer Zones

The cumulative impact of wind development with existing and approved wind development, and other relevant development[15], will be taken into account. “Buffer zones” without wind development should not be created around the AONB; however the impact of proposals in close proximity to the designations boundary will be a material consideration in determining planning applications.

[11] Guidelines for Landscape and Visual Impact Assessment, Landscape Institute and Institute of Environmental Management and Assessment 2002
[12] the area from which the proposed development is visible
[13] Refer to the relevant Local Plan to identify landscape and nature conservation designations
[14] Visit www.cpre.org.uk to learn about tranquillity
[15] Vertical structures, masts, pylons etc

4.5 Mitigation and Enhancement

Mitigation measures should be considered as an integral part of the development; they should adequately offset any adverse landscape and visual effects and be appropriate to the local landscape character. The mitigation and reduction of some adverse impacts can be achieved through considered detail design.

Enhancements should be linked to mitigation measures where appropriate and should seek to maintain and improve the wider habitat matrix and the quality and condition of the landscape and ecology, and contribute to local distinctiveness. For example in terms of ecological enhancements the following opportunities should be taken:

- Conserve, enhance and create a diverse range of habitats such as wildflower meadows
- Design and adapt associated structures such as sub stations to include green roofs or be located underground

4.6 Decommissioning & Restoration

Wind turbine permission is generally considered temporary and granted for a period of 25 years, after which it can be renewed as appropriate. Restricting the development lifetime is a mechanism for ensuring that outdated / inefficient / redundant development is removed.

Wind development is temporary, hence the need for "reversibility" and the ability for all structures to be removed and the land returned to an appropriate use. In addition there may be temporary development during the construction of a scheme that requires reinstatement within a short time period. For example, temporary access tracks for transport of materials, and excavated ground due to the installation of underground cables.

A site Restoration and Reinstatement[16] Strategy should be agreed at the planning application stage and should demonstrate how and when the site will be returned to a state that is in good landscape and ecological condition and in keeping with local landscape character.

[16] Reinstatement of areas subject to temporary development, such as access tracks required only during construction

5 LOCATION, SITING & DESIGN

A considered location, and careful siting and design, is fundamental in order to ensure that wind development does not result in negative landscape and visual impacts and detract from the natural beauty of the landscape. Please note for the purposes of this guidance *location* refers to the placement of the proposed wind development with regard for the landscape context and is discussed below in 5.1 Site Location. *Siting* refers to the developments placement in relation to its immediate context, such as neighbouring buildings, and is discussed in 5.2 Siting and Design.

5.1 Site Location

5.1.1 Landscape Sensitivity

In order to identify an appropriate location for wind development, consideration should be given for landscape sensitivity. Landscape sensitivity refers to a landscape's ability to accommodate change without harming its distinct character or "natural beauty."

There are 14 distinct types of landscape across the Dorset AONB illustrated on the diagram below, ranging from the raised chalk escarpments of West Dorset to the lowland heathland of Purbeck in the east.

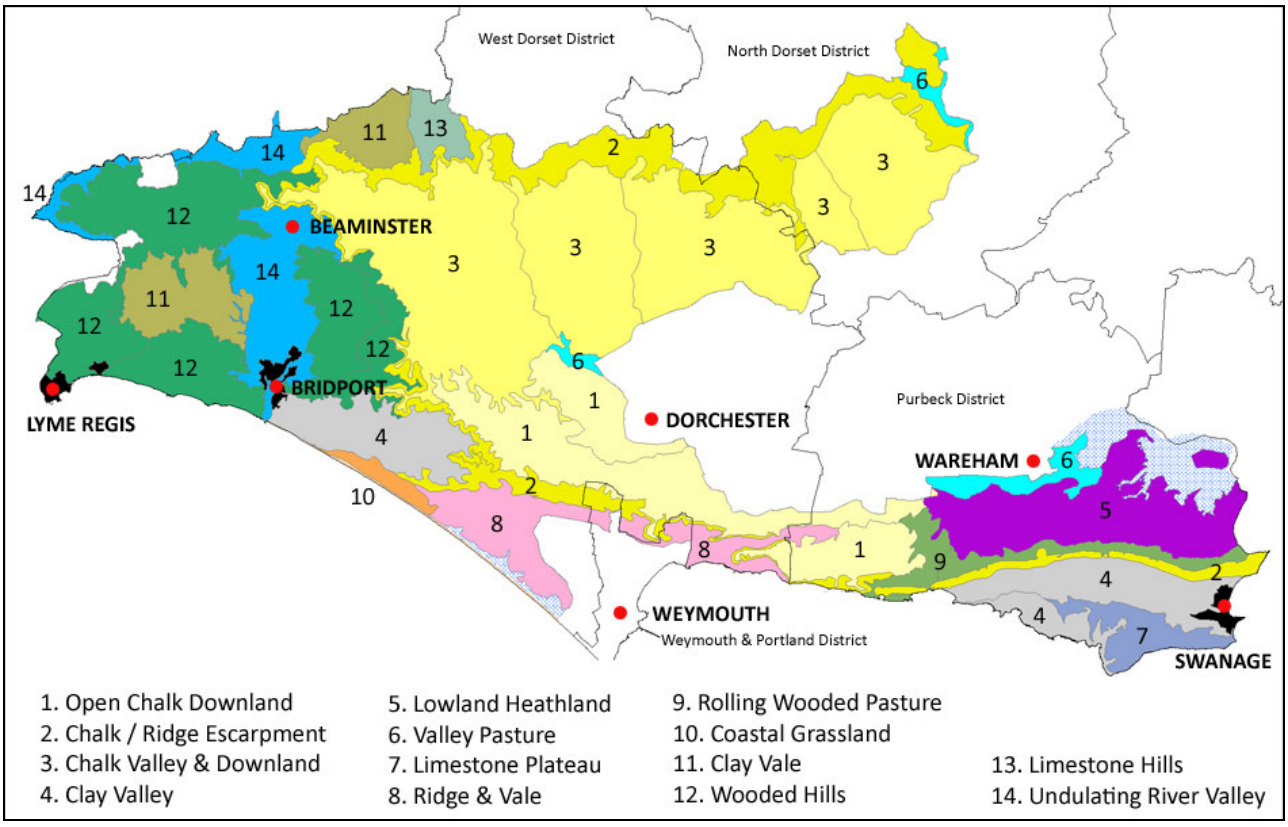


Diagram 1: Landscape Types across the Dorset AONB

Each landscape type has a different sensitivity to wind development and it should be understood that some landscapes may *not* be able to accommodate a turbine. **The sensitivity of each representative landscape type to wind development is assessed in Appendix A**.[17]

The criteria for determining landscape sensitivity are based on the landscape characteristics most likely to be affected and are listed in table 1 below. It should be understood that any judgement of landscape sensitivity is based on a *balanced* assessment of *all* of the landscape characteristics and criteria.

[17] The assessment of landscape sensitivity is given without prejudice to the opinion of the local authority

Landscape Characteristics	Sensitivity
Landscape scale	Large scale landscapes, where the wind turbine is in proportion with the landscape, have a greater ability to accommodate wind development than a small scale landscape where a turbine can appear to dominate. Refer to section 5.2.1 Turbine Size.
Landform	Featureless landscapes without strong topographical variety have a greater ability to accommodate wind development than complex and rugged landforms where a turbine can appear incongruous within the distinctive topography.
Landscape pattern	Landscape pattern refers to the arrangement of elements such as field boundaries and tree cover. Regular and consistent landscape patterns, that complement the simple modern industrial form of a turbine, have a greater ability to accommodate wind development than more complex and/or historic landscape patterns.
Human influence	Landscapes that have been highly influenced by man such as brownfield sites, industrial sites and areas of commercial forestry have a greater ability to accommodate wind development than undeveloped rural areas due to the presence of existing large scale modern development and infrastructure.
Skylines	Landscapes that do not form a distinctive backdrop or context have a greater ability to accommodate wind development than landscapes with important open skylines, sensitive hillsides and distinctive features, where a turbine is highly visible and detracts from the setting of historic features and local landmarks.
Intervisibility & views	Landscapes that are visually contained by topography or trees, with limited inward and outward views, have a greater ability to accommodate wind development than more open landscapes where a turbine is highly visible.
Remoteness & tranquillity	Tranquil and remote landscapes have a lower ability to accommodate turbines as they detract from the perceived naturalness.
Historic environment	Landscapes containing important historic assets (above and below ground) have a lower ability to accommodate wind development where turbines affect their setting and the ability to enjoy and interpret them.
Cultural associations	Landscapes with cultural association have a lower ability to accommodate wind development where turbines affect the cultural perceptions of the area.
Amenity & recreation	Landscapes offering access to high quality landscapes, and open air recreation, have a lower ability to accommodate wind development where turbines affect the public's experience of the area.
Biodiversity	Landscapes with nature conservation designations and important habitats have a lower ability to accommodate wind development where turbines affect important species and the integrity of ecological systems and networks.

Table 1: Landscape Sensitivity[18]

5.1.2 Cumulative Effects

In identifying an appropriate site for wind development, the cumulative landscape and visual impact of the proposed scheme and any existing and approved[19] infrastructure is a key consideration. Infrastructure likely to result in cumulative effects includes other wind developments, overhead powerlines, and telecommunications masts and other vertical structures.

[18] based on Natural England's Approach to assessing On-Shore Wind Energy Development, Making Space for Renewable Energy

[19] You can view details of approved planning applications on-line at www.dorsetforyou.com

5.2 Siting & Design

5.2.1 Designations

Consideration should be given for the affect of wind development upon landscape designations, geological and nature conservation designations, and historic assets in close proximity to the development, and within the wider landscape context. Refer to the relevant local planning authority for advice and policy regarding the protection of designated sites.

5.2.2 Ecology

Overall a small scale turbine should not impact upon bird species and habitats. During construction care should be taken to avoid the removal or fragmentation of existing vegetation, in particular important hedgerows are protected from removal under the Hedgerow Regulations 1997.

5.2.3 Turbine & Slope Ratio

The relationship between a turbine and the slope of the landform is a key consideration of wind development and can significantly influence the energy generation potential, and the degree of landscape and visual impact. Turbines should be sited towards the lower slopes, and below the horizon, as shown in diagram 2 below.

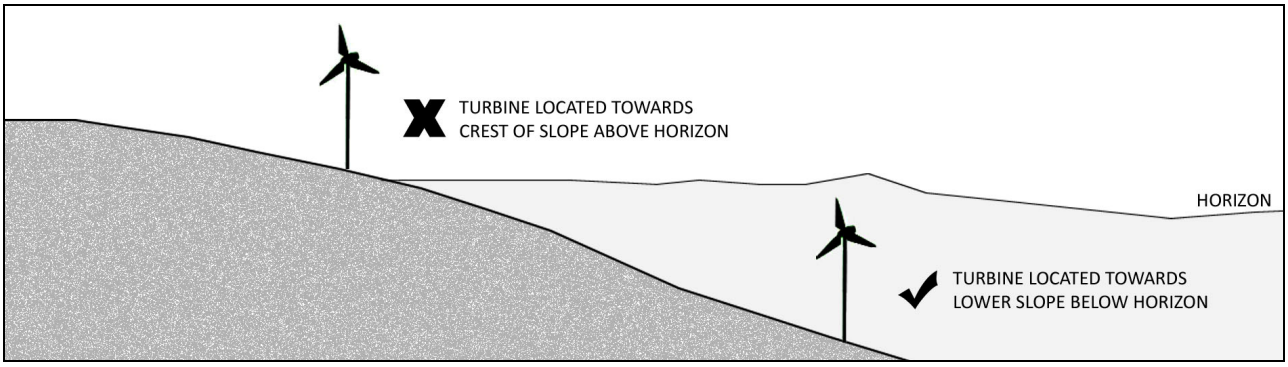
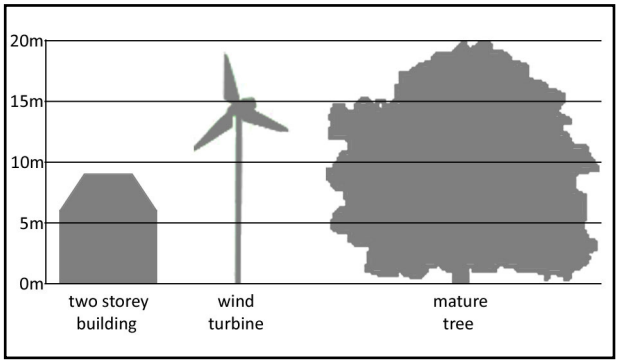


Diagram 2: Turbine: slope ratio

5.2.4 Turbine Size

The size of a wind turbine should relate to the scale of its surroundings. Turbines should not dominate but be in proportion with existing buildings or landscape features (also refer to 5.1.1 Landscape Sensitivity).

A typical two storey dwelling is approximately 9m high and a large mature tree is approximately 20m high, small scale turbines with a hub height up to 15m are therefore generally more in proportion with their surroundings than large scale turbines with a hub height in excess of 15m.



5.2.5 Turbine Colour

The most appropriate wind turbine colour is dependant upon the colour of the backdrop against which it is viewed, for example lighter coloured turbines may be more appropriate when viewed against the bright skyline whereas darker coloured turbines may be more appropriate when viewed against woodland. Grey and white tend to be the most common colours, darker colours include shades of green and brown, great care should be taken in choosing colours that will complement the backdrop as it changes throughout the seasons.

5.2.6 Ancillary Equipment and Infrastructure

Wind turbines should be sited as close as possible to the point of use, or grid connection, to avoid long cable runs. All new cables should be placed underground.

Transformers and control cabinets should be coloured appropriately to assimilate them with their surroundings. Earth colours, greens, dark browns and camouflage may be most appropriate, great care should be taken in choosing colours that will complement the backdrop as it changes throughout the seasons.

5.2.7 Noise and Shadow Flicker (Also refer to 4.3 Tranquillity)

A wind turbine generally generates two types of noise, mechanical noise created by its gearbox and aerodynamic noise produced by its moving blades. Refer to the local planning authority for advice and any relevant policies regarding noise.

Shadow flicker occurs where the sun passes behind a turbines rotating blades and casts a shadow that appears to rapidly flick on and off. Good practice guidance[20] suggests that turbines should be located at least 50m from a neighbouring property to avoid both shadow flicker and noise disturbance.

5.2.8 Proximity to Public Rights of Way

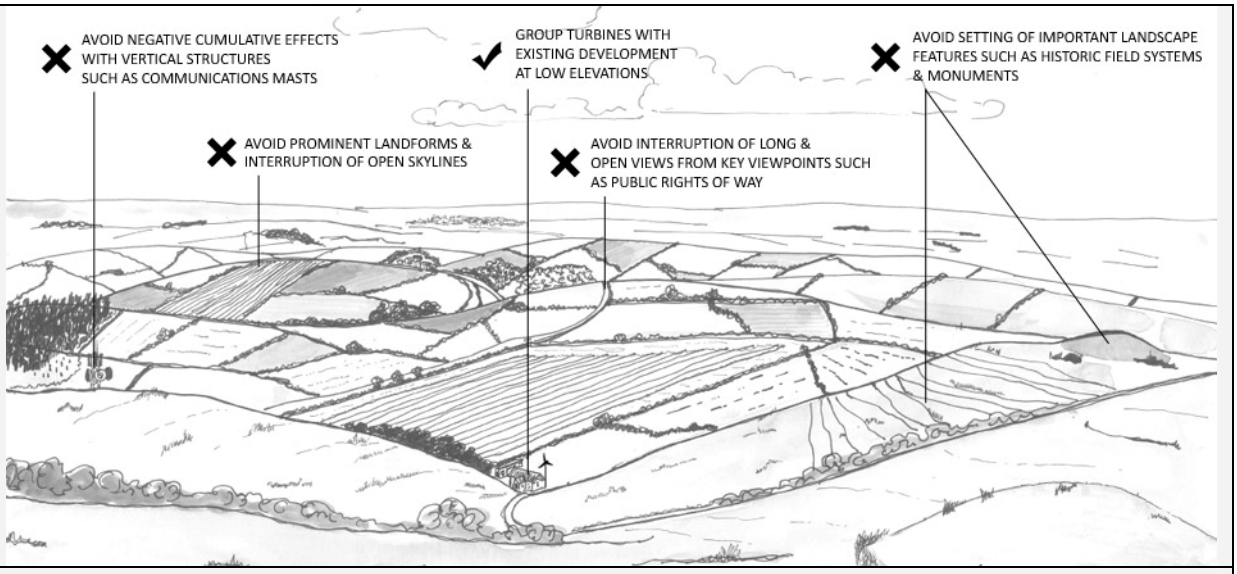
There is no statutory separation distance between a wind turbine and a public right of way, however a turbine can frighten a horse and consideration should be given for its impact upon any bridle ways in close proximity.

5.2.9 Proximity to Overhead Powerlines

Wind turbines should be separated from overhead powerlines in accordance with the Electricity Council Standard 44-8 "Overhead Line Clearance."

APPENDIX A – LANDSCAPE SENSITIVTY TO SMALL SCALE WIND TURBINES

UPLAND

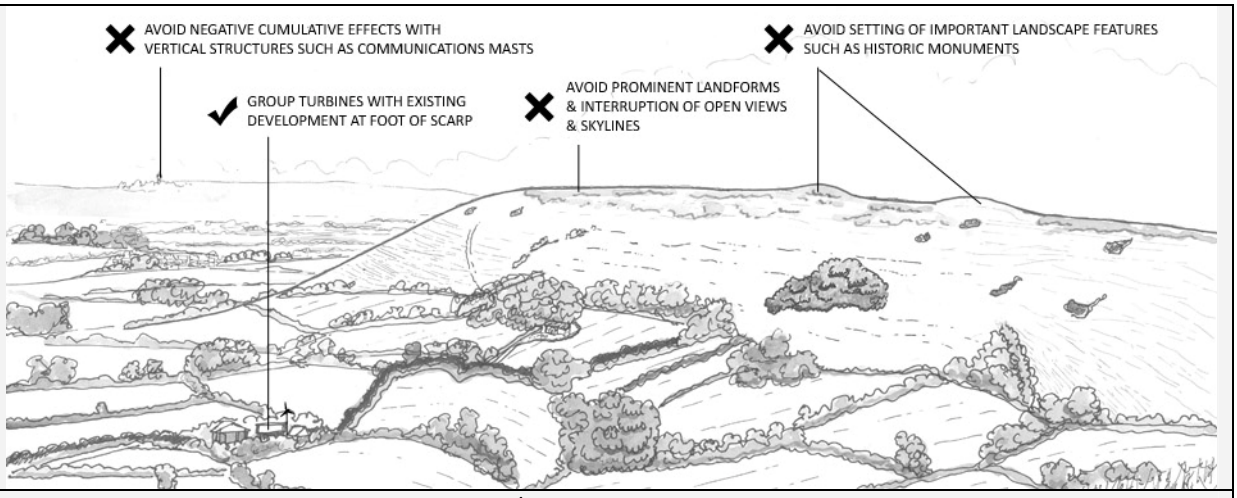


Upland landscapes include the Open Chalk Downland.

The large scale, broad rolling hills and gentle slopes clothed with a regular pattern of large straight sided fields, are in proportion with wind development and complement the simple modern industrial form of a turbine. Wind development should be grouped with existing development towards the lower slopes and should not interrupt open skylines or affect the setting of important local landmarks or historic landscape features. Turbines should not result in negative cumulative effects with existing development and infrastructure including vertical structures such as powerlines and communications masts.

[20] Taken from the Dorset Energy Group fact sheet for "Small scale wind power"

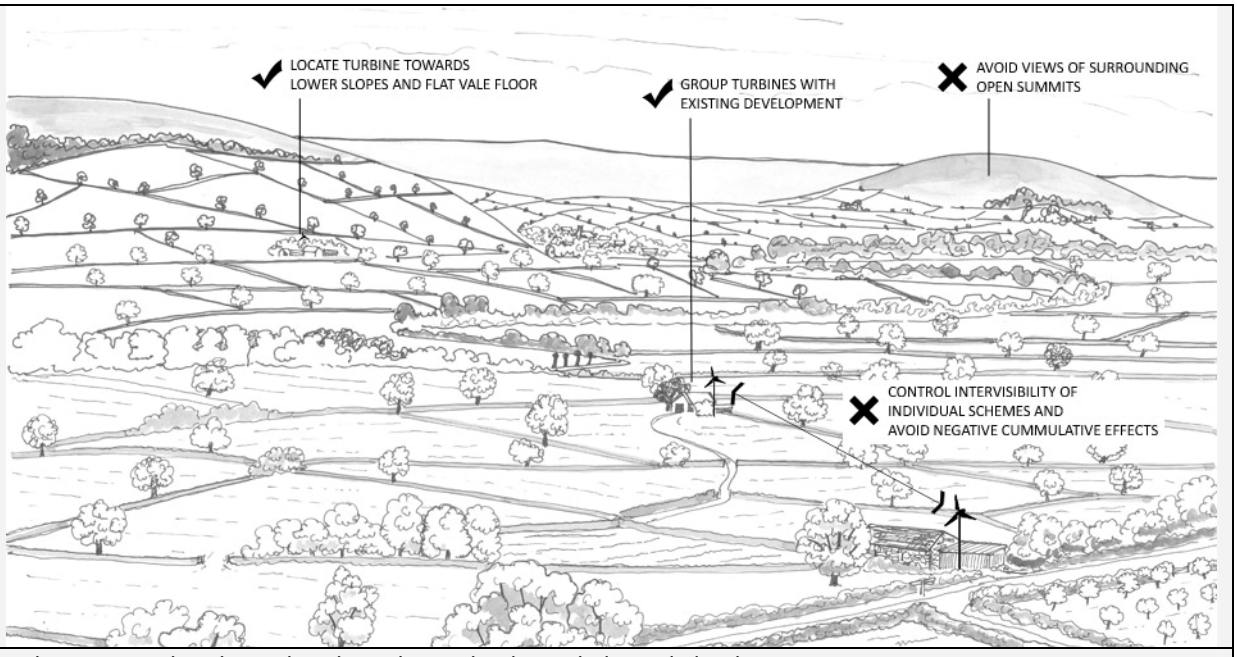
RIDGE



Ridge landscapes occur within the Chalk Ridge / Escarpment and the Ridge and Vale.

The distinct and prominent ridge / escarpment landform draped with a simple pattern of open grassland and large scale regular enclosures are in proportion with wind development, however the rugged and wild nature of the landcover conflicts with the simple modern industrial form of a turbine. Wind development should be grouped with existing development towards the foot of the ridge / escarpment and should not interrupt open skylines and sensitive hillsides, or important views between the elevated ridgeline and the surrounding lowland, or affect the setting of important historic landscape features. Turbines should not result in negative cumulative effects with existing development and infrastructure including vertical structures such as powerlines and communications masts.

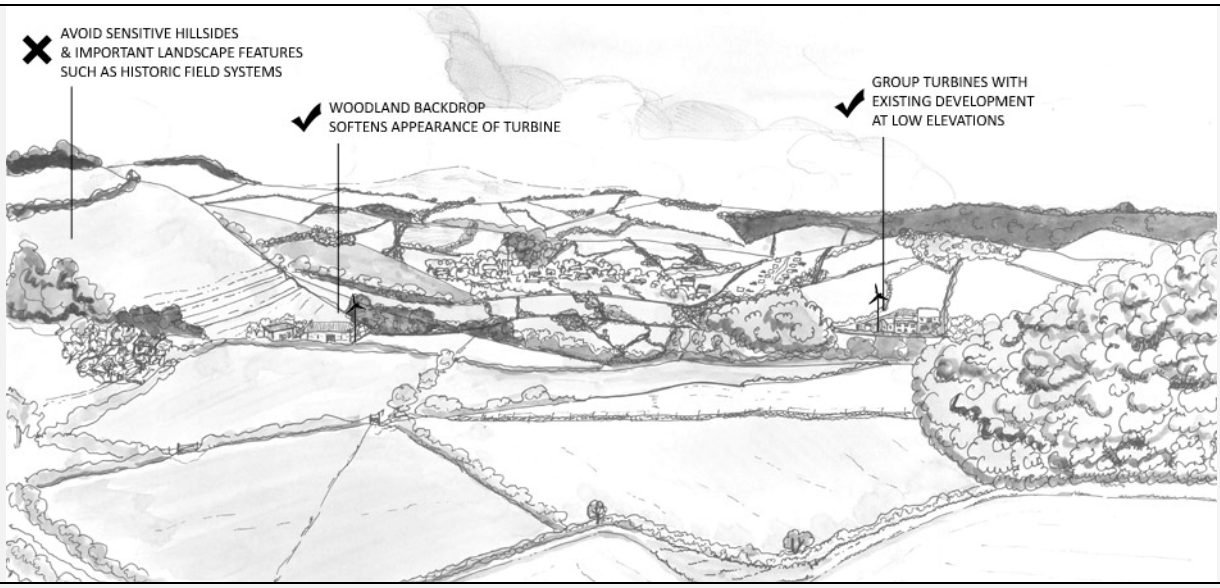
VALE



Vales occur within the within the Ridge and Vale, and Clay Vale landscapes.

The large scale and sweeping landform of the vales are in proportion with wind development and a regular pattern of field enclosures compliment the simple modern form of a turbine. The complex landcover has the ability to accommodate a new random built feature, however the intervisibility of turbines, and other vertical structures such as pylons, should be controlled and not result in negative cumulative effects. Wind development should be grouped with existing development towards the lower vale slopes and within the flatter vale floor and should not interrupt views between the vale and the surrounding open summits.

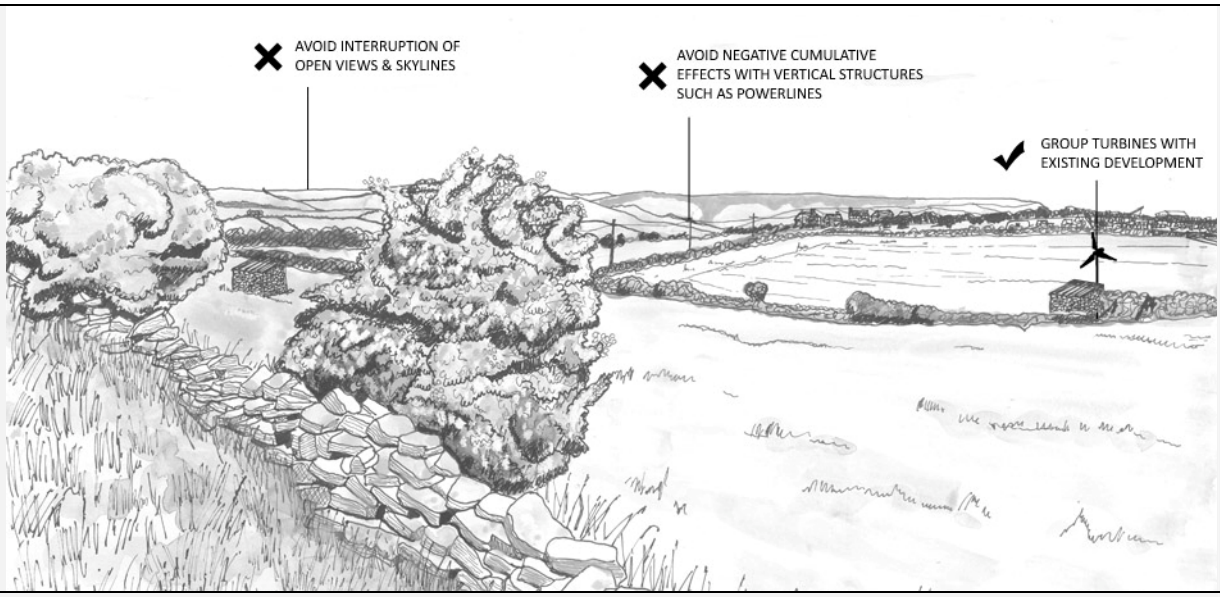
HILLS



Hilly landscapes include the Rolling Wooded Pasture, Limestone Hills, Wooded Hills, and the Undulating River Valley (see also valley).

The small scale, hilly landscapes are generally not in proportion to wind development and tall vertical structures can appear incongruous within a varied topography and complex pattern of historic fields. Wind development should be grouped with existing development at lower elevations, avoiding sensitive hillsides and should not affect the setting of important historic landscape features. The varied topography and patchwork of woodland cover has the ability to reduce the intervisibility of turbines and soften their appearance in the landscape.

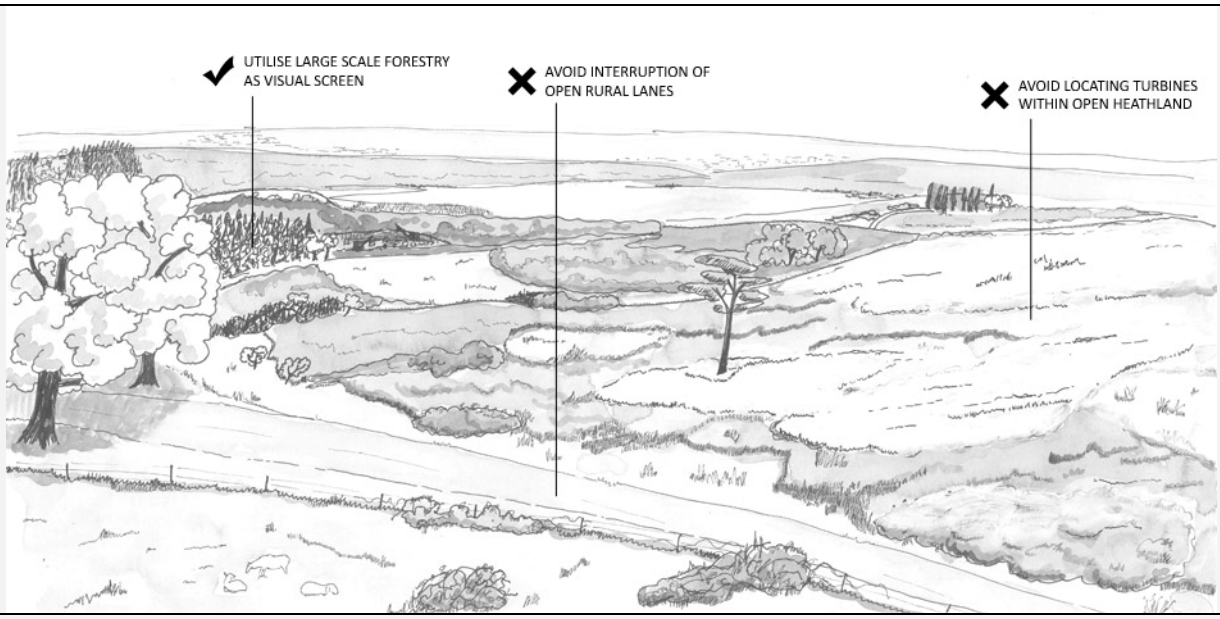
PLATEAU



Plateau landscapes refer to the Purbeck Limestone Plateau.

The Large scale and flat landform of the plateau has the ability to accommodate wind development however turbines are highly visible due to the open character of the landscape. The rugged and wild appearance of the landcover conflicts with the simple modern industrial form of a turbine. Wind development should be grouped with existing development, avoid interruption of open views and skylines, and should not result in negative cumulative effects with other vertical structures such as powerlines, and unsympathetic development such as tourist facilities.

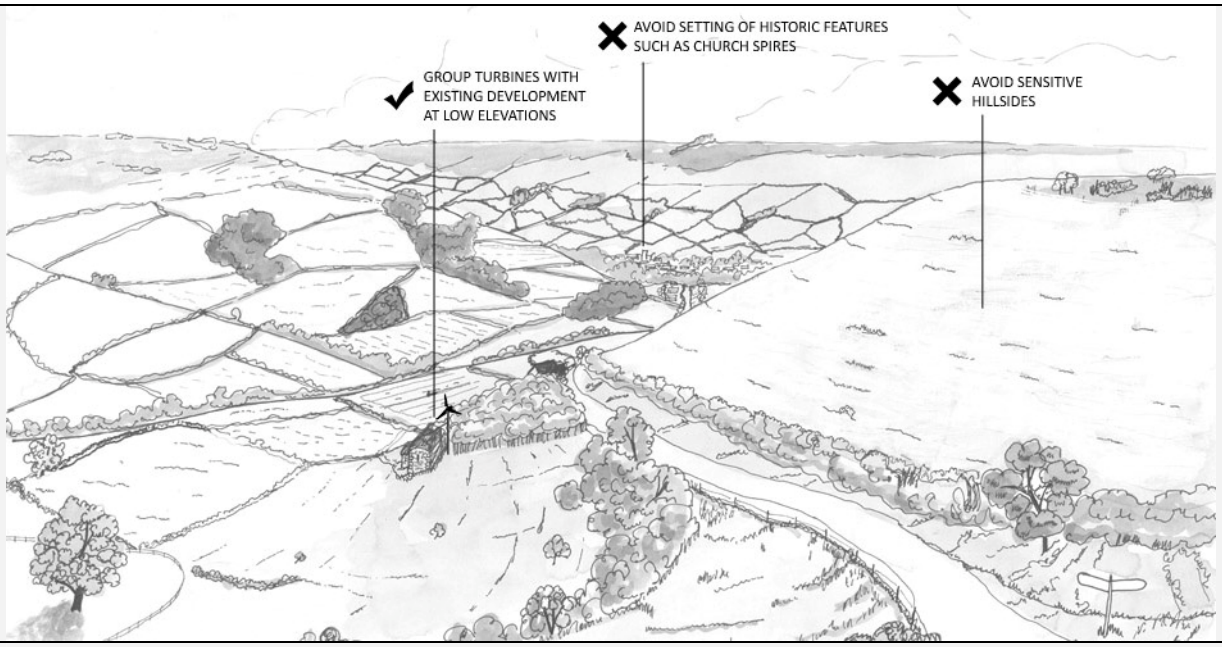
LOWLAND HEATHLAND



Lowland Heathland landscapes occur across Purbeck.

The large scale and undulating landform are in proportion with wind development. Turbines should avoid open areas of heath, and open views and skylines, and should be grouped with existing development. Significant conifer plantations and patches of woodland cover have the ability to reduce the intervisibility of turbines and soften their appearance in the landscape. The heathland is sparsely settled, however provides a valuable recreational resource, and turbines should not detract from the perceived tranquillity. In terms of biodiversity, turbines should not affect the integrity of existing and potential ecological systems and networks.

VALLEY



Valley landscapes include the Undulating River Valley and Clay Valley.

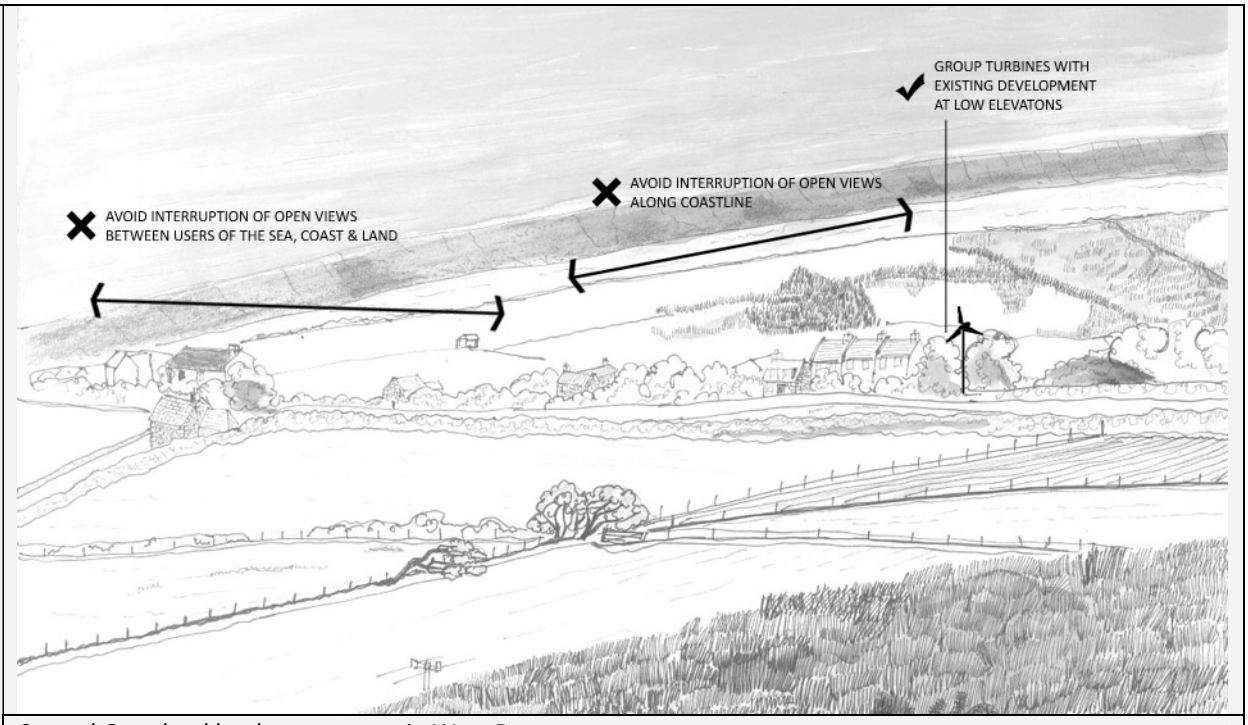
The diverse landcover of the river valley has the ability to accommodate wind development. Turbines should be grouped with existing development, existing woodland has the ability to reduce the intervisibility of turbines and soften their appearance in the landscape. Turbines should not interrupt the broad and sweeping valley profile and should avoid elevated locations, sensitive skylines and hillsides, and the setting of important historic features.

VALLEY PASTURE

The Valley Pasture includes flat, broad and open valley floors.

The broad and flat landscape of the valley floodplain is in proportion with wind development. A varied pattern of tree cover, field boundaries and settlement has the ability to accommodate an infrequent new element such as a turbine. A turbine should be grouped with existing development and existing tree cover has the ability to reduce the intervisibility of turbines and soften their appearance in the landscape. A turbine should not interrupt the setting of important open views along the valley, or towards historic buildings and landmarks. A turbine should not be viewed in context with a prominent feature such as church spires because of the contrast in scale.

COASTAL GRASSLAND



Coastal Grassland landscape occurs in West Dorset.

The open and sweeping coastline has a limited ability to accommodate a turbine. The complex and varied coastline forms a distinctive backdrop to views from the coastline, and the sense of wildness and tranquillity, contrast with the simple modern form of a turbine. Turbines should be grouped with existing development at low elevations and the intervisibility of neighbouring developments should be strictly controlled. Open views within, into, and out of the landscape should be protected, and turbines should not detract from the amenity of the coastal recreational routes.