

# Volume 3

## Wicklow Wind Energy Strategy



Wicklow Wind Energy Strategy  
Draft Wicklow County Development  
Plan 2016 - 2022  
Volume 3 Appendix 6



## 1. Introduction

Wicklow County Council recognises the need to reduce dependence on fossil fuels for energy generation and supports the development of renewable resources. As set out in Chapter 9 of this plan, the most readily available and simplest to exploit renewable resource is wind. However, as there is a strong correlation between areas with the highest wind resource and sensitive coastal and upland landscapes, a strategy is required which allows the Council to support the development of windfarms, whilst protecting environmental and material assets.

The 2006 Wind Energy Guidelines (DoEHLG) for Ireland offer advice to planning authorities on planning for wind energy through the development plan process and in determining applications for planning permission. While an update to these guidelines is anticipated, the 2006 guidance currently forms the sole guide for planning for wind energy development in Ireland. The guidelines set out a step-by-step approach for the identification of key areas where there are good wind energy resources capable of exploitation in a manner consistent with proper planning and sustainable development. This ordered approach involves a sieve mapping analysis of the key environmental, landscape, technical and economic criteria which must be balanced in order to identify the most suitable location for wind energy development.

## 2. Developing the strategy

The Wicklow Wind Energy Strategy as set out in the 2010 County Development Plan was developed generally in accordance with the DoEHLG guidelines 'Wind Energy Guidelines' where the following methodology was employed:

- Step 1** Identify locations that should **not** be considered for wind energy development, by virtue of a special conservation designation or other factors considered to render the location unsuitable
- Step 2** Identify locations where low wind speed would not render exploitation viable
- Step 3** Evaluate the residual areas against the following criteria:
  - a. Visual and landscape sensitivity;
  - b. Impact on material assets;
  - c. Land cover issues;
  - d. Grid connection issues.
- Step 4** Set out the Strategy

In early 2014 a number of issues were raised by the elected members in regard to the provisions of the adopted Wind Strategy for the County in 2010. The key components of these concerns were:

- 1) The strategy did not place enough emphasis on the landscape categories of the County Development Plan, with the proposal put forward that all lands designated 'Area of Outstanding Natural Beauty' in the County Wicklow Landscape Categorisation currently in the 'Most Favoured' category of the Wind Energy Strategy be re-designated 'Not Favoured', and (b) All lands designated 'Area of Special Amenity' currently in the 'Most Favoured' category of the Wind Energy Strategy be re-designated 'Less favoured'.
- 2) The strategy did not adequately take account of views and prospects listed in the Wicklow County Development Plan with the proposal put forward that an objective be included under the description of the 'Most Favoured' areas for wind energy development stating that due regard shall be taken of listed views and prospects and any development that would contravene objective VP1 of the 2010 Plan.

Objective VP1 states that its is an objective of the 2010 Wicklow County Development Plan states “To protect listed views and prospects from development that would either obstruct the views/prospects from the identified vantage point or from an obtrusive or incongruous features in that view/prospect. Due regard will be paid in assessing development applications to the span and scope of the view/prospect and the location of the development in that view/prospect”

- 3) The strategy did not adequately address the issues of noise and shadow flicker associated with wind energy development with the following objective being proposed to be included under section 3 of the strategy.

*“All applications for wind turbines with a rotor diameter of 50m or less shall include a detailed assessment of noise and shadow flicker impacts on all residences within 500m from any turbine. Applications providing for a rotor diameter in excess of 50m shall include a detailed assessment of noise and shadow flicker on all residences within a minimum radius of 10 times the diameter of the rotor e.g. a wind turbine with a rotor diameter of 65m will be required to carry out an assessment of impacts on all residences within a minimum 650m radius of any turbine”.*

On the 28<sup>th</sup> of April 2014 Variation No. 4 to the Wicklow County Development Plan was adopted. The revised strategy adopted places landscape classification above all other criteria, which is not considered to be wholly consistent with the guidelines; however, it was adopted in full knowledge of the contents of the guidelines and is considered legally sound. In terms of the Wind Energy Strategy to be included in the 2016-2022 County Development Plan, it is considered an inefficient exercise to start over and to produce a new strategy that re-considers all relevant factors, when the members have clearly set out their position on the matter i.e. that landscape is the overriding factor.

Taking this as the starting point i.e. that the wind strategy is intrinsically linked to the landscape classification, in order to ensure the robustness of the wind strategy, a complete review of the existing landscape classification for the County has been carried out, and this is set out in Appendix 3. As per the 2014 adopted WES, the new WES aligns with the landscape classification in the following matter:

Areas of Outstanding Natural Beauty – ‘Not favoured’

Areas of High Amenity – ‘Less favoured’

All other landscape categories – ‘Most favoured’

### **The Stages for the Development of the 2016-2022 Wind Strategy**

In accordance with the above the Wicklow County Development Plan 2016-2022 will adopt a 2 step approach to setting out the strategy for dealing with the issue of wind energy provision within the County.

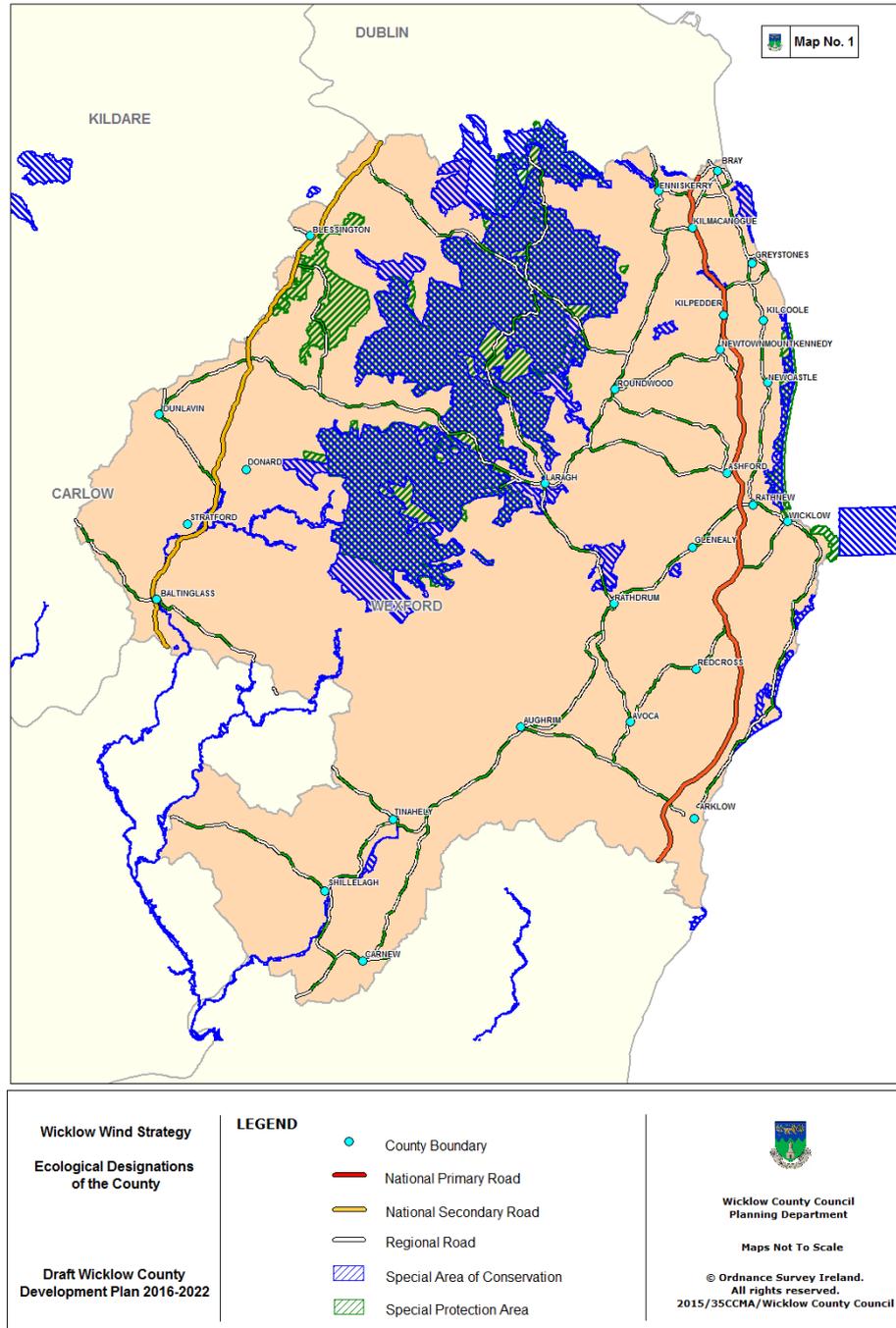
#### **Step 1**

As set out in the Wind Energy Development Guidelines, the designation of an area for protection of natural or built heritage or as an amenity area does not automatically preclude wind energy development. However, consideration of any wind energy development in or near these areas must be subject to Ireland’s obligations under the Habitats Directive (92/43/EEC), the EU (Birds) Directive (79/409/EEC) and the Environmental Impact Assessment Directive (85/337/EEC). In this regard, this strategy has considered the characteristics of the County’s SACs and SPAs (Natura 2000 sites), in terms of:

- the type of protection afforded to the site (e.g. European, national or regional designation), which gives an indication of the overall importance of the site;
- the flora, fauna or intrinsic features for which it is designated;
- their conservation objectives;

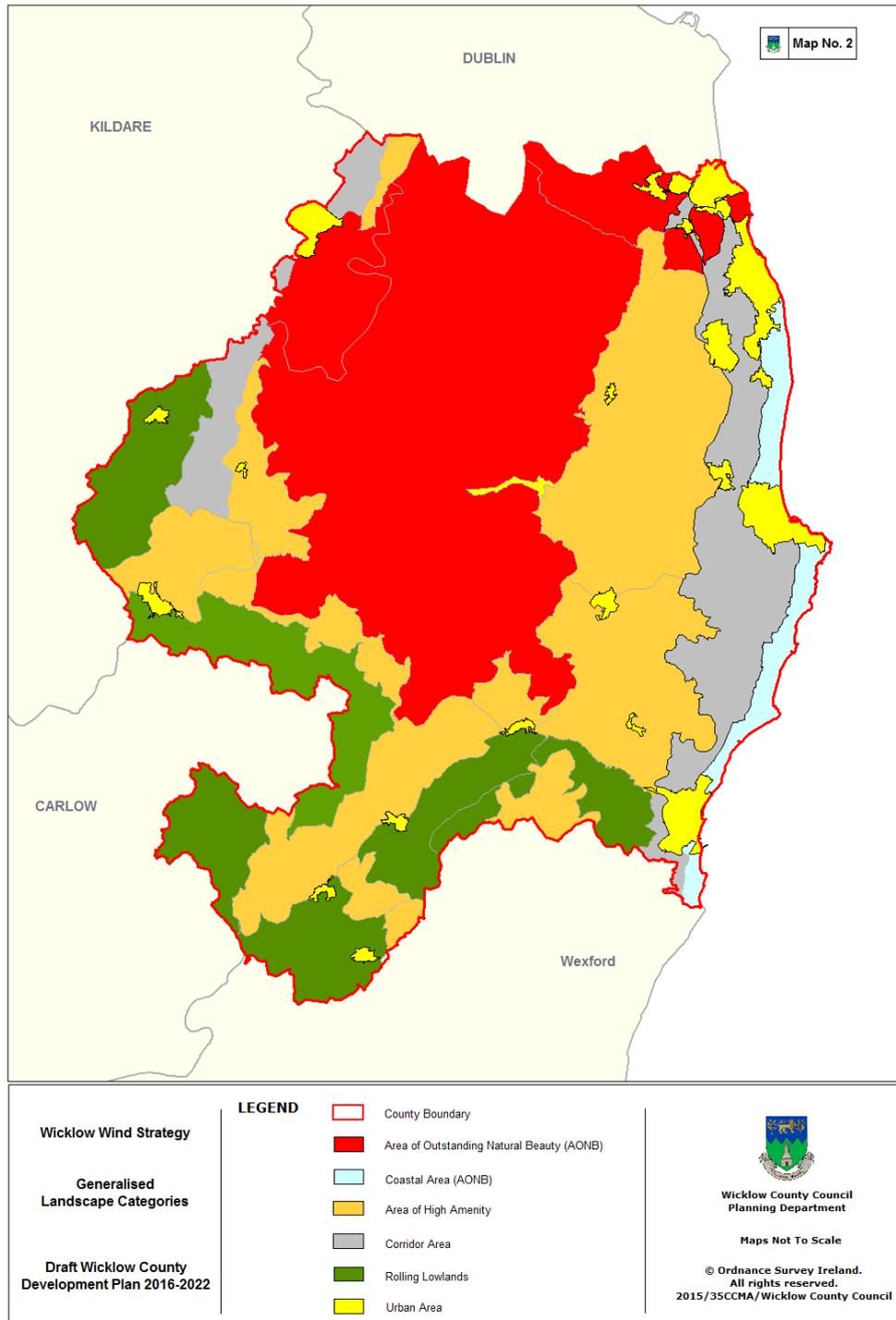
- their vulnerability;
- the contribution to the overall landscape and environment, in terms of views/prospects and tourism / recreation potential

Having considered these factors and the provisions of the EU Habitats Directive (which stipulate that plans or projects likely to have an adverse effect on the integrity of a site of international importance for nature conservation (e.g. an SAC or SPA) may only be permitted where there is no alternative solution and where there are imperative reasons of overriding public interest), all lands designated SAC or SPA are deemed unsuitable for wind farm development as shown on Map 1 to follow:



**Step 2**

Having regard to the Wicklow Landscape Assessment as set out in Volume 3 of this plan (Map 2 below) and the provisions set out in the recently adopted Variation No. 4 to the Wicklow County Development Plan 2010, all lands located within the 'Area of Outstanding Natural Beauty' landscape category shall be designated 'Not Favoured' for wind energy development, all lands designated 'Area of High Amenity' shall be designated 'Less favoured' all with all other remaining lands being 'Most favoured'.



In line with above the County has been divided into three areas:

**Red Not Favoured**

Wind farm development will not be considered favourably in these areas

**Orange Less Favoured**

Wind farm development will be considered, but the sensitivities revealed in these areas would render exploitation more problematic and therefore these areas are less favoured for wind energy development

**Green Most Favoured**

Wind farm development will be considered favourably, subject to compliance with all necessary siting and design standards.

**Note:** within all three areas due regard shall be taken of listed views and prospects and any development that would contravene objective VP1 of the Plan<sup>1</sup>

**Table 1: Area Designation Descriptions:**

**Areas ‘Not Favoured’ for Wind Energy Development**

Having regard to the high amenity and heritage value of this area, in particular ‘Natura 2000’ and ‘Area of Outstanding Natural Beauty’ designations, and the significant number of views and prospects, these areas are generally not considered suitable for wind energy development.

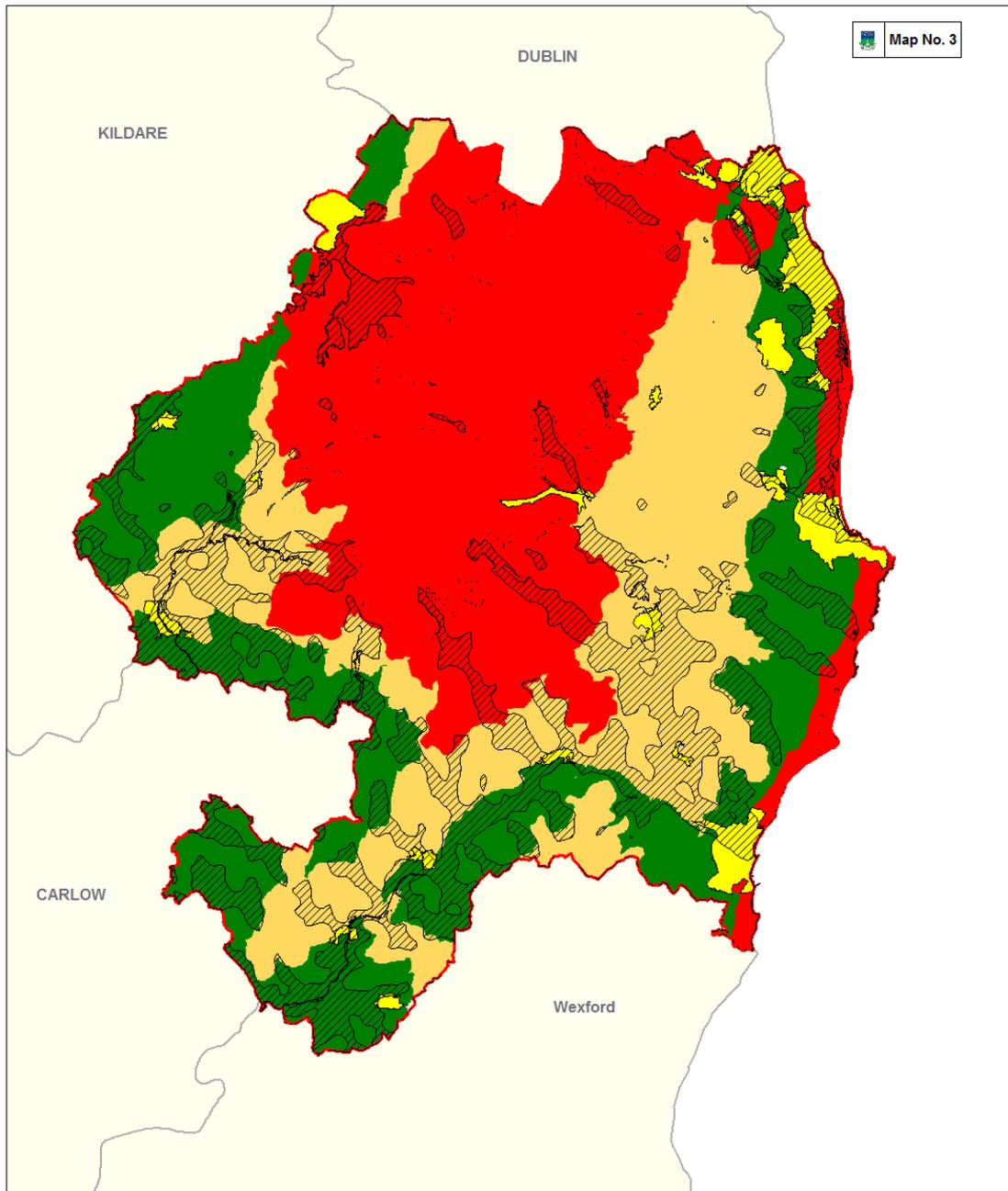
**Areas ‘Less Favoured’ for Wind Energy Development**

These areas form a natural buffer between the ‘Most Favoured’ areas and the ‘Not Favoured’ areas. The ‘Less Favoured’ areas generally comprise of lands designated ‘Areas of High Amenity’ in accordance with the landscape designation of the 2016 County Development Plan and locations challenges to wind energy exploitation are present, such as listed views and prospects, and areas of heritage value in particular ‘Natura 2000’ designations. A number of locations within this area may be open to exploitation.

**Areas ‘Most Favoured’ for Wind Energy Development**

These are less sensitive landscape areas that are deemed favourable for wind energy development given settlement patterns, landscape designation, views and prospects and the absence of areas of heritage value.

<sup>1</sup> To protect listed views and prospects from development that would either obstruct the views/prospects from the identified vantage point or from an obtrusive or incongruous features in that view/prospect. Due regard will be paid in assessing development applications to the span and scope of the view/prospect and the location of the development in that view/prospect.



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|--|--|---|
| <p><b>Wicklow Wind Strategy</b></p> <p><b>Areas of Wind Energy Potential</b></p> <p><b>Draft Wicklow County Development Plan 2016-2022</b></p> | <p><b>LEGEND</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid red; margin-right: 5px;"></span> County Boundary</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: red; margin-right: 5px;"></span> Not Favoured</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; margin-right: 5px;"></span> Less Favoured</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: green; margin-right: 5px;"></span> Most Favoured</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px dashed black; margin-right: 5px;"></span> Win Speed less than 7.5 m/s</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; border: 1px solid black; margin-right: 5px;"></span> Urban Areas</li> </ul> |  <p><b>Wicklow County Council<br/>Planning Department</b></p> <p>Maps Not To Scale</p> <p>© Ordnance Survey Ireland.<br/>All rights reserved.<br/>2015/35CCMA/Wicklow County Council</p> |
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### 3. Assessment criteria

Planning applications for wind energy developments will generally be assessed against the criteria set out below and therefore all applications will be required to submit an evaluation of the project against these criteria.

An application that is subject to an EIS will as a matter of course address all of these areas, but the level of details required under each 'heading' can be determined and scoped with the Planning Authority at pre-planning stage.

Those applications under the EIS threshold and not deemed by the Planning Authority to require an EIS, will be required to be accompanied by an Environmental Report, addressing the issues of relevance to the site (which should also be determined and scoped at pre-planning stage).

1. Potential impact of the project on natural heritage, to include direct and indirect effects on
  - flora and fauna;
  - protected sites;
  - habitats of ecological sensitivity and biodiversity value

Where potential impacts are identified, mitigation measures, which may include management plans to deal with the satisfactory co-existence of the wind energy development and the particular species/habitat identified will be required.

2. Potential impact of the project on built heritage including
  - archaeological sites;
  - recorded monuments;
  - protected sites / buildings;

This may include archaeological fieldwork in advance of the application being considered. Buffer zones around such features will be required to be established, the zone normally being a 200m radius around such features / sites.

3. Suitability of ground conditions, including soil and subsoil stability and presence of rock. Particular attention will be paid to areas where peaty soils are prevalent or sites on steep slopes, where soil slippages may be more likely. If this issue is identified as a concern, an application for permission will be required to be accompanied by a report by a suitably qualified and indemnified professional, verifying the stability of this area.
4. Site drainage and hydrological effects, such as
  - impacts on ground water;
  - impacts on local water supplies;
  - impacts on surface water;
  - any requirements for watercourse crossings;

Particular detail will be required with regard to the construction phase of the development and measures to be put in place to ensure no negative impacts result on hydrology and water networks. This will include analysis of water flows on and across the site, identification of surface water systems in the area, proposals for the management of excavated soil and construction materials (including any oils or other chemicals) during construction.

Some sites may be required to put in place environmental monitoring of ground and surface water for the duration of the operation of the installation.

5. As landscape issues and visual impacts are perceived as the key impact of wind turbines, a detailed assessment of this impact will be required for all applications.

This assessment shall generally be carried out in accordance with best practice guidance available, including that set out by the EPA in *“Advice notes of current practice in the preparation of EIS”* and by the DoEHLG in *“Wind Energy Development Guidelines for Planning Authorities”*.

This assessment shall include an evaluation of the landscape and the ability of it to absorb wind turbines. The cumulative impact of any application with any other such development or application in the vicinity shall also be considered, along with any impacts associated with site works, site roads, structures, new overhead transmission lines and any likely ‘ex-situ’ future development required to transmit energy to the grid. All assessments shall include an analysis of the visual impact of the development from views and prospects listed in the County Development Plan or any Local Area / Town Plan.

Where impacts have been identified, mitigation measures will be required which may include alterations to the layout, spacing, height and number of turbines.

Chapter 6 of the DoEHLG Guidelines provides direction on siting and design issues as they relate to specific landscape character types. The issues addressed are location, spatial extent, spacing, layout height and cumulative extent as set out below:

|                                  | <b>Location</b>                                     | <b>Spatial extent</b>  | <b>Cumulative Effect</b>   | <b>Spacing</b>   | <b>Layout</b>  | <b>Height</b>  |
|----------------------------------|---|--|--|--|--|--|
| <b>Mountain</b>                  | Ridge and peaks acceptable in certain circumstances | Large area can accommodate wind developments   | Acceptable depending on topography as well as siting and design                | All spacing options are usually acceptable. Regular spacing is desirable | Any layout may be acceptable but random or clustered are preferred on ridges and hilltops and grid on broad sweeping areas | Any height   |
| <b>Hills &amp; Flat Farmland</b> | Location on ridges and plateaux is preferred        | Generally limited in small scale   | Acceptable subject to appropriate siting and design                            | Regular  | Linear and staggered linear layout on ridges and clustered on hilltops   | Medium typically preferred but tall may be acceptable on a high ridge      |
| <b>Transitional Marginal</b>     | Ridges and hilltops preferred                       | Generally small relative to context and do not bridge two different land covers e.g. | Generally not acceptable unless the visual presence of the second wind farm is | All options are open for consideration                                   | Linear and staggered linear layout on ridges and clustered on hilltops   | Small-scaled areas, short turbines are more preferable. Varied heights are |

|                         |   |  |  |  |                                       |  |
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|                         |   | moorland and field areas   | negligible   |  |                                       | acceptable in undulating topography  |
| <b>Urban/industrial</b> | Close to but distinct from structures to ensure autonomy                              | Relatively limited   | Minimal tolerance  | Regular spacing is preferred. Graded spacing may be used to aesthetic effect | Linear or staggered line is preferred | Low enough to not dominate existing buildings. A few tall turbines may be successful relative to scale of existing buildings |
| <b>Coastal Zone</b>     | Located on solid ground, suited to low beach shorelines as well as rocky promontories | Depends on the shoreline. Wind energy development should not extend beyond one particular shore line | Minimal Tolerance. A second wind farm may be acceptable only at a very great distance with minimal visual presence | Regular spacing is preferred   | Linear or staggered linear layout     | Generally tall especially close to and parallel beaches  |

6. Local environmental and safety issues including
- noise;
  - shadow flicker;
  - interference with communications;
  - aircraft safety;
  - proximity to power lines.

All applications for wind turbines with a rotor diameter of 50m or less shall include a detailed assessment of shadow flicker impacts on all residences within 500m from any turbine. Applications providing for a rotor diameter in excess of 50m shall include a detailed assessment of shadow flicker on all residences within a minimum radius of 10 times the diameter of the rotor e.g. a wind turbine with a rotor diameter of 65m will be required to carry out an assessment of impacts on all residences within a minimum 650m radius of any turbine.

In evaluating potential noise and shadow flicker impacts, regard shall be taken of the guidance set out in the Wind Energy Guidelines (DoEHLG 2006) and any revisions thereto. Conditions may require the monitoring of noise and shadow flicker throughout the operational phase of the development. In the event that the monitoring shows that any turbine is exceeding its projected noise levels or shadow flicker impacts, and is having a detrimental impact on residential amenity, mitigating measures shall be agreed with the Local Authority.

As wind turbines produce electromagnetic radiation, they may interfere with broadcast communications. In this regard, all applicants should consult with national and local broadcasters prior to the lodging of planning applications to determine the likelihood of any impacts and develop mitigation measures.

As wind turbines may have implications for the operation of Air Traffic Control systems and flight paths, regard shall be taken of the Irish Aviation Authority's 'Obstacles to Aircraft in Flight Order' (2002) as amended.

Adequate clearance between structures and overhead power lines as specified by the electricity undertaker should be provided.

7. Adequacy of local access road network to facilitate construction of the project and transportation of large machinery and turbine parts to site.

Where it is evident that there may be difficulties in this regard, an outline of the likely transportation route shall be submitted at application stage. However, it is acknowledged that this is more of an operational issue that can normally be resolved through discussion and agreement with the local area engineer and other safety bodies. Therefore, it would be more normal for this to be agreed prior to the commencement of development.

Planning applications will include financial bonds for the repair or re-instatement of any public roads that may be damaged as a result of the transportation of materials.

8. Adequacy of the proposed entrance to the site. Notwithstanding the fact that the construction phase will have a limited duration, any application will need to provide a suitable entrance for both the construction and operation phase of the development. In this regard, sightlines and gradient will be required to meet applicable road safety standards.
9. The provision of water and effluent disposal facilities for construction and operation personnel.
10. Any minimum set backs required from identified features / land uses (e.g. from residences) as may be specified in the County Development Plan or in any future Government policy or Ministerial guidelines.

#### **4. Environmental Impact Assessment**

An Environmental Impact Assessment is mandatory for wind energy developments that exceed the following thresholds:

- have more than five turbines, or
- will have a total output greater than 5 megawatts.

In these circumstances, an Environmental Impact Statement must be submitted with the relevant planning application (Section 176 of the Planning & Development Act 2000, and Article 93 and Schedule 5, of the Planning & Development Regulations, 2001).

Certain sub-threshold developments also require an Environmental Impact Assessment. The information gathered during the Environmental Impact Assessment process should be used to guide the planning and design of the wind energy development so that sensitive ecological or hydrological areas are avoided, and any negative impacts are minimised insofar as is possible. Avoidance or reduction of negative impacts on the environment and the consideration of alternatives are fundamental components of Environmental Impact Assessment, both in terms of legal requirements and best practice. In designing wind energy projects, there is huge potential to avoid or reduce negative environmental impacts, owing to the small size of the actual development footprint.

**Sub-threshold developments:**

An Environmental Impact Assessment shall be carried out for wind energy developments below the above mandatory limits if the Planning Authority (or An Bord Pleanála on appeal) considers that the development would be likely to have significant effects on the environment, by reference to the significant criteria in Annex III of the Environmental Impact Assessment Directive as transposed in Schedule 7 of the Planning & Development Regulations, 2001. Regard should also be had to the guidance contained in Environmental Impact Assessment (EIA) Guidance for Consent Authorities regarding Sub-threshold Development, issued by the DoEHLG in August 2003.

**5. Pre-planning**

The primary purpose of consultation is to improve the quality of a subsequent application, to avoid the necessity for seeking additional information and in some cases to spare the costs of what is likely to prove an unsuccessful application.

Consultation can be of value in:

- highlighting development plan objectives on wind energy;
- suggesting need for specialist input.

To ensure that pre-application consultation is as productive as possible a developer shall be invited to submit the following minimum level of documentation in advance of the meeting:

- site location map
- indication of the number of turbines proposed and their individual heights
- sample zones of theoretical visibility
- details of any known protected natural or built features on or surrounding the site

Good research and wide consultation by all parties at the site selection stage can avoid unnecessary time delays and expense in considering unsuitable sites.