Isle of Wight Council

Supplementary Planning Guidance

Wind Turbines and Wind Farms

ISLE of WIGHT COUNCIL

This is one of a series of Supplementary Planning Guidance Documents. This Guide was adopted by Isle of Wight Council, in September 2004 following public consultation. It is published by Isle of Wight Council, Directorate of Environment Services.

1. Introduction

1.1 This note is Supplementary Planning Guidance (SPG) to policy U18 (Development of Renewable Energy) of the Unitary Development Plan (UDP) and in particular relates to the development of onshore wind turbines and wind farms.

1.2 It consolidates the criteria-based approach in the policy and sets out the basis on which the Council will both expect applications to be submitted and the approach that it will take in determining those applications. It also seeks to expand national guidance on Renewable Energy (PPS22).

1.3 Any planning application will need to refer to the Council's Renewable Energy Strategy, which clearly sets targets for the Island. It identifies the need for the development of renewable energy technologies, which will benefit rural communities, promote green tourism and blend with the Island's unique landscape and environment. It also forms an integral element of the Community Strategy, which actively supports the use of renewable technologies for the generation of electricity and seeks to secure localised production of those technologies particularly appropriate for Island development and manufacture.

UDP Policy

U18

2. Context

2.1 The United Kingdom is faced with a major need to tackle climate change and environmental pollution and to find a sustainable method to meet its demands for the generation of power. The UK Government is committed to ensure that 10% of the country's electricity should be generated from renewable sources by 2010 (PPS22).

2.2 A study of the range of renewable energy resources in the South of England was carried out in 1993/4 by consultants acting for the Government. This resulted in an assessment of potential renewable energy resources on a county-by-county basis. For the Island, the greatest potential was considered to be the wind resource, but the report recognised that this potential resource will be reduced by environmental constraints.

2.3 The Isle of Wight Council's Renewable Energy Strategy and its accompanying Background Report sets the context for the development of renewable energy options on the Isle of Wight, including wind farms and wind turbines.

3. Wind Turbines

3.1 Wind power has the opportunity for widespread commercial exploitation as a source of electricity generation. Within Europe the UK is well placed to exploit wind energy, because of its climate.

3.2 The majority of commercial machines currently available are of a horizontal axis type whose rotating shafts are horizontal. Wind turbines are available in a wide range of sizes, from units designed for domestic supply, to very large wind turbines rated at several megawatts.

3.3 The turbines usually have steel towers supporting the nacelle, which contains the mechanical machinery and a device known as a "yaw mechanism" which allows the machine to turn itself towards the prevailing wind. The rotors can be made of glass fibre, reinforced plastic, wood epoxy, aluminium or steel. The turbine itself is controlled by its own computer system, which provides both operational and safety functions.

3.4 Wind turbines can be deployed singly, in small clusters, or in larger groups (wind farms). Factors, which may influence the size of a development, include the physical nature of the site, the capacity of the local electricity distribution network and the organisation undertaking the development.

3.5 Wind turbines need to be positioned so that the distances between them are around 5-10 rotor diameters. This spacing represents a compromise between meeting compactness, which minimises capital cost, and the need for adequate separation to lessen energy loss through wind shadowing from upstream machines.

3.6 The power produced by wind turbines depends on both the strength of the wind and the area swept by the rotor. By way of example, a machine located on a site which has an annual mean wind speed of 6 metres per second will typically produce only half as much energy as the same machine on a site where the annual wind speed is 8 metres per second. Similarly, the area swept by the rotor increases with the square of the rotor diameter so a machine with a 15 metre diameter rotor will produce only a quarter of the power of a machine with a 30 metre diameter rotor. On this basis, the trend for future commercial wind farming activities is likely to be towards larger machines.

4.Detailed Guidance for Wind turbine and Wind Farms on the Isle of Wight

4.1 This section of the SPG note is set out around the criteria in Policy U18 of the Unitary Development Plan, providing further information for each of the criteria, for any wind turbine or wind farm application.

The total effect of all such development is at a scale sympathetic to the intimate character and landform of the Island.

4.2 There is a long-term commitment, through both national and local policy, to protect the landscape beauty and character of the Island's countryside and coasts. Although the countryside and coasts will be protected from inappropriate development, there is additional protection for areas that have been designated of national significance, such as Areas of Outstanding Natural Beauty and Heritage Coast.

4.3 The Council will expect any planning application to take into consideration the guidance set out in the AONB Management Plan and any other Council landscape character guidance.

4.4 Part of the impact of wind turbines and wind farms on the character and landform of the Island stems from the construction of associated development (e.g. sub-stations, foundations and grid connections). Irrespective of the various organisations which may be involved in the overall development of wind farm technology (e.g. a wind farm developer or a local electricity distribution company) the Council will expect a single master plan for the development both of the wind turbines and ancillary equipment, taking into account the immediate landform and landscape characteristics, the positioning of existing buildings and the appropriateness of using either natural features or vegetation to screen ancillary equipment from wider views. The Council will expect detailed consideration to be given to the method of installing cables between turbines and ancillary equipment that may be required. Grid connections from turbines will be expected, to be designed to have minimal impact on landscape and preferably be underground.

4.5 Vehicular access tracks to installations will be expected to be rural in character and positioned and surfaced in a fashion that respects the local landform circumstances. Tarmac, concrete or similar surfaces will be discouraged. Proposals, which would require alterations to the road, network in order to provide construction or maintenance access and which would lead to the loss of landscape features or habitats of local or national value will not normally be permitted.

4.6 In the event that a turbine, (or series of turbines), reaches the end of its design life, and fails to generate electricity for a period of 6 months, the Council will expect the turbines and foundations to be removed. This will be controlled by conditions on the original consent. Subject to separate planning permission, the foundations could be re-used/modified for the installation of new turbines.

4.7 The Council will expect the submission of high-quality, fully researched, applications for wind farm developments. Such proposals are sensitive both in their local environment and across wider areas of the Island and it is important that all concerned have full and appropriate information on which to base new assessments.

4.8 The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 set out the type of proposals, which require the determination of a planning application through an Environmental Impact Assessment. Notwithstanding these regulations and the thresholds contained therein, the Council will expect all proposals for wind turbines to be accompanied by a full environmental assessment appropriate to its positioning, scale and likely impact. Detailed consultation on scoping will also help to inform and assist scheme location, design and facilitate debate, both before and during the processing of an application.

4.9 An indicative list of factors that will be expected to be addressed in any submission is set out at Appendix 1.

They avoid and do not have an unacceptable adverse impact on the most sensitive areas of designated landscape, coastal, nature conservation or archaeological importance.

4.10 The Isle of Wight does have a unique character, both in terms of its built environment and the natural and landscape context in which development is set. This section of this SPG note sets out the approach that the Council will take, when considering the potential impact of proposed wind farms on the natural and built environment.

4.11 In general, appropriately designed and located wind turbines will be more acceptable where they either avoid or can be demonstrated not to have an unacceptable impact on the following landscapes and designations, which generally, will have equal importance in the determination of applications

- Area of Outstanding Natural Beauty (Policy C2 of UDP)
- Heritage Coasts (Policy C4 of UDP)

4.12 Additionally, the Council will give greater weight to the likely impact of proposed wind farm development on Sites of International Importance for Nature Conservation than for national or local importance. Nonetheless, all nature conservation issues are material considerations and will carry weight with all other factors in the determination of applications.

- Sites of International Importance for Nature Conservation (Policy C9 of UDP)
- Special Protection Areas
- Special Areas of Conservation
- RAMSAR Sites
- Sites of National Importance for Nature Conservation (Policy C10 of UDP)
- Sites of Special Scientific Interest
- Sites of Local Importance for Nature Conservation (Policy C11 of UDP)
- Nature Reserves
- Sites of Importance for Nature Conservation

4.13 Applications will also be expected to minimise the impact upon wildlife. In particular, they should be sited away from narrow bird migration routes and concentrated feeding, breeding and roosting areas. The Council will require an environmental statement to consider potential effects upon all protected species found locally, and to propose mitigation measures for any detrimental effects upon either the species themselves or the habitats, which support them.

4.14 The Council will also expect the wider balance of archaeological and historic sites and monuments issues on any proposal to be fully tackled in an environmental assessment/impact assessment prepared as part of any planning application.

They minimise any detrimental effect from noise, electromagnetic, visual or similar interference.

(a) Noise

4.15 Government guidance provides detailed guidance on technical issues surrounding wind farms. Noise can be a material planning consideration and as such, the Council will expect any submission to address noise within the context of the planning application and any associated environmental statement.

4.16 PPG24 (Planning and Noise) provides detailed advice on how noise issues should be balanced with other material planning considerations in the determination of planning applications. Para 20 of PPG24 recognises the need to give special consideration of noise issues where development is proposed in or near Sites of Special Scientific Interest. Similarly, the PPG indicates that special consideration should also be given to development that would affect the quiet enjoyment of Areas of Outstanding Natural Beauty or Heritage Coasts. The effect of noise on the enjoyment of other areas of landscape, wildlife and historic value should also be taken into account.

4.17 The Council will expect any proposal for wind farm development to be accompanied by the following noise information (whether independently or within the wider context of an environmental assessment):

- Existing ambient noise levels within the immediate vicinity of the boundary of the application site.
- Anticipated noise levels at the immediate vicinity of the boundary of the application site following the completion of the development and at various wind speed levels.
- Impact on noise sensitive development within the vicinity of the application site.
- Proposed measures to ameliorate the noise impact on noise sensitive development.
- Technical details of the wind turbine.
- Hub height and rotor diameter.
- Location of rotor (upwind or downwind of the tower).
- Cut in wind speeds.
- Scale map showing the proposed wind turbines, the prevailing wind conditions and nearby existing development.

(b) Electromagnetic production and interference

4.18 Any structure can interfere with electromagnetic transmissions. The nature of the interference depends on the size of the structure relative to the wavelength of the radiation. A wind turbine placed in a communicator path may interfere with it in the same way as any other structure of similar dimensions.

4.19 The Council will expect all proposals for wind turbines to submit detailed information on electromagnetic production and potential for interference as part of the planning application and any appropriate environmental assessment.

They do not have a detrimental effect on water requirements or quality.

4.20 The Island is dependent largely upon its own sources of water supply for consumption and for sustaining wetland sites and habitats. Policy U19 of the UDP indicates that development will only be permitted where the Council is satisfied that surface and underground water resources will be safeguarded and supplies will be protected from pollution. Proposals to fill, divert or culvert a watercourse will require prior written approval of the Environment Agency (Sec 23 of the Land Drainage Act 1991).

4.21 Planning applications for wind turbines will require:

- Full information on the impact of proposed turbine development and associated foundations and technical equipment and sub-stations on natural watercourses and groundwater flow.
- Surface water run-off to be disposed within the wider landscape (if appropriate) in a sustainable fashion.
- Any necessary foul drainage within site areas to be disposed of in a sustainable fashion and without connection to main drainage facilities, except in circumstances where existing drainage is already in place and with capacity available.

5 Submitting an Application

5.1 Any proposal for a wind farm and/or wind turbines should:

- Be of a high quality and fully researched.
- Be accompanied by an EIA (where required by the Regulations) and/or a full Environmental Assessment.
- Address all the factors listed in Appendix 1 of this report.
- Include detailed information with regard to noise, as detailed in para 4.18 of this document.
- Include detailed information of electromagnetic production and potential for interference.
- Have the prior written consent of the Environment Agency if the proposal involves the filling, diversion or culverting of a watercourse, together with information stated in para 4.20 of this document.

Summary of Contacts

The Development Control Section is part of the Council's Planning Services Department, which is located at:

Seaclose Offices, Fairlee Road, Newport, Isle of Wight, PO30 2QS Tel: (01983) 823552

The Councils Planning Policy and Building Control Sections are also located at the address above.

Agenda 21 Officer, County Hall, Newport, Isle of Wight,, Tel: 01983 823204.

Environment Agency: Colverdene Court, Wessex Business Park, Wessex Way, Coldon Common, Winchester, Hampshire, SO21 1WP. Tel: 01962 764847. Fax: 01962 841573.

Appendix 1

Indicative List of Factors to be Addressed in Submission for Wind Turbines
(This text is not exhaustive and may be reviewed during the planning process.)

Technical Information	Local population Employment Location of housing Location of public and utility services Location of transport infrastructure, including construction access Noise Vibration Electromagnetic/radiation Transport (including aircraft) Effect on radar and aircraft navigation systems Site selection and consideration of alternatives
Heritage	Conservation Areas Listed buildings Archaeology Other historic interests
Land Use	Full description of surrounding uses Agricultural economy
Physical Information	Geology Minerals Ground contamination Agricultural land quality
Visual and Landscape	Landform Topography Landscape character Landscape quality Visual Impact Analysis including cumulative effects Identification of receptors
Nature Conservation	Habitat types Impact on designated areas & landscapes Impact upon wildlife, birds & their habitats Statement of wider environmental benefits

Water	Surface water Ground water Coastal water
Other	Indication of community benefit. Employment generation Other economic effects, including upon tourism Rights of Way Links with national grid.