

# **Chapter 8:**

## **Landscape & Visual Assessment**

## 8.1 Introduction

### 8.1.1 Overview

This chapter describes the landscape context of the proposed development and assesses the likely landscape and visual impacts of the scheme on the receiving environment. Although linked, landscape and visual impacts are assessed separately and in sequential order as the effects to the physical landscape and landscape character resulting from the development form the baseline of the assessment of visual impacts from key receptors.

Landscape Impact Assessment (LIA) relates to changes in the physical landscape, brought about by the proposed development, which may alter its character and how this is experienced. This requires a detailed analysis of the individual elements and characteristics of a landscape that go together make up the overall landscape character of that area. By understanding the aspects that contribute to landscape character it is possible to make judgements in relation to its quality (integrity) and to identify key sensitivities. This, in turn, provides a measure of the ability of the landscape in question to accommodate the type and scale of change associated with the proposed development, without causing unacceptable adverse changes to its character.

Visual Impact Assessment (VIA) relates to changes in the composition of views as a result of changes to the landscape, how these are perceived and the effects on visual amenity. Such impacts are measured on the basis of:

- *Visual Obstruction* (blocking of a view, be it full, partial or intermittent) or;
- *Visual Intrusion* (interruption of a view without blocking).

This assessment report was prepared by Art McCormack and Richard Barker, both Senior Landscape Architect, MosArt Landscape Architects, Wicklow. MosArt have extensive experience at both project level and strategic planning for wind farms in Ireland. A summary of relevant experience is included below:

- Assisted the Department of Environment, Heritage and Local Government (DoEHLG) in drafting the Landscape Section of the revised Wind Energy Development Guidelines (2006);
- Responsible for the landscape section of the national attitude survey to wind farms commissioned by Sustainable Energy Ireland (2003);
- Drafted the DoEHLG Landscape and Landscape Assessment Guidelines (2000);
- Completed a wind farm strategy for Waterford County Council (2004);
- Landscape character and sensitivity classification of County Cork for wind farm planning for Cork County Council (2003);
- Involved in landscape impact assessment of over 100 on-shore wind farm projects;
- Prepared the landscape impact assessment reports for the Arklow Bank, Codling Bank and Oriel offshore wind farm projects;
- Presented papers at numerous national conferences concerning landscape assessment for strategic planning and also for the planning and design of wind farms.

### 8.1.2 Guidelines

This landscape and visual impact assessment has been carried out with reference to:

- Environmental Protection Agency (EPA) publication 'Guidelines on the Information to be contained in Environmental Impact Statements (2002) and the accompanying Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (2003).

- Landscape Institute and the Institute of Environmental Management and Assessment publication entitled Guidelines for Landscape and Visual Impact Assessment (2002);
- Scottish Natural Heritage (SHN) Environmental Assessment Handbook –Guidance on the Environmental Impact Assessment Process Appendix 1: Landscape and Visual Impact Assessment (2011):
- Department of Environment, Heritage and Local Government (DoEHLG) ‘Wind Energy Development Guidelines’ (2006):
- Irish Wind Energy Association (IWEA) Best Practice Guidelines for the Irish Wind Energy Industry (2012).

### 8.1.3 Assessment of Significance

The EPA’s Environmental Impact Statement guidelines (2002) provide a multidisciplinary classification of impact significance. A specific landscape and visual classification of significance is utilised in this assessment reflecting examples used in the Landscape Institute (UK) Guidelines for Landscape and Visual Impact Assessment (2002). Whilst the landscape and visual classification also contains a series of additional sub-categories, it accords with the EPA’s overarching significance categories and terminology provided in **Table 8.1** below.

|                             |   |
|-----------------------------|---|
| <i>Profound Impact</i>      | An impact which obliterates sensitive characteristics   |
| <i>Slight Impact</i>        | An impact which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment        |
| <i>Moderate Impact</i>      | An impact that alters the character of the environment in a manner that is consistent with existing and emerging trends |
| <i>Significant Impact</i>   | An impact which causes noticeable changes in the character of the environment without affecting its sensitivities       |
| <i>Imperceptible Impact</i> | An impact capable of measurement but without noticeable consequences  |

**Table 8.1: EPA Impact Significance Categories (Multidisciplinary)**

### 8.1.4 Assessment Methodology

Production of this Landscape and Visual Impact Assessment involved desktop studies and fieldwork comprising professional evaluation by landscape consultants. This entailed the following:

#### 8.1.4.1 Desktop Study

- Establishing an appropriate Study Area from which to examine the landscape and visual impacts of the proposed wind farm;
- Review of a Zone of Theoretical Visibility (ZTV) map, which indicates areas from which the development is potentially visible in relation to terrain within the Study Area;
- Review of relevant County Development Plans, particularly with regard to landscape and scenic view/route designations;
- Selection of potential Viewshed Reference Points (VRP) from key receptors to be investigated during fieldwork for actual visibility and sensitivity;
- Preparation of an initial VRP selection map from which the visualisation consultant can prepare ‘wireframe images’ at each potential VRP location for use during fieldwork. Wireframe images depict the proposed wind farm within the context of a basic three dimensional view of the terrain as seen from each selected VRP location.

#### 8.1.4.2 Fieldwork

- Recording of a description of the landscape elements and characteristics within the Study Area generally and within view from each VRP;
- Selection of a refined set of VRP's for assessment. This includes the capture of panoramic photography and grid reference coordinates for each VRP location for the visualisation specialist to prepare photomontages.

#### 8.1.4.3 Assessment

- Description of the geographic location and landscape context of the proposed wind farm site;
- General landscape description concerning essential landscape character and salient features of the Study Area, discussed with respect to; landform and drainage; vegetation and land use; centres of population and houses; transport routes and; public amenities and facilities;
- Consideration of design guidance, the planning context and relevant landscape designations;
- Assessment of predicted landscape impacts;
- Assessment of predicted visual impacts using standard ZTV maps and cumulative ZTV maps as well photomontages prepared from selected VRP locations;
- Discussion of mitigation measures;
- Assessment of residual impacts following mitigation.

#### 8.1.4.5 Definition of Study Area

The Wind Energy Development Guidelines published by the Department of the Environment, Heritage and Local Government specify different radii for examining the zone of theoretical visibility of proposed wind farm projects (ZTV). The extent of this search area is influenced by turbine height, on the basis that taller turbines would be visible at greater distances, as follows:

- 15km radius for blade tips up to 100m;
- 20km radius for blade tips greater than 100m.

In the case of this project, the blade tips are 136.5m high, thus, the 20km ZTV radius applies. This 20km radius also defines the extent of the Study Area for this project.

## 8.2 Description of the Existing Environment

### 8.2.1 Landscape Baseline

The landscape baseline represents the existing landscape context and is the scenario against which any changes to the landscape brought about by the proposal will be assessed. This also includes reference to any relevant landscape character appraisals and the current landscape policy context (both are generally contained within county development plans).

#### 8.2.1.1 Description of Landscape Context

A description of the landscape context of the proposed development site and wider study area is provided below under the headings of landform and drainage, vegetation and land use, centres of population and houses, transport routes, public amenities and facilities and the site context. Although this description forms part of the landscape baseline many of the landscape elements identified also relate to visual receptors i.e. places and transport routes from which viewers can potentially see the proposed development.

### 8.2.1.2 Landform and Drainage

The study area is centred on the north-western portion of an upland area known as the Castlecomer Plateau, which is characterised by undulating hills of a similar height and defined by steep escarpments at its fringes. The Castlecomer Plateau extends throughout the south-eastern quarter of the study area and is flanked by lowlands in the north-eastern periphery and throughout the western half of the study area. The Slieveardagh Hills emerge in the south-western extents of the study area and extend in the same direction beyond the study area. Dissecting the lowlands on either side of the Castlecomer Plateau are the River Barrow to the east and River Nore to the west. Several Rivers spring from within this upland spine and the largest of these is the Dinin River, which runs southwards to merge with the River Nore at the southern limit of the study area.



**Figure 8.1: Gently undulating, open landscape of the Castlecomer Plateau**

### 8.2.1.3 Vegetation and Land Use

The lowland context is a highly fertile mixture of pasture and tillage with fields defined by mature broadleaf tree lines and hedgerows. Agricultural land uses extend into the upland areas in the form of more marginal grazing with scrubby hedgerow field boundaries. Extensive commercial conifer plantations emerge on higher slopes and throughout the Castlecomer Plateau. There are occasional small patches of woodland associated with demesne landscapes within the lowlands as well as narrow strips of riparian vegetation at the margins of streams and rivers. Otherwise, there is little naturalistic land cover within the study area.



**Figure 8.2: Large field pattern, scrubby hedgerows and forest plantations of the site context**

### 8.2.1.4 Centres of Population and Houses

The largest settlement within the study area is Portlaoise some 17km to the north of the proposal site. Other significant size settlements include Stradbally (16km northeast), Abbeyleix (8km northwest), Durrow (11km west-southwest), Ballyragget (12km southwest) and Castlecomer (8km southeast). The nearest settlement to the proposal site is Ballynakill, which is 4km to the west.

As well as the above, there are a number of cross road settlements throughout the study area. In close proximity to the site (<2km) there is a relatively low density of rural dwellings and farmsteads.

### 8.2.1.5 Transport Routes

The principal transport route within the study area is the new M7 motorway between Dublin and Cork/Limerick. This bypasses to the south of Portlaoise and skirts around the north-western perimeter of the study area. The section of the old N8 national route, which runs between Portlaoise and Durrow is now part of the N77 national secondary road linking to Kilkenny. The N77 is at its closest to the proposal site as it passes through Abbeyleix.

The N78 national secondary road passes through the Castlecomer Plateau in a south-westerly direction as it links between Athy and Kilkenny. It is 8km to the southwest of the proposal site at its nearest point. Running perpendicular to the N78 along the north-eastern base of the escarpment that defines the Castlecomer Plateau is the N80 national secondary road. The intersection of these roads and the nearest point of the N80 to the proposal site is 13km to the northeast.

In addition to the motorway and national roads described above, there are numerous regional roads crisscrossing the study area. The nearest of these to the proposal site is the R430, which is 1km to the north at its closest point and the R432, which passes through Ballinakill 4km to the west.



**Figure 8.3: View towards the Castlecomer Plateau from the M7 motorway**

### 8.2.1.6 Public Amenities and Heritage Features

There are a number of important heritage features within the study area and the most notable and most prominently located is the Rock of Dunamase. This elevated and natural defensive position was occupied by a fort as early as the 9<sup>th</sup> century and the castle (now in ruins) was built in the latter 12<sup>th</sup> century.

Castle Durrow is an early 17<sup>th</sup> century stately home, which is currently in use as a hotel and wedding venue. It is situated within the settlement of Durrow. Other heritage features of interest include Aghaboe Abbey (19km west of site) and the Tower of Timahoe (9km north of site).

## 8.2.2 Site Context

The site itself is located on a fairly flat section of ridgeline at the north-western edge of the Castlecomer Plateau. In terms of land use, it is contained in a mixture of pastoral farming and commercial conifer plantation along with small reverting scrub areas where forest harvesting has taken place.

### 8.2.2.1 Policy Context and Landscape Designations

The proposed development site is located primarily in County Laois, all 11 no. turbines intended to be within this jurisdiction. Some of the associated access tracks are located in County Kilkenny. Whilst the landscape related designations and policies of County Laois are, therefore, more critical, those in County Kilkenny will also be considered. County Carlow only extends into the south-eastern

periphery of the study area and County Kildare only extends into the north-eastern periphery. Thus, the landscape related designations and policies of the respective development plans are not considered relevant in this instance.

#### *8.2.1.2 Laois County Development Plan 2011-2017*

A Landscape Character Assessment has been prepared for County Laois and although this defines the characteristics and vulnerabilities of each landscape type it does not provide a sensitivity rating. The proposal site is located within the extensive 'Hills and Uplands' landscape character area occupying the southeast of the County.

A Wind Energy Strategy has also been prepared for County Laois which identifies three categories of acceptability regarding wind energy development; Preferred Areas; Areas Open for Consideration and; Areas Not for Consideration. The ridgeline containing the subject site is identified as being within a small 'Preferred Area' for wind energy development surrounded by a more extensive area of 'Open for Consideration' on lower slopes. It appears that the majority, if not all, of the proposed turbines are contained within the 'Preferred Area' zoning.

#### *8.2.1.3 Kilkenny County Development Plan 2014-2020*

The Kilkenny County Development Plan also includes a Landscape Character Assessment and associated policies for each character area. The character areas are described as Landscape Character Types (LCT's). The proposed site is in the 'Upland Areas' type. In determining the relative sensitivity of landscape units a range of landscape robustness and landscape sensitivity factors are weighed against each other. For the subject site the key sensitivity factor is its elevation above the 250m contour whilst the presence of commercial forest plantations may increase the visual absorption capacity or robustness of the landscape. Overall, the site context is considered to be a sensitive landscape area with relevant policy relating to siting and design of development.

A Wind Energy Strategy has been prepared for County Kilkenny which establishes areas that are 'Preferred', 'Open for Consideration' and 'Unsuitable' with regard to wind energy development. That part of the county closest to the proposed turbines does not lie within any of these three area classes (see Figure 10.2 of the Kilkenny CDP 2014-2020).

### **8.2.3 Visual Baseline**

Given the generally prominent nature of commercial wind energy developments, visual impacts are an important issue. This relates both to the extent of visibility as well as the nature and degree of intrusion into views, particularly those of recognised scenic value. Only those parts of the study area that potentially afford views of the proposed wind farm are of concern to this part of the assessment. Therefore, the first part of the visual baseline is concerned with establishing a 'Zone of Theoretical Visibility' and subsequently identifying important visual receptors from which to base the visual impact assessment.

#### *8.2.3.1 Zone of Theoretical Visibility (ZTV)*

GES Ltd. carried out a computer automated study of the zone of theoretical visibility (ZTV). The purpose of this exercise is to identify the 'theoretical' extent and degree of visibility of turbines. This is a theoretical exercise because it is based on topography only at 10m contour intervals and does not allow for intermittent screening provided by, for example, hedgerows, forests or buildings and does not involve the actual height of crests (but using the nearest 10m contour below). Thus the ZTV map, assuming no screening, represents a worse than 'worse-case-scenario' with respect to viewing exposure. For the purposes of this project a radius of 20km was used for the ZTV as discussed earlier.

The following key points should be noted from the ZTV study:

- Theoretical visibility is strongly influenced by the edge of the Castlecomer Plateau with relatively extensive theoretical views extending to the edge of the study area from within the

lowland landscape to the north and west of the plateau perimeter where the proposal is located;

- Relatively consistent views are afforded from the upland landscape of the plateau in all directions within 5km of the site;
- Views from the northeast and south are screened by the crest of the plateau beyond 5km in these directions. This occurs due to the considerable separation distance between the proposal and the crest of the plateau in these directions;
- To the southeast theoretical visibility is consistent out to 10km from the site, but becomes more sporadic beyond this distance.

### 8.2.3.2 Views of Recognised Scenic Value

Views of recognised scenic value are primarily indicated within county development plans in the context of scenic views/routes designations, but they might also be indicated on touring maps, guide books, road side rest stops or on post cards that represent the area. In this instance there were no recognised scenic views encountered other than those contained within the relevant County Development Plans as set out below.

Table 14 and Map 1.13.4 of the Laois County development plan identify designated views and prospects. None are located in close proximity to the site and those that occur within the wider study area are oriented in the opposite direction to the site or they are outside of ZTV coverage.

Appendix H of the Kilkenny County Development Plan indicate *'views to be preserved and protected as well as areas of high amenity'*. There are two scenic routes shown in relatively close proximity to the proposed development site and although the viewing direction is indicated to be in the opposite direction, views are also afforded in the relevant direction. The two scenic routes are:

- V12 - Views overlooking Castlecomer and Ballyragget on the Castlecomer / Ballyragget Road R694 between its junctions with road nos. 1227 and 250m S.E. of road no. 1063;
- V19 - View west towards the Slieve Bloom Mountains on Road nos. 96 and 110 at the junctions with road nos. LS5839 and LS5846 (Ballymartin Cross Roads).

There are no relevant designated scenic views or scenic routes contained in either the Carlow or Kildare Development Plans.

### 8.2.4 Identification of Viewshed Reference Points as a Basis for Assessment

The results of the ZTV analysis provides the basis for selection of Viewshed Reference Points (VRP's), which are the locations used to study the landscape and visual impact of the proposed wind farm in detail. It is not warranted to include each and every location that provides a view of this development as this would result in an unwieldy report and make it extremely difficult to draw out the key impacts arising from the project. Instead, the assessors endeavoured to select a variety of location types that would provide views of the proposed wind farm from different distances, different angles and different contexts.

The visual impact of a proposed development is discussed using up to 6 categories of receptor type as listed below;

- Key Receptors - features of national or regional importance;
- Designated Scenic Routes and Views;
- Local Community views;
- Centres of Population;
- Major Routes;

- Amenity and heritage features.

Where a VRP might have been initially selected for more than one reason it will be assessed according to the primary criteria for which it was chosen. The characteristics of each receptor type vary as does the way in which the view is experienced. These are described below.

#### *8.2.4.1 Key Receptors*

These VRP's are at features or locations that are significant at the regional, national or even international level, typically in terms of heritage, recreation or tourism. They are locations that attract a significant number of viewers who are likely to be in a reflective or recreational frame of mind possibly increasing their appreciation of the landscape around them. The location of this receptor type is usually quite specific.

#### *8.2.4.2 Designated Scenic Routes and Views*

Due to their identification in the County Development Plan this type of VRP location represents a general policy consensus on locations of high scenic value within the Study Area. These are commonly elevated, long distance, panoramic views and may or may not be mapped from precise locations. They are more likely to be experienced by static viewers who seek out or stop to take in such vistas.

#### *8.2.4.3 Local Community Views*

This type of VRP represents those people that live and/or work in the locality of the wind farm, usually within a 5km radius of the site. Although the VRP's are generally located on local level roads they also represent similar views that may be available from adjacent houses. The precise location of this VRP type is not critical, however, clear elevated views are preferred, particularly when closely associated with a cluster of houses and representing their primary views. Coverage of a range of viewing angles using several VRP's is necessary in order to sample the spectrum of views that would be available from surrounding dwellings.

#### *8.2.4.4 Centres of Population*

VRP's are selected at centres of population primarily due to the number of viewers that are likely to experience that view. The relevance of the settlement is based on the significance of its size in terms of the Study Area or its proximity to the site. The VRP may be selected from any location within the public domain that provides a clear view either within the settlement or in close proximity to it.

#### *8.2.4.5 Major Routes*

These include national and regional level roads and rail lines and are relevant VRP locations due to the number of viewers potentially impacted by the proposed development. The precise location of this category of VRP is not critical and might be chosen anywhere along the route that provides clear views towards the proposal site, but with a preference towards close and/or elevated views. Major routes typically provide views experienced whilst in motion and these may be fleeting and intermittent depending on screening by intervening vegetation or buildings.

#### *8.2.4.6 Amenity and Heritage Features*

These views can be one and the same given that heritage locations are often important tourist and visitor destinations and amenity areas or walking routes are commonly designed to incorporate heritage features. Such locations or routes tend to be sensitive to development within the landscape as viewers are likely to be in a receptive frame of mind with respect to the landscape around them. The sensitivity of this type of visual receptor is strongly related to the number of visitors they might attract and, in the case of heritage features, whether these are discerning experts or lay tourists. Sensitivity is also heavily influenced by the experience of the viewer at a heritage site as distinct from simply the view of it. This is a complex phenomenon that is likely to be different for every site. Experiential considerations might relate to the sequential approach to a castle from the car park or the view from a hilltop monument reached after a demanding climb. It might also relate to the influence of

contemporary features within a key view and whether these detract from a sense of past times. It must also be noted that the sensitivity rating attributed to a heritage feature for the purposes of a landscape and visual assessment is not synonymous with its importance to the archaeological or architectural heritage record.

| <i>VRP No.</i> | <i>Location</i>                                  | <i>Direction of view</i> |
|----------------|--|--------------------------|
| DR1            | Cromwells Road                                   | NE                       |
| DR2            | R694 3.5km west of Castlecomer                   | N                        |
| CP1            | Ballyroan  | SSE                      |
| CP2            | Ballycolla                                       | E                        |
| CP3            | Ballinakill                                      | E                        |
| CP4            | Durrow   | E                        |
| CP5            | Clogh  | NW                       |
| CP6            | Castlecomer                                      | NNW                      |
| MR1            | M7 – R430 flyover                                | SE                       |
| MR2            | M7 at Reid Cross Roads                           | E                        |
| MR3            | N77 3km south of Durrow                          | ENE                      |
| MR4            | N80 1km west of Stradbally                       | SSW                      |
| MR5            | R426 2km north of Swan                           | W                        |
| MR6            | N78 at Crettyard                                 | NW                       |
| LC1            | Local road 2.5km northwest of the proposal site  | SE                       |
| LC2            | R430 1km north of the proposal site              | S                        |
| LC3            | Local road 1.5km southwest of the proposal site  | NE                       |
| LC4            | Local road 2.5km southeast of the proposal site  | NW                       |
| LC5            | Local road 1.05km north of the proposal site     | E                        |
| LC6            | Local road 0.13km west of the proposal site      | N                        |
| LC7            | Local road 0.61km east of the proposal site      | N+W                      |
| LC8            | Local road 0.16km southwest of the proposal site | W+SE                     |
| LC9            | Local road 0.32km southeast of the proposal site | S+E                      |

**Table 8.2: Outline Description of Selected Viewshed Reference Points**

## 8.3 Description of Likely Impacts

### 8.3.1 Assessment Criteria

When assessing the potential impacts on the landscape resulting from a wind farm development, the following criteria are considered:

- landscape character, value and sensitivity;
- Magnitude of likely impacts;
- Significance of landscape effects.

The sensitivity of the landscape to change is the degree to which a particular landscape receptor (Landscape Character Area (LCA) or feature) can accommodate changes or new features without unacceptable detrimental effects to its essential characteristics. Landscape Value and Sensitivity is classified using the following criteria;

| <i>Sensitivity</i> | <i>Description</i>  |
|--------------------|---|
| <b>Very High</b>   | Areas where the landscape character exhibits a very low capacity for change in the form of development. Examples of which are high value landscapes, protected at an international or national level (World Heritage Site/National Park), where the principal management objectives are likely to be protection of the existing character.  |
| <b>High</b>        | Areas where the landscape character exhibits a low capacity for change in the form of development. Examples of which are high value landscapes, protected at a national or regional level (Area of Outstanding Natural Beauty), where the principal management objectives are likely to be considered conservation of the existing character.   |
| <b>Medium</b>      | Areas where the landscape character exhibits some capacity and scope for development. Examples of which are landscapes which have a designation of protection at a county level or at non-designated local level where there is evidence of local value and use   |
| <b>Low</b>         | Areas where the landscape character exhibits a higher capacity for change from development. Typically this would include lower value, non-designated landscapes that may also have some elements or features of recognisable quality, where landscape management objectives include, enhancement, repair and restoration.   |
| <b>Negligible</b>  | Areas of landscape character that include derelict, mining, industrial land or are part of the urban fringe where there would be a reasonable capacity to embrace change or the capacity to include the development proposals. Management objectives in such areas could be focused on change, creation of landscape improvements and/or restoration to realise a higher landscape value. |

**Table 8.3: Landscape Character, Value and Sensitivity**

The magnitude of a predicted landscape impact is a product of the scale, extent or degree of change that is likely to be experienced as a result of the proposed development. The magnitude takes into account whether there is a direct physical impact resulting from the loss of landscape components, or a change that extends beyond the proposal site boundary that may have an effect on the landscape character of the area. The magnitude of landscape impacts is classified using the following criteria.

| <i>Magnitude of Impact</i> | <i>Description</i>  |
|----------------------------|---|
| <b>Very High</b>           | Change that would be large in extent and scale with the loss of critically important landscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that contribute to an overall change of the landscape in terms of character, value and quality. |
| <b>High</b>                | Change that would be more limited in extent and scale with the loss of important landscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that contribute to an overall change of the landscape in terms of character, value and quality.     |
| <b>Medium</b>              | Changes that are modest in extent and scale involving the loss of landscape characteristics or elements that may also involve the introduction of new uncharacteristic elements or features that would lead to changes in landscape character, and quality.   |
| <b>Low</b>                 | Changes affecting small areas of landscape character and quality, together with the loss of some less characteristic landscape elements or the addition of new features or elements.  |
| <b>Negligible</b>          | Changes affecting small or very restricted areas of landscape character. This may include the limited loss of some elements or the addition of some new features or elements that are characteristic of the existing landscape or are hardly perceivable.   |

**Table 8.4: Magnitude of Landscape Impacts**

*\*Note: This is an indicative structure and may at times need to be interpreted by the Landscape and Visual Consultant in order to qualify an ascribed result based on the specific conditions in an actual view.*

The significance of landscape impacts is based on a balance between the sensitivity of the landscape receptor and the magnitude of the impact. The significance of landscape impacts is arrived at using the following matrix:

| <i>Magnitude</i>  | <i>Sensitivity of Receptor</i> |                      |                      |                      |                      |
|-------------------|--------------------------------|----------------------|----------------------|----------------------|----------------------|
|                   | <i>Very High</i>               | <i>High</i>          | <i>Medium</i>        | <i>Low</i>           | <i>Negligible</i>    |
| <i>Very High</i>  | Profound                       | Profound-significant | Substantial          | Moderate             | Slight               |
| <i>High</i>       | Profound-significant           | Substantial          | Substantial-moderate | Moderate-slight      | Slight-imperceptible |
| <i>Medium</i>     | Substantial                    | Substantial-moderate | Moderate             | Slight               | Imperceptible        |
| <i>Low</i>        | Moderate                       | Moderate-slight      | Slight               | Slight-imperceptible | Imperceptible        |
| <i>Negligible</i> | Slight                         | Slight-imperceptible | Imperceptible        | Imperceptible        | Imperceptible        |

**Table 8.5: Landscape Impact Significance Matrix**

*\*Note: This is an indicative structure and may at times need to be interpreted by the Landscape and Visual Consultant in order to qualify an ascribed result based on the specific conditions in an actual view.*

*\*Note that potential beneficial landscape impacts are not accounted for in the tables and matrix above. This is on the basis that commercial scale wind energy projects are very unlikely to generate beneficial landscape impacts. In the rare instances that this might occur, perhaps by facilitating the rehabilitation of a degraded landscape, the benefits will be discussed in the assessment and the significance of impact would default to the lowest end of the range (negligible).*

### 8.3.2 Landscape Character, Value and Sensitivity

Effects on landscape character will be considered at both the localised scale of the site and its immediately surrounding landscape as well as the broader scale of the study area.

As described above, the landscape directly surrounding the site is that of rolling slopes in pastoral farming and commercial conifer plantations and small areas of reverting scrub. This is a productive rural area sparingly dotted with farmsteads and rural outbuildings. There is a strong degree of integrity to this landscape due to the small range of land uses and the consistent scale and pattern of fields, hedgerows and forest plantations. Notwithstanding, the landscape character is typical of well drained hilly farmland throughout the country and is not considered unique.

Within the wider study area there is a greater range of land uses and elements, which influence landscape character. The upland areas remain rural and are predominantly in pastoral farmland and with occasional forest plantations on higher slopes and ridges. Within the lowland valleys, fields of highly productive grassland and tillage are defined by mature tree lines and hedgerows with occasional patches of broadleaf woodland. Also contained within the lowland landscape are the more significantly sized settlements and major roads. Therefore, the lowland landscape has a greater intensity of strategic development and a more anthropogenic landscape character. Sites of rural industry such as the substantial scale Glanbia facility at Ballyragget also contribute to the sense of this being a highly productive rural landscape.

There currently is one other wind farms within the study area, namely, the 8 turbine Gortahile development located approximately 14km to the southeast. Whilst wind energy development is not an unfamiliar feature of the wider study area, it is not currently a characteristic feature. Given the separation distance, Gortahile wind farm is unlikely to influence the existing landscape character in the near vicinity of the proposal site.

On balance of the factors outlined above, the sensitivity of the receiving landscape is considered to be **low**.

### 8.3.3 Magnitude of Landscape Effects

The physical landscape as well as the character of the site and its immediate surrounds is affected by the proposed turbines as well as ancillary development such as access and circulation roads, areas of hard standing for the turbines, the permanent meteorological mast and the substation. By contrast, for the wider landscape of the study area, landscape impacts relate almost exclusively to the influence of the proposal on landscape character.

It is considered that the proposed wind farm development will have only a minor physical impact on landscape components within the site as none of the proposed development features (turbines, substation, anemometer mast, single circuit strain towers) have a significant 'footprint'. The topography of the site will remain largely unaltered with excavation being limited to establishment of access tracks and areas of hard standing for the turbines. Such excavation will tie into the existing ground levels and will be the minimum required for safe working. Any temporary stockpiles of material will be re-graded to marry into existing site levels. Similarly, the land cover of the site will only be interrupted as necessary to create tracks and areas of hard standing for the turbines. The

current mixture of low intensity land uses can continue below the wind turbines without significant disruption following the construction phase.

The principal landscape impact will be the change in character of the immediate area due to the introduction of large scale structures with moving components. The development will be a prominent landscape feature within the local landscape as would be the case for a commercial scale wind farm placed into almost any landscape context. This proposed development represents something of a new landscape element within the local landscape context, but not the wider landscape context of the study area. There is one existing wind farm within the study area at a distance ranging from 14km from the proposal site, which contributes to the landscape character to the southeast. Overall, it is not considered that the proposed wind farm will conflict with the character of this productive rural landscape and is consistent with emerging trends in such landscapes across the country.

A generally low level of site activity will occur during the operational phase of a wind farm development. Site activity will be at its greatest during the construction phase due to the operation of machinery on site and movement of heavy vehicles to and from site. This phase will have a more significant impact on the character of the site, but it is a temporary impact that will cease upon completion of the scheme (1-2 years). The intensity of site work during the construction phase is likely to be comparable to that of forest harvesting operations which take place periodically within the surrounding landscape.

It is important to note that in terms of duration, this wind farm proposal represents a long term, but not permanent impact on the landscape. The lifespan of the project is 25 years, after which time it will be dismantled and the landscape reinstated to prevailing conditions. In this respect a wind farm development has a fairly 'light footprint' on the landscape in comparison to a quarry or road development, for example. Within a couple of years of decommissioning there would be little evidence that a wind farm ever existed on the site.

In summary, the proposed development represents an increased intensity and scale of built development within the immediate landscape context. However, it does not represent an unfamiliar or unexpected form of development in this upland zone and is consistent with the productive qualities of this rural area. The landscape impact will be of a long term, but not permanent nature and will cease upon decommissioning of the development and restoration of the site with little to no enduring effects. On the basis of these reasons the magnitude of the landscape impact is considered to be **low**.

In accordance with the significance matrix (**Table 8.5**), a **low** sensitivity judgement coupled with an impact magnitude of **low** results in a **slight-imperceptible** significance of landscape impact.

#### 8.3.4 Predicted Visual Impacts

Assessment of the visual impact of the proposed development involves consideration of visual receptor sensitivity and then the visual magnitude of the proposal as viewed from each VRP. These are then used together in order to determine the Significance of Visual Impact.

##### 8.3.4.1 Visual Receptor Sensitivity

Visual receptors are human beings whose susceptibility to changes in views and visual amenity is dependent on their occupation or activity at the time of viewing i.e. hill walkers, dwelling occupants, commuters etc. However, this is only one aspect for determining visual receptor sensitivity, the other being the value associated with the particular view on offer. The value of a view may be estimated from, for example, Development Plan designations or highlighted in maps, guidebooks or literary references. Alternatively it may be implied by the clustering and orientation of dwellings or the provision of recreational infrastructure such as picnic benches. This two-sided approach, involving Receptor Susceptibility and Receptor Value, to determining Visual Receptor Sensitivity is presented in **Table 8.6** below.

| <i>VRP No.</i> | <i>Location</i>   | <i>Direction of view</i> |
|----------------|---|--------------------------|
| DR1            | Travellers on recognised scenic route   | High/medium              |
| DR2            | Travellers on recognised scenic route   | High/medium              |
| CP1            | Community where views do not contribute appreciably to the amenity of residents                 | Medium/low               |
| CP2            | Community where views do not contribute appreciably to the amenity of residents                 | Medium/low               |
| CP3            | Community where views play a modest part in the amenity of residents<br>Local residents at home | High/medium              |
| CP4            | Community where views do not contribute appreciably to the amenity of residents                 | Medium/low               |
| CP5            | Community where views do not contribute appreciably to the amenity of residents                 | Medium/low               |
| CP6            | Community where views do not contribute appreciably to the amenity of residents                 | Medium/low               |
| MR1            | Travellers on a Regional Road that does not have (R430)   | Medium/low               |
| MR2            | Travellers on a Third Class Road contiguous to R433   | Medium/low               |
| MR3            | Travellers on a major transport route that does not have (N77)                                  | Medium/low               |
| MR4            | Travellers on a major transport route that does not have (N80)                                  | Medium/low               |
| MR5            | Travellers on a Regional Road that does not have (R426)   | Medium/low               |
| MR6            | Travellers on a major transport route that does not have (N78)                                  | Medium/low               |
| LC1            | Local residents at home   | High                     |
| LC2            | Local residents at home   | High                     |
| LC3            | Local residents at home   | High                     |
| LC4            | Local residents at home   | High                     |
| LC5            | Local residents at home   | High                     |
| LC6            | Local residents at home   | High                     |
| LC7            | Local residents at home   | High                     |
| LC8            | Local residents at home   | High                     |

|      |                         |      |
|------|-------------------------|------|
| LC9  | Local residents at home | High |
| LC10 | Local residents at home | High |

**Table 8.6: Analysis of Visual Receptor Susceptibility at Viewshed Reference Points**

#### 8.3.4.2 Sensitivity of Visual Receptors

Unlike landscape sensitivity, the sensitivity of visual receptors has an anthropocentric basis. It considers factors such as the landscape context of the viewer, the likely activity they are engaged in and whether this heightens their awareness of the surrounding landscape. A list of the factors considered by MosArt in estimating the level of sensitivity for a particular visual receptor is outlined below and used in **Table 8.7** to establish visual receptor sensitivity at each VRP:

- **Recognised scenic value of the view** (County Development Plan designations, guidebooks, touring maps, postcards etc). These represent a consensus in terms of which scenic views and routes within an area are strongly valued by the population because in the case of County Developments Plans, at least, a public consultation process is required;
- **Views from within highly sensitive landscape areas.** Again, highly sensitive landscape designations are usually part of a county's Landscape Character Assessment, which is then incorporated with the County Development Plan and is therefore subject to the public consultation process. Viewers within such areas are likely to be highly attuned to the landscape around them;
- **Primary views from dwellings.** A proposed development might be seen from anywhere within a particular residential property with varying degrees of sensitivity. Therefore, this category is reserved for those instances in which the design of dwellings or housing estates, has been influenced by the desire to take in a particular view. This might involve the use of a slope or the specific orientation of a house and/or its internal social rooms and exterior spaces;
- **Intensity of use, popularity.** This relates to the number of viewers likely to experience a view on a regular basis and whether this is significant at a county or regional scale;
- **Viewer Engagement with the landscape.** This considers whether or not receptors are likely to be highly attuned to views of the landscape i.e. commuters hurriedly driving on busy national route versus hill walkers directly engaged with the landscape enjoying changing sequential views over it;
- **Provision of elevated panoramic views.** This relates to the extent of the view on offer and the tendency for receptors to become more receptive to the surrounding landscape at locations that afford broad vistas;
- **Sense of remoteness and/or tranquillity.** Receptors taking in a remote and tranquil scene, which is likely to be fairly static, are likely to be more receptive to changes in the view than those taking in the view of a busy street scene, for example;
- **Degree of perceived naturalness.** Where a view is valued for the sense of naturalness of the surrounding landscape it is likely to be highly sensitive to visual intrusion by distinctly manmade features;
- **Presence of striking or noteworthy features.** A view might be strongly valued because it contains a distinctive and memorable landscape feature such as a promontory headland, lough or castle;

- **Historical, cultural and / or spiritual significance.** Such attributes may be evident or sensed by receptors at certain viewing locations, which may attract visitors for the purposes of contemplation or reflection heightening the sense of their surroundings;
- **Rarity or uniqueness of the view.** This might include the noteworthy representativeness of a certain landscape type and considers whether the receptor could take in similar views anywhere in the broader region or the country;
- **Integrity of the landscape character.** This looks at the condition and intactness of the landscape in view and whether the landscape pattern is a regular one of few strongly related components or an irregular one containing a variety of disparate components;
- **Sense of place.** This considers whether there is special sense of wholeness and harmony at the viewing location;
- **Sense of awe.** This considers whether the view inspires an overwhelming sense of scale or the power of nature.

Those locations which are deemed to satisfy many of the above criteria are likely to be in the higher order of magnitude in terms of sensitivity and vice versa. No relative importance is inferred by the order of listing in **Table 8.7** below. Overall sensitivity may be a result of a number of these factors or, alternatively, a strong association with one or two in particular.

**8.3.4.3 Analysis of Visual Receptor Sensitivity at Viewshed Reference Points**

|  | Strong value | Moderate value | Mild value | Negligible value |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |
|--|--------------|----------------|------------|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|
|  | DR1          | DR2            | CP1        | CP2              | CP3 | CP4 | CP5 | CP6 | MR1 | MR2 | MR3 | MR4 | MR5 | MR6 | LC1 | LC2 | LC3 | LC4 | LC5 | LC6 | LC7 | LC8 | LC9 |   |
| <b>Visual Receptor Susceptibility to Change</b>    | H/M          | H/M            | M/L        | M/L              | H/M | M/L | H   | H   | H   | H   | H   | H   | H   | H   | H |
| <b>Visual Receptor Value</b>                       |              |                |            |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |
| Recognised scenic value of the view                |              |                |            |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |
| Views from within highly sensitive landscape areas |              |                |            |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |
| Intensity of use, popularity (number of viewers)   |              |                |            |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |
| Primary views from residences                      |              |                |            |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |
| Provision of vast, elevated panoramic views        |              |                |            |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |   |



dominant or highly dominant. For wind energy developments a strong visual presence is not necessarily synonymous with adverse impact as might be the case for a factory, a road or electricity pylons, for which the general consensus is likely to be almost wholly negative. Instead, the 2003 SEI funded survey of *'Attitudes Towards the Development of Wind Farms in Ireland'* found that *"wind farms are seen in a positive light compared to other utility-type structures that could be built on the landscape"*. Furthermore, a clear and comprehensive view of a wind farm might be preferable in many instances to a partial and confusing view of turbine components that are not so noticeable within a view.

The visual amenity aspect of assessing impact magnitude is qualitative, considering such factors as the spatial arrangement of turbines both within the scheme and compositionally in relation to surrounding terrain and land cover. It also examines whether the development contributes positively to the existing qualities of the vista or results in distracting visual effects and disharmony.

It should be noted that as a result of this two-sided analysis, a high order visual presence can be moderated by a low level of effect on visual amenity and vice versa. Given that wind turbines do not comprise significant bulk, visual impacts result almost entirely from visual 'intrusion' rather than visual 'obstruction' (the blocking of a view). The magnitude of visual impacts is classified in the **Table 8.8**.

| <i>Criteria</i>   | <i>Description</i>  |
|-------------------|---|
| <i>Very High</i>  | The proposal intrudes into a large proportion or critical part of the available vista and is without question the most noticeable element. A high degree of visual clutter or disharmony is also generated, strongly reducing the visual amenity of the scene   |
| <i>High</i>       | The proposal intrudes into a significant proportion or important part of the available vista and is one of the most noticeable elements. A considerable degree of visual clutter or disharmony is also likely to be generated, appreciably reducing the visual amenity of the scene   |
| <i>Medium</i>     | The proposal represents a moderate intrusion into the available vista, is a readily noticeable element and/or it may generate a degree of visual clutter or disharmony, thereby reducing the visual amenity of the scene. Alternatively, it may represent a balance of higher and lower order estimates in relation to visual presence and visual amenity |
| <i>Low</i>        | The proposal intrudes to a minor extent into the available vista and may not be noticed by a casual observer and/or the proposal would not have a marked effect on the visual amenity of the scene  |
| <i>Negligible</i> | The proposal would be barely discernible within the available vista and/or it would not detract from, and may even enhance, the visual amenity of the scene   |

**Table 8.8: Magnitude of Visual Impact**

The Planning Authority requested in 2015 that the LVIA include an assessment involving a double set of photomontages, one where turbines depicted with full frontal blade sets (perpendicular to the line of view) and the other where blade sets are seen to the side (aligned with the axis of viewing). Having examined each pair of photomontages, this landscape expert has made the following comparative evaluation.

The visual benefit of the full frontal is that the turbines are being viewed more completely in respect of peoples' image-based expectation and are more comprehensible functionally and aesthetically. This may, thus, improve the aesthetic relationship of the turbines to the landscape. However, blade sets must be considered in rotation and may be seen cutting the skyline and/or overlapping, possibly resulting in visual irritation and clutter. By comparison, in the case of the side view of the blade sets, whilst involving the full height of the turbines (tower and blade combined), there will be a tapering of the shaft with ascent. Also, where turbines overlap, there is much less likelihood of visual clutter or

irritation as the blade sets are not seen in rotation cutting against the skyline. However, the nacelle appears slightly awkward at the head of the shaft, without an actual function in relation to the blade set and eccentrically located.

This is certainly a useful methodological exploration but it can be reasonably argued that it does not necessarily add value to the LVIA as a critical assessment of possible impacts of the proposed wind farm, but rather complication. The reality in the field is that turbines are viewed in perspective and the more arced the view in plan, the more likely are turbines will be seen from different angles, i.e. partially frontal/partially side view. The closer the viewer is to the turbines, the more likely it is to be read in this way. Moreover, most viewers are likely to be in transit and, thus, experience continuing change in perspective obviating a pure frontal or side view. On balance, the conventional full frontal representation of turbines would probably prove the more critical basis for the visual assessment.

Commercial coniferous forest plantations are prevalent on the Castlecomer Plateau. The visual assessment using photomontages included in this LVIA study that involve such forestry focus on existing views but also indicate the effects where these forests are cleared. It must be emphasised that grant aided forests have traditionally be required under law to be replanted and, thus, it would seem that under normal circumstances forest cover will be a feature of the anticipated life of the proposed wind farm.

#### 8.3.4.4 Visual Impact Significance

As stated above, the significance of visual impacts is a function of visual receptor sensitivity and visual impact magnitude. This relationship is expressed in the following significance matrix (**Table 8.9**):

| <i>Magnitude</i>  | <i>Sensitivity of Receptor</i> |                      |                      |                      |                      |
|-------------------|--------------------------------|----------------------|----------------------|----------------------|----------------------|
|                   | <i>Very High</i>               | <i>High</i>          | <i>Medium</i>        | <i>Low</i>           | <i>Negligible</i>    |
| <i>Very High</i>  | Profound                       | Profound-significant | Substantial          | Moderate             | Slight               |
| <i>High</i>       | Profound-significant           | Substantial          | Substantial-moderate | Moderate-slight      | Slight-imperceptible |
| <i>Medium</i>     | Substantial                    | Substantial-moderate | Moderate             | Slight               | Imperceptible        |
| <i>Low</i>        | Moderate                       | Moderate-slight      | Slight               | Slight-imperceptible | Imperceptible        |
| <i>Negligible</i> | Slight                         | Slight-imperceptible | Imperceptible        | Imperceptible        | Imperceptible        |

**Table 8.9: Visual Impact Significance Matrix**

*\*Note: This is an indicative structure and may at times need to be interpreted by the Landscape and Visual Consultant in order to qualify an ascribed result based on the specific conditions in an actual view.*

#### 8.3.4.5 Estimation of Visual Impacts at VRPs

| <i>Viewshed Reference Point</i> |                | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|----------------|--------------------------|-------------------------------------|--|
| DR1                             | Cromwells Road | NE                       | 4.59km                              | 11   |

**Representative of:** A designated scenic view/route

**Receptor Sensitivity** **Medium**

**Existing View** This is an elevated panoramic vista over rolling farmland with intermittent blocks of commercial conifer forest. Hedgerows tend to be of a scrubby nature providing little visual containment. There are few landscape elements and the resultant rural pattern has a high degree of integrity. Whilst there is a sense of remoteness there is little sense of the naturalistic within this anthropogenic landscape.

**Visual Impact of Pinewoods Wind Farm** The proposed turbines are a prominent feature of the view and stand out as a distinctive element within the somewhat homogenous landscape pattern. In this broad open vista, the turbines are seen at a reasonable scale from this distance relative to context and are revealed to slightly differing degrees depending on whether they occur on the near or far side of the skyline ridge. In terms of visual presence, the proposal as viewed from here is deemed co-dominant.

Aesthetically speaking, the blades sets are seen in silhouette against the sky such that the wind farm is seen in a clear and comprehensible manner. There is a minor degree of overlapping and visual stacking between several of the turbines in perspective. Thematically, the turbines do not appear out of place in this upland vista across a productive rural landscape.

Due to the factors of visual presence and amenity outlined above the magnitude of the visual impact is deemed to be **medium**.

**Summary** Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Medium                      | Medium                  | <b>Moderate</b>               |

| <i>Viewshed Reference Point</i>    | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|------------------------------------|--------------------------|-------------------------------------|--|
| DR2 R694 3.5km west of Castlecomer | N                        | 6.53km                              | 11   |

**Representative of:** A designated scenic view/route

**Receptor Sensitivity** **Medium**

**Existing View** This is a vast elevated view from within the heart of Castlecomer Plateau. The vista contains gently rolling farmland and commercial forest plantations. Due to the plateau landscape and the low level of the scrubby hedgerows, the spatial character of the view is broad and open. A telecommunications mast is visible on

the ridgetop.

**Visual Impact of Pinewoods Wind Farm** The proposed turbines are seen at a modest but noticeable scale from this distance. As structures, they are a relatively distinctive feature in this landscape context, yet they nestle in between raised ground with conifer plantations to the right and higher ground also with conifer plantations to the left. Accordingly, they are deemed sub-dominant.

The turbines are viewed in silhouette above the skyline with the blade sets of two pairs of turbines overlapping that come close to visual stacking and three blade sets close to the skyline. These engender only a modicum of visual irritation due to the distance. The wind farm is generally seen in an unambiguous manner in approximate clusters along the ridge. Nevertheless, they read as a coherent development. The flanking ridges, noted above, create a subtle containment and accommodation of the proposed development in terms of overall composition of form.

On the basis of the reasons described above, the magnitude of the landscape impact is deemed to be **low**.

**Summary** Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Medium                      | Low                     | Slight                        |

| <i>Viewshed Reference Point</i> | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |        |    |
|---------------------------------|--------------------------|-------------------------------------|--|--------|----|
| CP1                             | Ballyroan                |                                     | SSE  | 7.02km | 11 |

**Representative of:**

- A settlement
- A recreational facility

**Receptor Sensitivity** **Medium**

**Existing View** This is an expansive view across the GAA grounds at Ballyroan. The landscape beyond is that of gently rolling pastoral fields and hedgerows. The southward vista is subtly contained by a series of low ridges of a similar height.

**Visual Impact of Pinewoods Wind Farm** Approximately half of the proposed turbines are partially revealed above the skyline between sections of intervening ridge-top vegetation. The remainder are largely obscured by the same vegetation, with only blades being seen. At this distance the visible turbine components are perceived at a relatively noticeable scale. On balance, however, the proposal is considered to be sub-dominant.

Aesthetically speaking, the partial view of turbine components rotating within skyline vegetation may engender a modicum of ambiguity, although at this distance and given the urban context, this is not likely to be critical.

On balance of the above factors of visual presence and visual amenity, the magnitude of the visual impact is considered to be **low**.

### Summary

Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Medium                      | Low                     | <b>Slight</b>                 |

| <i>Viewshed Reference Point</i> |            | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|------------|--------------------------|-------------------------------------|--|
| CP2                             | Ballycolla | E                        | 12.89km                             | 11   |

**Representative of:**

- A settlement
- A graveyard

**Receptor Sensitivity**      **Medium**

**Existing View**      This is a vast view over a broad and open landscape of farming and forestry cloaking gently undulating slopes. The foreground consists of a graveyard and there is some screening of the wider landscape by a hedgerow in the right hand foreground.

**Visual Impact of Pinewoods Wind Farm**      The proposed turbines are all fully displayed in silhouette above the distant skyline ridge. At this considerable distance these structures are seen at a relatively small scale. Furthermore, atmospheric perspective (the fading of distant objects) and the low level of contrast against the sky will make them readily noticeable only in clear viewing conditions. The visual presence of the wind farm is, therefore, deemed sub-dominant.

In terms of visual amenity, the proposed turbines are randomly spaced with few instances of turbine overlap. The layout is a linear one with a gently undulating profile and these attributes reflect the underlying ridge. The proposal is also considered to be well assimilated into this anthropogenic, rural landscape setting.

Overall, the magnitude of the visual impact is considered to be **low** based on the factors outlined above.

### Summary

Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Medium                      | Low                     | <b>Slight</b>                 |

| <i>Viewshed Reference Point</i> |  | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|--|--------------------------|-------------------------------------|--|
|---------------------------------|--|--------------------------|-------------------------------------|--|

|     |             |   |        |    |
|-----|-------------|---|--------|----|
| CP3 | Ballinakill | E | 3.68km | 11 |
|-----|-------------|---|--------|----|

- Representative of:**
- A settlement
  - A recreational resource

**Receptor Sensitivity**      **Medium**

**Existing View**      This is a relatively contained view from a housing estate in Ballinakill. In the immediate foreground is a pond and amenity area for residents. This is enclosed by a woodland area on the opposite side of the water body which is also responsible for containing the vista at a short distance.

**Visual Impact of Pinewoods Wind Farm**      The proposed turbines are clearly visible above the near wooded skyline and are seen at a relatively prominent scale from this distance. The lateral extent of the turbines also occupies a reasonable portion of the horizon in direct alignment with the pond which is the main focal point of this scene. Considering its proximity but also that fact that it is partially screened, the proposed wind farm is deemed co-dominant.

In terms of aesthetics the wind farm is relatively well presented with a linear layout and even profile that reflects the skyline. A minor degree of ambiguity occurs due to the complete screening of the landscape context within which the turbines are placed.

On balance of the considerations above the magnitude of the visual impact is deemed to be **medium**.

**Summary**      Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Medium                      | Medium                  | <b>Moderate</b>               |

| <i>Viewshed Reference Point</i> |        | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|--------|--------------------------|-------------------------------------|--|
| CP4                             | Durrow | E                        | 11.01km                             | 11   |

- Representative of:**
- A settlement

**Receptor Sensitivity**      **Medium**

**Existing View**      This is a westward view along the course of the Erkina River, which skirts the settlement of Durrow. Whist the ridge of the Castlecomer Plateau is intermittently visible from this bridge, mature river side trees in the foreground screen much of

the landscape beyond. Nonetheless, this location represents one of the only places with a potential view of the proposed wind farm from within the immediate vicinity of this settlement.

#### Visual Impact of Pinewoods Wind Farm

The proposed turbines are visible standing on the skyline ridge, viewed along the road axis. Notwithstanding, at this distance of over 11km they are not particularly visually striking, especially as viewed from an urban context with its many and diverse elements. The visual presence of the scheme is considered to sub-dominant within this vista.

The wind farm is legible as an entity, without ambiguity due to partial exposure that can engender visual tension. A modicum of visual tension results from four turbines partially overlapping, although this is mitigated by the viewing distance. The proposed wind farm is consistent with the urban and productive character of this scene.

For the reasons outlined above the magnitude of the visual impact is deemed **low**.

#### Summary

Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Medium                      | Low                     | <b>Slight</b>                 |

| <i>Viewshed Reference Point</i> |       | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|-------|--------------------------|-------------------------------------|--|
| CP5                             | Clogh | NW                       | 5.20km                              | 11   |

**Representative of:**

- A settlement
- A graveyard (place of reflection)

**Receptor Sensitivity**      **Medium**

**Existing View**      This is an expansive view across the gently undulating plateau landscape of the central study area. As with CP2 the immediate context is a graveyard with farmland beyond. This consists of large pastoral fields with generally low scrubby hedgerows between.

**Visual Impact of Pinewoods Wind Farm**      Most of the proposed turbines are partially visible standing on the skyline ridge, whilst some flanking turbines are screened behind hedgerows. The array of headstones standing in and dominating the immediate foreground create a certain visual absorption capacity. On balance, the visual presence of the scheme

is considered to be sub-dominant.

Whilst the blade sets are mostly legible, a certain ambiguity is engendered due to partial screening of the shafts. Also, a modicum of visual tension results from two turbines partially overlapping, although it is negligible at this viewing distance. However, the proposed wind farm is consistent with the anthropogenic and productive character of this scene.

Based on the factors of visual presence and visual amenity described above, the magnitude of the visual impact is deemed to be **low**.

### Summary

Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Medium                      | Low                     | <b>Slight</b>                 |

| <i>Viewshed Reference Point</i> |             | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|-------------|--------------------------|-------------------------------------|--|
| CP6                             | Castlecomer | NNW                      | 8.44km                              | 11   |

### Representative of:

- A settlement

### Receptor Sensitivity

**Medium**

### Existing View

The descending foreground of this vista is mostly screened by the roadside hedgerow, but in the distance a mosaic field pattern on the more distant slopes of the Castlecomer Plateau can be seen. The relatively extensive vista is then subtly contained by the gently undulating ridge that marks the edge of the plateau.

### Visual Impact of Pinewoods Wind Farm

The proposed turbines will be faintly visible in silhouette above the distant skyline. Although the scheme represents a reasonable lateral extent along the ridge, the individual turbines are seen at a small scale from this distance. As a result, the visual presence of the development is deemed to be in the order of minimal to sub-dominant within this vista.

In terms of aesthetics, the proposed turbines are perceived to be arranged in a clustered linear layout. This is appropriate to both the linear nature of the underlying landform and informal land use pattern.

Overall the magnitude of the visual impact is deemed to be **low**.

**Summary** Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Medium                      | Low                     | <b>Slight</b>                 |

| <i>Viewshed Reference Point</i> |                   | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|-------------------|--------------------------|-------------------------------------|--|
| MR1                             | M7 – R430 flyover | SE                       | 16.17km                             | 11   |

**Representative of:**

- An intersection of major routes

**Receptor Sensitivity** **Low**

**Existing View** This is a slightly elevated and broadly panoramic vista over a flat lowland context. The foreground is dominated by the road infrastructure and embankments associated with the M7 motorway passing over the R430 regional road. Beyond lies a fertile landscape of pasture and tillage defined by mature hedgerows that become stacked in perspective forming a band of vegetation across the middle ground of the vista. The view is contained in the distance by the long, low profile of the Castlecomer Plateau ridgeline.

**Visual Impact of Pinewoods Wind Farm** Due to their small perceived scale at this considerable distance and the effects of atmospheric perspective, the proposed turbines will be only faintly visible above the skyline ridge in clear viewing conditions. The lateral extent of the scheme is considerable, but in the context of the broad ridgeline and the overall extent of the vista the visual presence is deemed minimal.

In terms of visual amenity, the scheme is viewed in a linear arrangement along the ridgeline. The turbines are subtly closer in spacing towards the perimeters and more open around the centre, thus creating a balanced composition. Moreover, the correspondence of the wind farm array to a low rising ridge also engenders a compositional balance in the broader landscape context.

For the above reasons the magnitude of the visual impact is considered to be **negligible**.

**Summary** Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
|-----------------------------|-------------------------|-------------------------------|

|     |            |                      |
|-----|------------|----------------------|
| Low | Negligible | <b>Imperceptible</b> |
|-----|------------|----------------------|

| <i>Viewshed Reference Point</i> |                        | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|------------------------|--------------------------|-------------------------------------|--|
| MR2                             | M7 at Reid Cross Roads | E                        | 8.54km                              | 11   |

**Representative of:**

- An intersection of major routes

**Receptor Sensitivity**

**Low**

**Existing View**

This vista is remarkably similar to that described in relation to MR1 above. The only minor distinction is the presence of a mature forest plantation at the right hand side of the near middle ground of the view which partially screens the Castlecomer Plateau ridgeline.

**Visual Impact of Pinewoods Wind Farm**

The view of the proposed wind farm is also very similar to that described for MR1, although the roads, fences and buildings in the foreground increase the visual absorption capacity of the landscape. Accordingly, the magnitude of the visual impact is also deemed **negligible**.

**Summary**

Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | <b>Significance of Visual Impact</b> |
|-----------------------------|-------------------------|--------------------------------------|
| Low                         | Negligible              | <b>Imperceptible</b>                 |

| <i>Viewshed Reference Point</i> |                         | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|-------------------------|--------------------------|-------------------------------------|--|
| MR3                             | N77 3km south of Durrow | ENE                      | 9.35km                              | 11   |

**Representative of:**

- A national secondary route

**Receptor Sensitivity**

**Low**

**Existing View**

This is a slightly elevated vista towards the Castlecomer Plateau from the opposite side of the Nore River Valley. The foreground of this expansive view is occupied by a large tillage field with a patchwork of pastoral fields and forest blocks occurring on the slopes beyond. The ridgeline of the Castlecomer Plateau declines gently from right to left (south to north) across the view.

**Visual Impact of Pinewoods Wind**

The proposed scheme is seen to straddle the skyline ridge with some turbines fully revealed on the nearside and others partially screened on the far side. The

**Farm** turbines are seen at a modest but noticeable scale from this distance and, although the lateral extent of the scheme is considerable, it occupies only a small portion of the visible ridge. As a result the proposal is considered to be sub-dominant in terms of visual presence.

Even though some of the turbines are partially screened, all of the blade sets rotate freely above the skyline ridge in a clear and comprehensible manner. Nevertheless, there are some minor instances of turbine overlap, some of which come close to visual stacking, but the undulating profile accords with the underlying ridge and also the viewing distance proves a mitigating factor. Thematically, the wind farm complements the productive nature of the rural landscape in view.

Overall, the magnitude of the visual impact is judged to be low.

**Summary** Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Low                         | Low                     | Slight Imperceptible          |

| <i>Viewshed Reference Point</i> |                            | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|----------------------------|--------------------------|-------------------------------------|--|
| MR4                             | N80 1km west of Stradbally | SSW                      | 8.13km                              | 11   |

**Representative of:**

- A national secondary road

**Receptor Sensitivity** **Low**

**Existing View** This is a vast vista from a slightly elevated section of the N80 just outside the settlement of Stradbally. The southerly vista takes in a landscape context of rolling lowland farmland contained in the distance by a series of low ridges. The most prominent feature of the view is a line of large electricity pylons and associated cables that emerge from the left (northeast) in close proximity to the viewer and diminish in scale as they cross the view to the right (southwest).

**Visual Impact of Pinewoods Wind Farm** The proposed turbines will be faintly visible above a distant section of the skyline ridge. Due to the small perceived scale of the turbines and the effects of atmospheric perspective, they are likely to be a noticeable feature of the vista only in the clearest viewing conditions. Furthermore, the line of electricity pylons crossing the foreground create a substantial visual absorption capacity and tend to draw attention to themselves to a much greater degree. Consequently, the visual presence of the turbines is deemed minimal.

In its own right the proposed scheme is relatively well presented in a clustered linear arrangement above the distant skyline. However, the turbines will be seen between the electricity transmission wires and in close association with their supporting pylons when viewed in perspective. This tends to engender a degree of visual clutter that is ameliorated somewhat by the low order visual presence of

the wind farm.

On balance of the above reasons the magnitude of the visual impact is deemed to be **low**.

### Summary

Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Low                         | Low                     | <b>Slight-imperceptible</b>   |

| <i>Viewshed Reference Point</i> |                        | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|------------------------|--------------------------|-------------------------------------|--|
| MR5                             | R426 2km north of Swan | W                        | 4.08km                              | 11   |

- Representative of:**
- A regional road
  - Local Community Views

**Receptor Sensitivity**      **Low**

**Existing View**      This is broadly open vista across the gently undulating plateau landscape of the central study area. The network of large fields supports marginal pasture and they are defined by low scrubby hedgerows. Conifer plantations are also prevalent in this vista. There is no distant containment to this vista beyond the edge of the plateau.

**Visual Impact of Pinewoods Wind Farm**      The proposed turbines are perched on the edge of the plateau and are viewed in silhouette against the sky. At this distance the turbines are seen at a noticeable scale and will be a distinctive feature in the context of the fairly homogenous surrounding landscape pattern. On the basis of these reasons, the visual presence is deemed to be co-dominant.

There are three instances of turbine overlap with one instance of visual stacking and with the four centre-most turbines involving the blade sets crossing one another. These are not considered to be critical given the viewing distance and the likelihood of viewers travelling at speed along the road and so having varying views. The clustered linear arrangement and mildly undulating profile of the scheme accords with the underlying ridge and the informal network of fields in the foreground. Despite its near proximity, the proposal is not considered to dominate the scale of surrounding landscape elements and patterns.

Overall the magnitude of the visual impact is considered to be **medium**.

### Summary

Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
|-----------------------------|-------------------------|-------------------------------|

|     |        |        |
|-----|--------|--------|
| Low | Medium | Slight |
|-----|--------|--------|

| <i>Viewshed Reference Point</i> |                  | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|------------------|--------------------------|-------------------------------------|--|
| MR6                             | N78 at Crettyard | NW                       | 7.85km                              | 11   |

**Representative of:**

- A national secondary road

**Receptor Sensitivity**

**Low**

**Existing View**

This is a panoramic vista towards the Caslecomer Plateau on the opposite side of the broad Dinin River Valley. The shallow valley is cloaked in a land cover of fields and hedgerows with some forest plantations on the opposing slopes.

**Visual Impact of Pinewoods Wind Farm**

The proposed turbines are seen at a noticeable scale from this distance and will be a distinctive feature in this fairly homogenous landscape context. Within this broadly panoramic vista the scheme is considered to be co-dominant in terms of visual presence.

The turbines are seen in a comprehensible manner above the skyline ridge in loose linear arrangement that accords with the underlying terrain and land cover pattern. There is one instance of visual stacking of blade sets. The spacing of turbines relaxes slightly towards the middle and tightens at the peripheries, so creating a relatively balanced composition.

Overall the magnitude of the visual impact is considered to be **low**.

**Summary**

Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Low                         | Low                     | <b>Slight-imperceptible</b>   |

| <i>Viewshed Reference Point</i> |  | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|--|--------------------------|-------------------------------------|--|
| LC1                             | Local road to the northwest of the proposal site | SE                       | 2.54                                | 11   |

**Representative of:**

- Views from local roads and dwellings to the northwest of the proposal

**Receptor Sensitivity**

**Medium**

**Existing View**

This is a relatively confined view across an upland valley. The land cover consists

of fields and mature hedgerows with patches of broadleaf woodland in the base of the valley. The pastoral fields on higher slopes and ridges are noticeably larger than those on lower slopes and the scrubby hedgerows that define them provide less enclosure.

### Visual Impact of Pinewoods Wind Farm

The proposed turbines are seen at a considerable scale from this distance and the scheme occupies a significant section of the opposing ridgeline. In this somewhat contained vista the turbines will be the most noticeable feature and thus, the visual presence is deemed to be dominant.

Although the scale of the turbines and the lateral extent of the development is considerable, there is little sense that the scheme conflicts with the elements of the surrounding terrain or landscape patterns in terms of scale. The turbines are seen in an unambiguous manner with blade sets rotating freely above the skyline and the undulating profile of the scheme compliments the rolling terrain. However, the turbines will increase the intensity of built development in this relatively undeveloped rural setting.

On balance of the above reasons the visual impact magnitude is deemed to be **high**.

### Summary

Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Medium                      | High                    | Substantial-moderate          |

| <i>Viewshed Reference Point</i> |  | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|--|--------------------------|-------------------------------------|--|
| LC2                             | R430 to the north of the proposal site | S                        | 1.34km                              | 8  |

**Representative of:**

- A regional road
- Views from local roads and dwellings to the north of the proposal

**Receptor Sensitivity**      **Medium**

**Existing View**      This is a relatively contained and slightly uphill view across the farmed landscape that surrounds the site. The foreground hedgerows on the lower slope tend to be more mature than the scrubby hedgerows nearer the skyline ridge. A band of woodland can also be seen to the right hand side of the depicted view.

**Visual Impact of Pinewoods Wind Farm**      The nearest of the proposed turbines is fully revealed above the skyline ridge, whereas the more distant turbines are fully or partially screened from view by the ridge and ridge-top vegetation. This is due to the alignment of the view with the linear arrangement of the scheme. Thus, the lateral extent of the scheme is perceived from here to be relatively limited. The visual presence of the proposal is deemed to be dominant.

The alignment of this view with the wind farm layout results in some visual ambiguity with all of the turbines overlapping each other and a couple of blade

sets rotating against the vegetated ridgeline. The scale differential between the nearest and furthest turbines produces some sense of perspective or depth separation of the turbines, which somewhat ameliorates the visual confusion caused by overlapping. Due to the screening of part of the development and its relatively modest lateral extent, the wind farm does not dominate the setting in terms of scale. Whilst the overall intensity of built development is perceived to increase, the turbines do not appear out of place in this productive rural setting.

For the reasons outlined above the magnitude of the visual impact is deemed to be **medium**.

### Summary

Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Medium                      | Medium                  | <b>Moderate</b>               |

| <i>Viewshed Reference Point</i> |  | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|--|--------------------------|-------------------------------------|--|
| LC3                             | Local road to the southwest of the proposal site | NE                       | 2.03km                              | 11   |

**Representative of:**

- Views from local roads and dwellings to the southwest of the proposal

**Receptor Sensitivity**      **Medium**

**Existing View**      This is a reasonably extensive view across the rolling upland plateau near the centre of the study area. The land cover consists of rough grazing and scrub in the foreground, fields hedgerows and patches of woodland across the middle ground and a mixture of farming and commercial forest plantations on the more distant slopes and ridgeline.

**Visual Impact of Pinewoods Wind Farm**      The proposed turbines are seen at a considerable scale from this short distance with varying degrees of exposure above the skyline ridge. The proposed wind farm will be the most distinctive singular feature in this landscape, which otherwise tends to be read as a rural pattern rather than individual elements. The turbines are perceived from this viewpoint as a compact group. In terms of visual presence the scheme is considered to be dominant within the vista.

Aesthetically, the turbines are presented to the viewer in an unambiguous manner in silhouette above the skyline. However, there are several instances of turbine overlap and blade sets cutting the skyline. From this angle and in such close proximity, the scheme is perceived to have a clustered rather than linear layout. This is not inappropriate in this undulating and informally patterned landscape.

Overall the magnitude of the visual impact is deemed **medium**.

**Summary** Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Medium                      | Medium                  | <b>Moderate</b>               |

| <i>Viewshed Reference Point</i> |  | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|--|--------------------------|-------------------------------------|--|
| LC4                             | Local road to the southeast of the proposal site | NW                       | 2.41km                              | 11   |

**Representative of:**

- Views from local roads and dwellings to the southeast of the proposal

**Receptor Sensitivity** **Medium**

**Existing View** The flat to mildly undulating landscape in this view is typical of the Castlecomer Plateau. So too is the combination of marginal and good quality pastures defined by hedgerows and patches of scrubby woodland. Conifer plantations are also prevalent within this view.

**Visual Impact of Pinewoods Wind Farm** The lower portions of the turbines tend to be screened by intervening terrain and vegetation which serves to diminish their relative scale over what is a relatively short viewing distance. The scheme has a considerable lateral extent and occupies much of the visible skyline ridge. However, the three turbines comprising the left hand cluster are substantially screened, thus reducing the perceived width of the development. The two turbines furthest to the right come close to creating a visual stacking effect. In this context the proposal is considered to have a dominant visual presence.

The perceived layout of the scheme, which varies between loosely linear and tightly clustered, may cause some visual ambiguity. There are also several instances of blades rotating on the skyline. The scale of the development is not excessive in the context of the broad nature of the surrounding terrain and land cover patterns. The proposed wind farm also fits well with the anthropogenic rural character of the view.

For the above reasons the magnitude of the visual impact is deemed to be **medium**.

**Summary** Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Medium                      | Medium                  | <b>Moderate</b>               |

| <i>Viewshed Reference Point</i> |   | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|---|--------------------------|-------------------------------------|--|
| LC5                             | Local road to west of the proposal site | E                        | 1.05km                              | 10   |

**Representative of:**

- Views from local roads and dwellings to the west of the proposal

**Receptor Sensitivity**      **Medium**

**Existing View**      This area comprises an undulating landscape that is part of the Castlecomer Plateau. It comprises marginal and good quality pastures defined by hedgerows and patches of scrubby woodland.

**Visual Impact of Pinewoods Wind Farm**      The lower portions of the turbines tend to be screened by intervening hill-top terrain and vegetation which to some extent diminishes the perceived scale of the turbines. The scheme has a considerable lateral extent and occupies much of the visible skyline ridge. Given the relative proximity of turbines to viewer and their visual exposure, the proposal is considered to have a dominant visual presence.

The fact that turbines are only partially visible may engender some visual ambiguity, although the majority of blade sets are visible above the hill-top. Whilst there is some correspondence in scale between the development and the surrounding terrain and land cover patterns as well as thematically in terms of the anthropogenic rural character of the view, the turbines will increase the intensity of built development in this relatively undeveloped rural setting.

For the above reasons the magnitude of the visual impact is deemed to be **high**.

**Summary**      Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Medium                      | Medium                  | <b>Moderate</b>               |

| <i>Viewshed Reference Point</i> |  | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|--|--------------------------|-------------------------------------|--|
| LC6                             | Local road to south of the proposal site | N                        | 1.29km                              | 11   |

**Representative of:**

- Views from local roads and dwellings to the south of the proposal

**Receptor Sensitivity**      **Medium**

**Existing View**      The location is typical of that part of the Castlecomer Plateau given to commercial forestry. Conifer plantations are also prevalent within this view.

### Visual Impact of Pinewoods Wind Farm

The dense evergreen forests severely curtail visibility, effectively limiting it to the immediate foreground and along straight forest roads. On this basis and considering the viewing distance to the proposed wind farm, visual presence is deemed not to exist.

*Should the forest be temporarily cleared, the visual presence would be deemed, at worst, minimal. Note that most commercial plantations are typically required under law to be re-planted.*

Due to the obscuring of the proposed wind farm, the visual impact is rendered **negligible**.

*Judging by the wireframe rendering, this is unlikely to be different in the event of the forest being temporarily cleared, as some vegetation will remain on the crest of the hill.*

### Summary

Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Medium                      | Negligible              | <b>Imperceptible</b>          |

| Viewshed Reference Point |   | Direction of View | Distance to nearest turbine: | Number of turbine nacelles visible: |
|--------------------------|---|-------------------|------------------------------|-------------------------------------|
| LC7                      | Local road to east and south of the proposal site | N+W               | 0.61km                       | 11                                  |

**Representative of:**

- Views from local roads and dwellings to the east and south of the proposal

**Receptor Sensitivity**      **Medium**

**Existing View**      The location is typical of that part of the Castlecomer Plateau given to commercial forestry. Conifer plantations are also prevalent within this view.

**Visual Impact of Pinewoods Wind Farm**      The lower portions of the turbines tend to be screened by intervening forest cover, leaving some blade sets visible. Whilst this screening tends to reduce the visual presence, the turbines are relatively close to the viewer. On balance, though, the proposal is considered to have a co-dominant visual presence.

*This would change to dominant in the case of temporary forest clearance.*

The fact that three, maybe, four, blade sets cut the skyline created by the forest block should not prove particularly problematic in this context of commercial forestry activity. The road type suggests little use other than for utilitarian purposes, such as farming or forestry.

For the above reasons the magnitude of the visual impact is deemed to be

**medium.**

*This would change to high in the case of temporary forest clearance.*

### Summary

Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Medium                      | Medium                  | <b>Moderate</b>               |

| Viewshed Reference Point |   | Direction of View | Distance to nearest turbine: | Number of turbine nacelles visible: |
|--------------------------|---|-------------------|------------------------------|-------------------------------------|
| LC8                      | Local road to east and northeast of the proposal site | W+SW              | 0.16km                       | 11                                  |

**Representative of:**

- Views from local roads and dwellings to the east and northeast of the proposal

**Receptor Sensitivity**      **Medium**

**Existing View**      The location is typical of that part of the Castlecomer Plateau given to both farming and commercial forestry. Conifer plantations and a sense of their commercial use are prevalent within this view. Fields, interspersed among the forest blocks, are used for pasture.

**Visual Impact of Pinewoods Wind Farm**      Some of the lower portions of the turbines are screened by intervening forest blocks. As viewed presently, the scheme is relatively contained. However, one turbine stands particularly close to the viewer and another (to the left) relatively close. Thus, the proposal is considered to have a highly-dominant visual presence.

*Should the forest block be temporarily cleared, another turbine would be fully visible to the right of the view.*

Although some visual ambiguity can result from the partial screening of some turbines, the scheme overall is comprehensible in perspective. There are also several instances of blade sets rotating on the skyline. In terms of functionality, there is a thematic relationship between the commercial landuse activities of this context, reflected by the strongly anthropogenic character involving commercial forestry, and that of the proposed development.

For the above reasons the magnitude of the visual impact is deemed to be **high**.

### Summary

Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Medium                      | High                    | <b>Substantial-moderate</b>   |

| <i>Viewshed Reference Point</i> |   | <i>Direction of View</i> | <i>Distance to nearest turbine:</i> | <i>Number of turbine nacelles visible:</i> |
|---------------------------------|---|--------------------------|-------------------------------------|--|
| LC9                             | Local road to west and north of the proposal site | S+E                      | 0.32km                              | 11   |

**Representative of:**

- Views from local roads and dwellings to the west and north of the proposal

**Receptor Sensitivity****Medium****Existing View**

The flat to mildly undulating landscape in this view is typical of the Castlecomer Plateau. So too is the combination of marginal and good quality pastures defined by hedgerows and patches of scrubby woodland. Conifer plantations are also prevalent within this view.

**Visual Impact of Pinewoods Wind Farm**

The lower portions of the turbines tend to be screened by intervening forest blocks. The proposed wind farm occupies much of the visible skyline ridge, with one turbine (no. 4) standing in relatively close proximity to the viewer. On balance, the proposal is considered to have a dominant visual presence.

The perceived layout of the scheme may cause some visual ambiguity due to the partial screening of turbines and variations in height. Most of the blade sets, however, are seen above the skyline. In general, the scale of the development is not excessive in the context of the broad nature of the surrounding terrain and land cover patterns. There is a certain thematically functional relationship between it and the utilitarian context involving both commercial forestry and agriculture.

Notwithstanding, the magnitude of the visual impact is deemed to be **high**.

**Summary**

Based on the assessment criteria and matrices outlined in section 8.9 the significance of visual impact is summarised below.

| Visual Receptor Sensitivity | Visual Impact Magnitude | Significance of Visual Impact |
|-----------------------------|-------------------------|-------------------------------|
| Medium                      | High                    | <b>Substantial-moderate</b>   |

**8.3.5 Cumulative Impacts**

The Scottish Natural Heritage (SNH) Guidelines relating to the Cumulative Effects of Wind Farms (2005) identify that cumulative impacts on visual amenity consist of combined visibility and sequential effects.

*‘Combined visibility occurs where the observer is able to see two or more developments from one viewpoint. Combined visibility may either be in combination (where several wind farms are within the observer’s arc of vision at the same time) or in succession (where the observer has to turn to see the various wind farms).*

*Sequential effects occur when the observer has to move to another viewpoint to see different developments. The occurrence of sequential effects may range from frequently sequential (the features*

*appear regularly and with short time lapses between, depending on speed of travel and distance between the viewpoints) to occasionally sequential (long time lapses between appearances, because the observer is moving very slowly and / or there are large distances between the viewpoints.)'*

Cumulative impacts of wind farms tend to be adverse rather than positive as they relate to the introduction of further moving manmade structures within a landscape and viewing context. Based on guidance contained within the SNH Guidelines relating to the Cumulative Effects of Wind Farms (2005) and the DoEHLG Wind Energy Guidelines (2006) cumulative impacts can be experienced in a variety of ways. In terms of landscape character, additional wind energy developments might contribute to an increasing sense of proliferation. A new wind farm might also contribute to a sense of being surrounded by turbines with little relief from the view of them. The term 'skylining' is used in the SNH Guidelines to describe the effect where *"an existing windfarm is already prominent on a skyline the introduction of additional structures along the horizon may result in development that is proportionally dominant. The proportion of developed to non-developed skyline is therefore an important landscape consideration"*.

In terms of visual amenity, there is a range of ways in which an additional wind farm might generate visual conflict and disharmony in relation to other wind energy developments. Some of the most common include visual tension caused by disparate extent, scale or layout of neighbouring developments. A sense of visual ambivalence might also be caused by adjacent developments traversing different landscape types. Turbines from a proposed wind farm that are seen stacked in perspective against the turbines of nearer or further developments tend to cause visual clutter and confusion. Such effects are exacerbated when, for example, the more distant turbines are larger than the nearer ones and the sense of distance is also distorted. **Table 8.10** below provides criteria for assessing the magnitude of cumulative impacts.

| <i>Magnitude of Impact</i> | <i>Description</i>   |
|----------------------------|--|
| <b>Very High</b>           | <p>The proposed wind farm will strongly contribute to wind energy development being the defining element of the surrounding landscape.</p> <p>It will strongly contribute to a sense of wind farm proliferation and being surrounded by wind energy development.</p> <p>Strongly adverse visual effects will be generated by the proposed turbines in relation to other turbines.</p>          |
| <b>High</b>                | <p>The proposed wind farm will contribute significantly to wind energy development being a defining element of the surrounding landscape.</p> <p>It will contribute to a significant sense of wind farm proliferation and being surrounded by wind energy development.</p> <p>Significant adverse visual effects will be generated by the proposed turbines in relation to other turbines.</p> |
| <b>Medium</b>              | <p>The proposed wind farm will contribute to wind energy development being a characteristic element of the surrounding landscape.</p> <p>It will contribute to a sense of wind farm accumulation and dissemination.</p> <p>Adverse visual effects might be generated by the proposed turbines in relation to other turbines.</p>   |
| <b>Low</b>                 | <p>The proposed wind farm will be one of only a few wind farms in the surrounding area and will viewed in isolation from most receptors.</p> <p>It might contribute wind farm development becoming a familiar feature within the</p>   |

|                   |   |
|-------------------|---|
|                   | <p>study area.</p> <p>The design characteristics of the proposed wind farm accord with other schemes within the surrounding landscape and adverse visual effects are not likely to occur in relation to these.</p>  |
| <b>Negligible</b> | <p>The proposed wind farm will most often be viewed in isolation or occasionally in conjunction with other distant wind energy developments.</p> <p>Wind energy development will remain an uncommon landscape feature.</p> <p>No adverse visual effects will be generated by the proposed turbines in relation to other turbines.</p> |

**Table 8.10: Magnitude of cumulative impact**

### 8.3.5.1 Cumulative Baseline

There is one existing wind farm and two permitted wind farms within the study area. These are outlined in **Table 8.11** below.

| <i>Wind Farm</i> | <i>Status</i> | <i>No. of turbines</i> | <i>Location relative to proposal</i> |
|------------------|---------------|------------------------|--------------------------------------|
| Gortahile        | Constructed   | 8                      | 14km southeast                       |
| Kilcarrig        | Consented     | 5                      | 17km southeast                       |
| Lisdowney        | Consented     | 4                      | 17km southwest                       |
| Cullenagh        | Consented     | 18                     | 8km north                            |

**Table 8.11: Existing and permitted wind farms within the study area**

*\*Note: A single turbine development at Knocklead, Timahoe is currently the subject of a planning application to Laois County Council (Register Reference 15/401).*

### 8.3.5.2 Department of Environment, Heritage and Local Government (DoEHLG) 'Wind Energy Development Guidelines' (2006)

The DoEHLG guidelines provide direction on wind farm siting and design criteria for a number of different landscape types. This proposal site is considered to be contained within the 'Hilly and Flat Farmland' landscape type and the guidance with respect to cumulative impact in such areas is:

*"It is important that wind energy development is never perceived to visually dominate. However, given that these landscapes comprise hedgerows and often hills, and that views across the landscape will likely be intermittent and partially obscured, visibility of two or more wind energy developments is usually acceptable".*

### 8.3.5.3 Cumulative Zone of Theoretical Visibility

The resultant cumulative ZTV map indicates that;

- There is a vast array of visibility and intervisibility scenarios between the proposed development and the other existing and permitted wind farms due to the nature of the terrain and the wide dispersal of these schemes;
- The proposal would be extensively visible in combination with the consented Lisdowney Wind Farm from the northwest quadrant of the study area;
- The proposal is extensively visible in combination with the constructed Gortahile and consented Kilcarrig Wind Farms from the inner south-eastern quadrant of the study area;
- The proposal is extensively visible in combination with the consented Cullenagh Wind Farm from the inner core of the study area and over the north-western quadrant;

- Intervisibility between the proposal and the Lisdowney and Gortahile/Kilcarrig clusters tends to occur to the outer northwest, outer southwest and outer southeast portions of the study area. In reality atmospheric perspective (fading of distant objects as well as vegetative screening would heavily reduce the potential for intervisibility between these projects. Besides the northwestern quadrant in relation to Cullenagh, intervisibility is evident theoretically around the central portion of the study area.

**Table 8:12** identifies the characteristics of the cumulative view of wind farms from each of the VRP's, based primarily upon the photomontages but also referring to mapped analyses in respect of the possibility of sequential views of different developments moving along contiguous roads.

| <i>VRP Ref.</i> | <i>No. of other wind farms potentially in view</i> | <i>Nearer or further than proposal</i> | <i>Combined view (within a single viewing arc)</i> | <i>Succession view (within a series of viewing arcs from the same location)</i> | <i>Sequential view (view of different developments moving along a linear receptor)</i> |
|-----------------|--|--|--|---|--|
| DR1             | 1  | Further away                           | yes  | -   | yes  |
| DR2             | 1  | Further away                           | yes  | -   | yes  |
| CP1             | 1  | Nearer                                 | yes  | yes   | -  |
| CP2             | 2  | Further away                           | yes  | -   | yes  |
| CP3             | 2  | Further away                           | yes  | -   | yes  |
| CP4             | 1  | Further away                           | yes  | -   | yes  |
| CP5             | 1<br>negligible                                    | Further away                           | yes  | -   | yes  |
| CP6             | 1<br>negligible                                    | Further away                           | yes  | -   | yes  |
| MR1             | 2  | Nearer                                 | -  | -   | yes  |
| MR2             | 1  | Further away                           | yes  | -   | yes  |
| MR3             | 1  | Further away                           | yes  | -   | yes  |
| MR4             | 1  | Nearer                                 | yes  | -   | yes  |
| MR5             | 3  | Further away                           | -  | -   | yes  |
| MR6             | 1  | Further away                           | yes  | -   | yes  |
| LC1             | 1  | Further away                           | -  | -   | yes  |
| LC2             | 1  | Further away                           | -  | -   | yes  |
| LC3             | 1  | Further away                           | yes  | -   | yes  |
| LC4             | 1  | Further away                           | -  | -   | yes  |
| LC5             | 1  | Further away                           | -  | -   | yes  |
| LC6             | 1  | Further away                           | -  | -   | yes  |
| LC7             | 2  | Further away                           | yes  | -   | yes  |

|     |   |              |     |   |     |
|-----|---|--------------|-----|---|-----|
| LC8 | 1 | Further away | yes | - | yes |
| LC9 | 0 | -            | -   | - | -   |

**Table 8.12: Cumulative view of existing and consented wind farms from VRP's**

### 8.3.5.3 Cumulative Impact Assessment

In all instances the wind farm schemes viewed are within a single viewing arc (maximum 90°). Notwithstanding, views also will be sequential, involving visual exposure of different wind farm developments as one moves along a linear receptor (roads contiguous to each VRP).

Given the considerable separation distance between the proposal site and the other existing and permitted wind farms within the study area, particularly those at Gorthahile, Kilcarrig and Lisdowney, there is likely to be relatively little intervisibility between them. A greater area of intervisibility is indicated in regard to the Cullenagh Wind Farm due to its closer location to the proposal. However, very few of the photomontages used in the above assessment of visual impacts incorporate a view of other permitted or constructed wind energy developments. Only Lisdowney is visible from LC7, but negligibly in theory and probably totally screened in reality, and Gortahile is visible from VRP's CP2 (only one turbine barely evident) and MR1 but, likewise, minimally due to distance and partial screening of intermediate vegetation. Moreover, these wind farms are well separate from the proposed development and, thus, does not engender a sense of proliferation. The exception to this is Gortahile from MR1 where it is theoretically visible as an extension of the proposal scheme but in reality is likely to be screened. These characteristics also generally obtain to the Cullenagh Wind Farm that theoretically is visible from eleven VRP's, as depicted on photomontages. This is certainly true for DR7, CP1, CP4, MR1, MR2, MR3, MR4, MR6, LC3, LC7 and LV8 where, not only distance minimises visibility, but intermediate elements often obscure the development (as in CP4, substantially obscured by vegetation, and MR4, substantially obscured by pylons or cables). While it is located on a ridge as seen in DR1, MR1 and MR2, it is set much further away from the viewer than the proposal scheme and also clearly separated, thus reducing the possibility of a perceived proliferation. In contrast, the view from DR2 depicts this wind farm as an extension of the proposal scheme, albeit much lower in profile due to greater distance and also partial obscuring by forest cover. In this instance, not only do distance and intervening vegetation minimise cumulative visual impact, but in so far as the Cullenagh scheme is visible, the spatial integration of the two wind farms also reduces the possibility of perceived proliferation.

It is considered that the current intensity and dispersal of constructed and consented wind energy development within the study area is such that it is not yet a characteristic landscape feature. Instead, wind energy development is only at a stage that allows new proposals such as this one to represent a familiar form of development. On the basis of these reasons, the additional cumulative impact represented by the proposed Pinewoods Wind Farm is deemed to be **Low**.

## 8.4 Mitigation & Monitoring Measures

Given the highly visible nature of commercial wind energy developments it is not generally feasible to screen them from view using on-site measures, as would be the primary form of mitigation for many other types of development. Instead, landscape and visual mitigation for wind farms must be incorporated into the early stage site selection and design phases. A principle consideration in this regard was the Department of Environment Heritage and Local Government's Wind Energy Development Guidelines (2006).

### 8.4.1 Department of Environment, Heritage and Local Government Wind Energy Development Guidelines (2006)

The Wind Energy Development Guidelines (2006) provide guidance on wind farm siting and design criteria for a number of different landscapes, including 'Hilly and Flat Farmland' similar to the context

for the proposed Pinewoods Wind Farm. Recommendations in the guidelines for this landscape type include the following:

- **Location** – “Although hilly and flat farmland type is usually not sensitive in terms of scenery, due regard must be given to houses, farmsteads and centres of population.”  
“Location on ridges and plateaux is preferred...”  
“Elevated locations are also more likely to achieve optimum aesthetic effect.”
- **Spatial extent** - “This can be expected to be quite limited in response to the scale of fields and such topographic features as hills and knolls”
- **Spacing** - “The optimum spacing pattern is likely to be regular, responding to field pattern...However ... a balance will have to be struck between adequate spacing to achieve operability and a correspondence to field pattern.”
- **Layout** - “The optimum layout is linear, and staggered linear on ridges and hilltops but a clustered layout would also be appropriate on a hilltop”
- **Height** - “Turbines will tend not to be tall ... the more undulating the topography the greater the acceptability of an uneven profile.”

The design of the proposed wind farm is in accordance with all of the design criteria outlined above except perhaps that relating to spatial extent as this is likely to be considered a medium sized wind farm. However, in this instance it should be noted that the scale of terrain and landscape features, particularly field and forestry patterns, is broad and can easily accommodate a wind farm of this size. For these reasons, the proposed wind farm is considered to comply with the Wind Energy Development Guidelines (2006).

A number of general mitigation measures are also included below:

- Matt non-reflective finishes will be used on all turbine components;
- Transmission lines between individual turbines and the substation will be placed underground;
- Counter rotation of blade sets will be avoided;
- The use of existing forest tracks will be maximised and the number and extent of new access tracks will be kept to a minimum and properly landscaped immediately following completion of works. Such landscaping will include reinstating original vegetation along verges and repairing any wheel ruts;
- Special care will be taken to preserve any features, which contribute to the landscape character of the study area. Any damage to existing hedgerows from transporting the turbines will be rectified;
- A high standard of design will be applied to all structures associated with the substation considering not only its function but also the aesthetic quality, in order to minimise any sense of intrusion. The proposed development will provide colour harmony and adequate screening of the substation using berms covered with scrub and ground vegetation in order to mitigate its impact.

#### 8.4.2 Residual Impacts

Landscape and visual mitigation measures have been incorporated into the design of the scheme from its early stages. Therefore, the proposed wind farm presented as the subject of this application already incorporates any substantial landscape and visual mitigation measures. Unlike for many of the other EIS

topics, the residual impacts of the proposal are essentially the same as assessed in the predicted landscape and visual impacts section above.

## 8.5 Conclusion

A summary table is provided below, which collates the assessments of landscape and visual impacts. A discussion of the results is provided thereafter.

| <i>Landscape Impact</i>      |                                    |                                   |                                      |
|------------------------------|------------------------------------|-----------------------------------|--------------------------------------|
| <b>Landscape Sensitivity</b> |                                    | <b>Landscape Impact</b>           | <b>Landscape impact Significance</b> |
| Low                          |                                    | Low                               | Slight-imperceptible                 |
| <i>Visual Impact</i>         |                                    |                                   |                                      |
| <b>VRP</b>                   | <b>Visual Receptor Sensitivity</b> | <b>Magnitude of Visual Impact</b> | <b>Visual Impact Significance</b>    |
| DR1                          | Medium                             | Medium                            | Moderate                             |
| DR2                          | Medium                             | Low                               | Slight                               |
| CP1                          | Medium                             | Low                               | Slight                               |
| CP2                          | Medium                             | Low                               | Slight                               |
| CP3                          | Medium                             | Medium                            | Moderate                             |
| CP4                          | Medium                             | Low                               | Slight                               |
| CP5                          | Medium                             | Low                               | Slight                               |
| CP6                          | Medium                             | Low                               | Slight                               |
| MR1                          | Low                                | Negligible                        | Imperceptible                        |
| MR2                          | Low                                | Negligible                        | Imperceptible                        |
| MR3                          | Low                                | Low                               | Slight-imperceptible                 |
| MR4                          | Low                                | Low                               | Slight-imperceptible                 |
| MR5                          | Low                                | Medium                            | Slight                               |
| MR6                          | Low                                | Low                               | Slight-imperceptible                 |
| LC1                          | Medium                             | High                              | Substantial-moderate                 |
| LC2                          | Medium                             | Medium                            | Moderate                             |
| LC3                          | Medium                             | Medium                            | Moderate                             |
| LC4                          | Medium                             | Medium                            | Moderate                             |
| LC5                          | Medium                             | High                              | Substantial-moderate                 |
| LC6                          | Medium                             | Negligible                        | Imperceptible                        |
| LC7                          | Medium                             | Medium                            | Moderate                             |
| LC8                          | Medium                             | High                              | Substantial-moderate                 |

|                          |        |      |                             |
|--------------------------|--------|------|-----------------------------|
| LC9                      | Medium | High | <b>Substantial-moderate</b> |
| <b>Cumulative Impact</b> |        |      | <b>Low</b>                  |

**Table 8.13: Summary Impact Table**

### 8.5.1 Landscape Impacts

The assessment of landscape impacts is based on a comparison of landscape sensitivity against the magnitude of effects on the physical landscape and on landscape character. In this instance the judgement of landscape sensitivity is low. Whilst this landscape has a relatively high integrity in terms of the uniformity of its component features and patterns, these are also fairly unexceptional. Overall, the site and wider study area are considered to have a productive rural landscape character that is relatively robust with respect to absorbing new development.

The magnitude of the landscape impact is also considered to be low on the basis that the proposed wind farm represents a new, but not unfamiliar feature in the immediate landscape context of the site and an emerging characteristic landscape feature within the wider study area. It is also considered that the proposed turbines will not conflict thematically with this productive rural landscape context. Indeed, Scheobel (2012 p31) considers that aesthetically, wind turbines can be a successful component in productive landscapes (such as this).

On the basis of the judgements relating to landscape sensitivity and the magnitude of the landscape impact, the significance of impact on the landscape is deemed 'Slight-imperceptible'.

### 8.5.2 Visual Impacts

Visual impacts were assessed on the basis of visual receptor sensitivity versus the magnitude of the visual impact. The magnitude itself is the function of the visual presence of the proposal and its effect on visual amenity. Visual impacts were assessed at 23 visual receptors throughout the study area.

As can be seen from the summary table above, visual receptor sensitivity does not vary widely and this reflects the uniform nature of the landscape contained within the study area. In this instance, there is correspondence between receptor type and result whereby those attributed medium are of the Major Route (MR) type and the remainder attributed the low sensitivity ratings, with no other judgements within the full possible range. The majority of VRP's afford broad panoramic views across a gently undulating plateau landscape of uniform ridge heights and shallow upland valleys. The landscape in view generally has a pleasant, but unexceptional rural character. From those locations where the patchwork field pattern can be readily discerned, there is something of a traditional pastoral aesthetic. However, there is not much evidence of receptors within the study area that afford potential views of the scheme from locations where the users are likely to be highly attuned to the landscape around them, such as tourists or hill walkers.

Notably, both relevant scenic routes (DR1 and DR2) are attributed only medium sensitivity ratings. It is considered that the value of these vistas relates directly to the vast nature of the view as opposed to any naturalistic or unique qualities, elements of the picturesque or some strong sense of place. Such views are sensitive to visual obstruction (blocking of the view) but not necessarily visual intrusion (an additional element within the view).

The magnitude of visual impacts ranges between Substantial-moderate and negligible, with the greater majority between Imperceptible or Slight-imperceptible (six VRP's) and Moderate (six VRP's). The viewing scenario for this development is relatively simple with the turbines almost always seen in silhouette above the skyline ridge, whether the view is from within the Castlecomer Plateau or the surrounding lowland landscape. As a result, the visual presence of the development is strongly related to viewing distance. Aesthetically, the simple viewing scenario also makes for an unambiguous view of the turbines. From most locations beyond about 3km the turbine layout is

perceived to be an informal linear one with a gently undulating profile that accords with the underlying ridge. A more clustered layout is perceived at closer proximity. This is also appropriate as the linearity of the ridge is less pronounced in the upland area surrounding the site and the informal arrangement of turbines compliments the less structured field patterns in this zone.

The only aesthetic issues for this wind farm proposal tend to be the occasional overlapping of turbines in perspective and blade sets of partially screened turbines rotating against the skyline in silhouette as well as the visual stacking of blade sets (eg. DR1, DR2, MR3, MR5, MR6 and LC4). Whilst these effects can lead to a sense of visual irritation as well as clutter and disharmony, they are relatively minor issues in this instance given the overriding, unambiguous legibility of the scheme and also because in relation to visual stacking the wind farm is viewed at considerable distance. Whilst some of the local views include cutting of the skyline, the majority of blade sets are clearly legible and the proximity turbines to viewer ensures that the spatial arrangement relative to one another in perspective and of the group as a whole are legible.

Thematically, the turbines compliment the productive rural character that prevails throughout most of this landscape, albeit with an increased intensity and scale of built development. This also obtains in the more heavily forested areas around the proposed wind farm and, thus, proves to some extent a mitigating factor in relation to local views.

The highest magnitude of visual impact is considered to be Substantial-moderate. This occurs at four of the VRP locations, all of which are local views within 5km of the proposal. However, at two of these locations, LC1 and LC5, the proposed development is presented in a legible manner, with all blade sets above the skyline and at the other two, LC8 and LC9, a thematic relationship of utility is established between the proposal and the prevalent commercial mono-culture forestry activity and agriculture. These locations are relatively remote, particularly the latter pair. The level of impact on local views is typically unavoidable with commercial scale wind energy developments, reflecting that the effects on visual amenity are fairly consistent throughout the study area and that the main differentiating factor is the visual presence of the scheme. The majority of these local views have been deemed to result in a dominant visual presence, with one, LC8, highly dominant but another deemed minimal due to substantial screening. As stated above, in this case this is principally a function of scale in relation to distance.

### 8.5.3 Cumulative Impact

There is only one existing wind farm within the study area and three others have planning permission. Two of these are more than 14km away from the proposal and thus, the contribution to cumulative effects of wind farms within the study area is deemed minimal. A fourth is closer and is seen, at least theoretically, in just less than half of the views. In general, however, its visibility is fairly minimal. The cumulative impact is, therefore, considered to be low. To a greater or lesser extent, the existing Gortahile Wind Farm provides visual precedent in an area that comprises a working farmland and where views are intermittent as one travels the roads. By and large, the generally open expansive landscapes as viewed from most of the VRO's have the capacity to visually accommodate a number of spatially contained wind farms.

### 8.5.4 Overall Significance of Impact

In terms of the significance of impact, the majority of judgements across all assessment categories are in the mid-to-lower order of magnitude (moderate to minor-negligible). At six locations that are either at or in very close proximity to the proposal the significance of the visual impact is judged to be moderate on the basis of a medium sensitivity rating coupled with a medium visual impact magnitude. For four other local views the visual impact is judged to be substantial-moderate. Whilst this represents the highest level of impact in this assessment, it is only just above the mid- order of magnitude in terms of the visual impact significance matrix. This reflects the robustness of this landscape and the views of it as well as the appropriate siting, scale and design of the proposed wind

farm. This assessment of landscape and visual robustness is consistent with the Wind Energy Strategy of the Laois County development plans, which identify this as a preferred area for wind energy development. Likewise, the design elements of the scheme are consistent with the DoEHLG Wind Energy Development Guidelines (2006).

On the basis of these reasons, it is considered that the proposed development represents an acceptable level of landscape and visual impact across the study area.