12. LVIA - INTRODUCTION

12.1.1 Background and Objectives

This chapter of the EIAR assesses the likely significant effects of the proposed project, on the landscape and visual amenity of the receiving environment. Where significant effects are predicted, the chapter identifies appropriate mitigation strategies therein. The assessment will consider the likely significant effects during the following phases of the Project:

- Construction of the Project
- Operation of the Project
- Decommissioning of the Project (final phase)

The Project refers to all elements of the application for the construction and operation of the proposed Ballincor Windfarm (see **Chapter 2**).

This chapter of the EIAR is supported by a portfolio of photomontages provided as a separate booklet, and the following Appendices provided in **Volume IV** of this EIAR:

- **Appendix 12.1**: Visual Impact Assessments at VRPs
- **Appendix 12.2**: Supporting Figures

This Landscape Visual Impact Assessment (LVIA) describes the landscape context of the proposed project and assesses the likely landscape and visual effects of the scheme on the receiving environment. Although closely linked, landscape and visual effects are assessed separately:

Landscape Impact Assessment (LIA) relates to changes in the physical landscape brought about by the proposed project, 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 to 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 project without causing unacceptable adverse changes to its character.

Visual Impact Assessment (VIA) relates to assessing likely significant effects on specific views and the general visual amenity experienced by people. This deals with how the surroundings of individuals or groups of people may be specifically affected by changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/or introduction of new elements. Visual impacts may occur from visual obstruction (blocking of a view, be it full, partial or intermittent) or Visual Intrusion (interruption of a view without blocking).

Cumulative landscape and visual impact assessment is concerned with additional changes to the landscape or visual amenity caused by the proposed project in conjunction with other developments (associated or separate from it).

12.1.2 Assessment Structure

In accordance with the Landscape Institute and the Institute of Environmental Management and Assessment publication entitled Guidelines for Landscape and Visual Impact Assessment – Third Edition (2013) (GLVIA3), the structure of this chapter will consist of separate considerations of landscape effects and visual effects in the following order:

- Assessment of landscape value and sensitivity;
- Assessment of the magnitude of landscape change;
- Assessment of the level (significance) of landscape effects;
- Assessment of visual receptor sensitivity;
- Assessment of the magnitude of visual change;
- Assessment of the level (significance) of visual effects;
- Assessment of cumulative landscape and visual effects.

GLVIA3 outlines the differences between 'impact' and 'effect' in regard to undertaking LVIA as follows:

"The process is generally known as impact assessment, but the European Union Directive refers to the assessment of the effects, which are changes arising from the development that is being assessed. This guidance generally distinguishes between the 'impact', defined as the action being taken, and the 'effect', defined as the change resulting from that action"

This LVIA adopts the GLVIA3 terminology, arriving at a judgement regarding the level (significance) of a landscape or visual effect, before arriving at a conclusion as to whether it is deemed 'Significant'.

12.1.3 Statement of Authority

This LVIA was prepared by Richard Barker, at Macro Works Ltd (part of APEM Group), in Cherrywood, Dublin. Richard is a Divisional Director in Macro Works, and Landscape Architect affiliated with the Irish Landscape Institute. Richard has 22 years of experience as a Landscape Architect and undertaken LVIA work for over 140 wind farms amongst numerous other development projects in Ireland and has considerable oral hearing training and expert witness experience.

Macro Works is a specialist LVIA consultancy with over 20 years of experience in the appraisal of effects from a variety of energy, infrastructure and commercial developments. Macro Works' relevant experience includes LVIA work on over 200 on-shore wind farm proposals throughout Ireland, including 6 Strategic Infrastructure Development (SID) wind farms. Macro Works and its senior staff members are affiliated with the Irish Landscape Institute.

12.1.4 Description of the Proposed Project

The proposed wind farm will comprise 11 wind turbines, with a tip height of 179.5 to 180m, and associated infrastructure located in the townland of Ballincor, Co. Offaly straddling the border with Co. Tipperary. The full project description is provided in Chapter 2 of the EIAR.

12.1.5 Definition of Study Area

The Wind Energy Development Guidelines (WEDG) published by the Department of the Environment, Heritage and Local Government (DOEHLG) (2006) and the Draft Revised Wind Energy Development Guidelines (DWEDG) (2019) specify various radii for examining the Zone of Theoretical Visibility (ZTV) of proposed wind farm projects. The extent of this search area is influenced by turbine height, as follows:

- 15km radius for blade tips up to 100m.
- 20km radius for blade tips greater than 100m.
- 25km radius where landscapes of national and international importance exist.

These radii are mirrored in the Draft Revised Wind Energy Development Guidelines 2019. In the case of this project, the blade tips will be a maximum of 180m in height and, given the absence of national and internationally important landscapes, the recommended ZTV radius is 20km from the outermost turbines of the scheme.

Notwithstanding the full 20km extent of the study area, there will be a particular focus on receptors and effects within the central study where there is higher likelihood of significant effects occurring. When referenced within this assessment, the 'Site and Immediate Study Area' is considered to be the wind farm site and immediate surrounding landscape <1km from the proposed Project, whilst the 'central study area' is the landscape within <5km of the proposed wind farm site and the wider study area represents the landscape from between 5-20km from wind farm site.

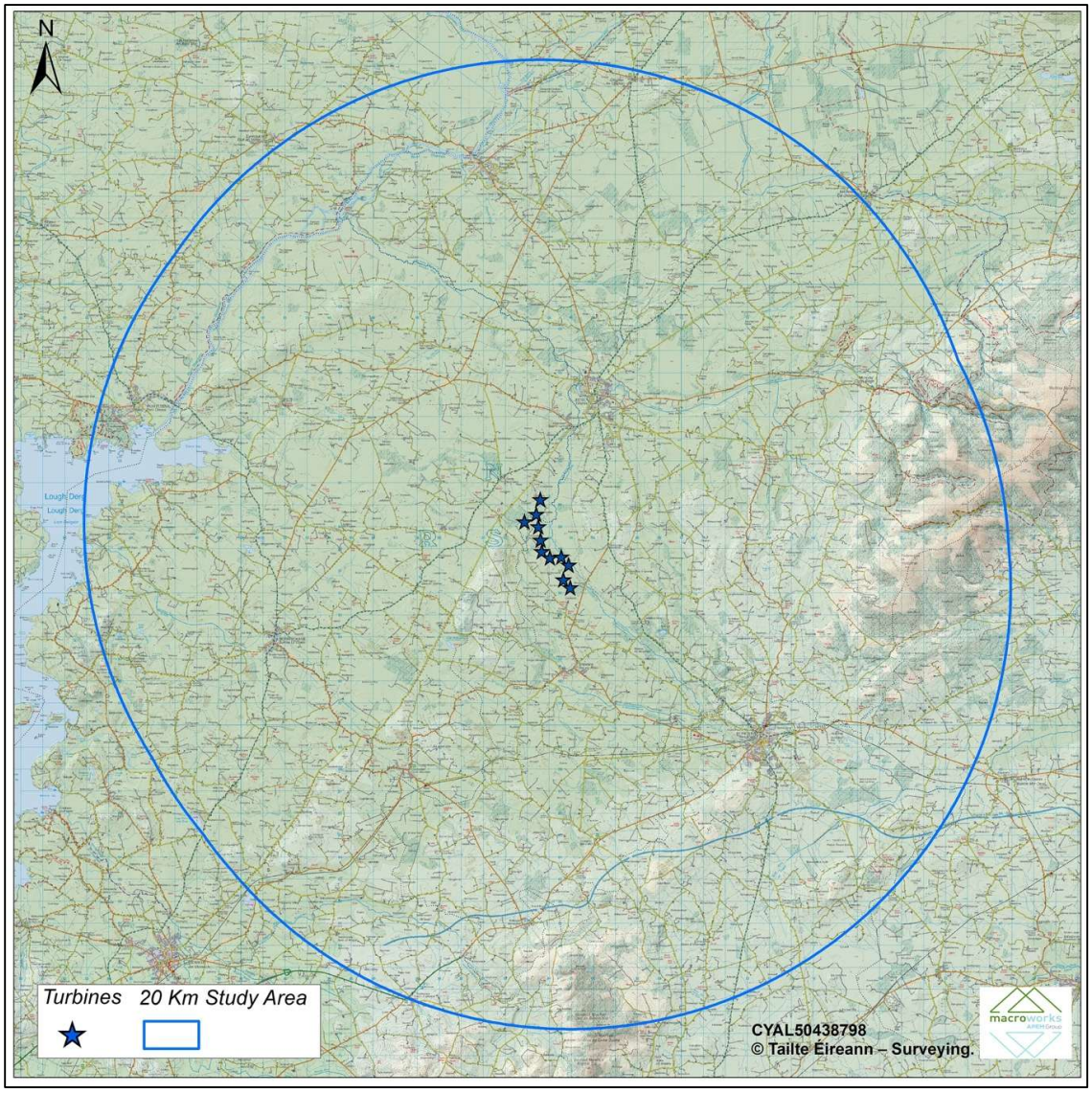

Figure 12.1 Study Area Map

12.2 Assessment Methodology and Criteria

Production of this LVIA involved baseline work in the form of desktop studies and fieldwork comprising professional evaluation by qualified and experienced Landscape Architects.

The LVIA adheres to methodology as prescribed in the following guidance documents:

- European Union (2017) Guidance on the preparation of the EIA Report (Directive 2011/92/EU as amended by 2014/52/EU);
- Environmental Protection Agency (EPA) (2022) publication 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports (2022)
- Landscape Institute and the Institute of Environmental Management and Assessment (IEMA) publication entitled Guidelines for Landscape and Visual Impact Assessment – Third Addition (2013).

- NatureScot (2021) Guidance - Assessing the cumulative landscape and visual impact of onshore wind energy developments. [online]
- Department of the Environment, Heritage and Local Government Wind Energy Development Guidelines (2006).
- Department of the Environment, Heritage and Local Government Wind Energy Development Guidelines (2019 draft).[1]
- Scottish Natural Heritage Visual Representation of Wind Farms: Best Practice Guidelines (version 2.2 - 2017).

GLVIA3 is widely recognised and used by landscape professionals as the principal guidance in undertaking LVIA work in Ireland and the UK and is considered to represent best practice in the absence of country-specific LVIA and visualisation guidance/standards. The other guidance outlined is also widely recognised and used by landscape professionals in informing and guiding LVIA work in Ireland.

Use of the Term 'Effect' vs 'Impact'. The GLVIA advises that the terms 'impact' and effect' should be clearly distinguished and consistently used in the preparation of an LVIA.

'Impact' is defined as the action being taken. In the case of the proposed works, the impact would include the construction of the proposed project.

'Effect' is defined as the change or changes resulting from those actions, e.g. a change in landscape character, or changes to the composition, character and quality of views in the receiving environment. This report focusses on these effects.

Assessment of Both 'Landscape' and 'Visual' Effects

Another key distinction to make in a LVIA is between landscape effects and the visual effects of development.

'Landscape' results from the interplay between the physical, natural and cultural components of our surroundings. Different combinations of these elements and their spatial distribution create distinctive character of landscape in different places. 'Landscape character assessment' is the method used in LVIA to describe landscape, and by which to understand the potential effects of a development on the landscape as 'a resource'. Character is not just about the physical elements and features that make up a landscape, but also embraces the aesthetic, perceptual and experiential aspects of landscape that make a place distinctive.

Views and 'visual amenity' refer to the interrelationship between people and the landscape. The GLVIA prescribes that effects on views and visual amenity should be assessed separately from landscape, although the two topics are inherently linked. Visual assessment is concerned with changes that arise in the composition of available views, the response of people to these changes and the overall effects on the area's visual amenity.

[1] *It is important to note that all information and guidelines relating to landscape areas and types in the current wind energy development guidelines (2006) are duplicated in the draft revised wind energy development guidelines (2019). The only additional information relating to landscape and visual in the draft revised guidelines relates to the visual amenity setbacks. Thus, the current (2006) and draft revised (2019) guidelines have been referenced.*

Production of this Landscape and Visual Impact Assessment involved baseline work in the form of desktop studies and fieldwork comprising professional evaluation by qualified and experienced Landscape Architects. This entailed the following:

12.2.1.1 Desktop Study

- Establishing an appropriate Study Area from which to study 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 proposed project is potentially visible in relation to terrain within the Study Area;
- Review of relevant County Development Plans, particularly with regard to sensitive landscape and scenic view/route designations and associated policies and objectives;
- Selection of potential Viewshed Reference Points (VRPs) from key visual receptors to be investigated during fieldwork for actual visibility and sensitivity.

12.2.1.2 Fieldwork

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

Site visits were carried out on four separate dates between 2022 and 2025, which accords with best practice for wind farm LVIA.

12.2.1.3 Landscape and Visual Assessment

The process adopted in regard to the identification of landscape and visual effects (adopting the assessment criteria) is summarised as follows:

- Selection of a refined set of VRPs for assessment (outlined in due course).
- Consideration of the receiving landscape with regard to overall landscape character as well as the salient features of the Study Area including landform, drainage, vegetation, land use and landscape designations.
- Consideration of the visual environment including receptor locations such as centres of population and houses, transport routes, public amenities and facilities and designated and recognised views of scenic value.
- Consideration of relevant design guidance and planning policies.
- Consideration of potentially significant construction, operational, and decommissioning phase effects and the mitigation measures that could be employed to reduce such effects.
- Assessment of the level (significance) of residual landscape effects.
- Assessment of the level (significance) of residual visual effects aided by photomontages prepared at all of the selected VRP locations.
- Assessment of cumulative landscape and visual effects in combination with other relevant surrounding developments that are either existing, permitted, or subject to a valid planning application.

12.2.2 Assessment Criteria for Landscape Effects

12.2.2.1 Landscape Sensitivity

When assessing the likely landscape effects of the proposed project, the value and sensitivity of the landscape receptor are weighed against the magnitude of change to determine the level of the landscape effect. The criteria outlined below are used to guide these judgements.

Landscape Value & Quality

To understand what is important in a landscape and why, it is necessary to first establish the value or importance of the landscape and whether this is at a local, regional, or national level.

As described within GLVIA3, the value of a landscape can apply to the landscape as a whole or to the individual elements, features and aesthetic dimensions which contribute to the character of that landscape. Several factors including, scenic beauty, wildness, tranquillity, and cultural associations, can inform the value of a landscape. Where a high value is accredited, this may be representative of a formal designation that recognises a particular landscape or visual importance. Equally, landscapes considered to be of low value would generally be undesignated, degraded landscapes. The value attached to undesignated landscapes also requires further consideration in terms of any local value that may be placed upon it.

The nature or factors considered in reaching a judgement regarding Landscape Value will be described as Very High, High, Medium, Low, or Very Low. Guiding criteria are detailed as follows;

- Very High value - High Importance (or Quality) and Rarity. No or limited potential for substitution. Areas containing a strong, balanced structure with distinct features worthy of conservation. Generally International, National scale;
- High value – High Importance (or Quality) and Rarity. Limited potential for substitution. Areas containing a strong structure with noteworthy features or elements, exhibiting a sense of place. Generally National, Regional, Local scale;
- Medium value - Medium Importance (or Quality) and Rarity. Limited potential for substitution. Areas primarily of valued landscape components with low levels of visual detractors, exhibiting a recognisable landscape structure. Generally Regional, Local scale (Undesignated but value perhaps expresses through non-official publications or demonstrable use);
- Low value - Low Importance (or Quality) and Rarity. Areas containing some features of landscape value but lacking a coherent structure with frequent detracting visual elements, exhibiting a distinguishable structure often concealed by mixed land uses or development. Local scale (Areas identified as having some redeeming feature or features and possibly identified for improvement); and
- Very Low value – Low Importance (or Quality) and Rarity. Areas lacking valued landscape components with degraded, disturbed, or derelict features or with a dominance of visually detracting elements, exhibiting mixed land uses. Generally Local scale.

In a comparable way, the quality/condition of the landscape and visual resource also needs to be established and typical criteria for determining landscape quality will be described as Very High, High, Medium, Low, or Very Low. Guiding criteria are detailed as follows;

- Very High quality - Strong landscape structure, characteristics, patterns, balanced combination of landform and land cover; appropriate management of land use and land cover; all landscape elements remain intact and in good repair with distinct features worthy of conservation; sense of place;
- High quality – Strong landscape structure, characteristics, patterns, balanced combination of landform and land cover; appropriate management of land use and land cover; distinct features worthy of conservation; sense of place; occasional detracting features;
- Medium quality - Recognisable landscape structure, characteristic patterns and combinations of landform and land cover are still evident; scope to improve management for land use and land cover; some features worthy of conservation; sense of place; some detracting features;
- Low quality - Distinguishable landscape structure with some landscape elements intact, characteristic patterns of landform and landcover often masked by land use; scope to improve management of vegetation; some features worthy of conservation; some detracting features; and
- Very Low quality – Weak/ degraded landscape structure, characteristic patterns and combinations of landform and land cover are masked by land use; mixed land use evident; lack of management and intervention has resulted in degradation; frequent detracting features dominate.

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 on its essential characteristics. The judgement reflects such factors as its quality, value, contribution to landscape character and the degree to which the particular element or characteristic can be replaced or substituted. Landscape Sensitivity is classified using the criteria set out in **Table 12.1**.

Table 12.1 Landscape Value and Sensitivity

Sensitivity	Description
Very High	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.
High	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.

Medium	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.
Low	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.
Negligible	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.

12.2.2.2 Magnitude of Change - Landscape

The magnitude of change is a product of the scale, extent or degree of change that is likely to be experienced as a result of the proposed project. The magnitude takes into account whether there is a direct physical impact resulting from the loss of landscape components and/or a change that extends beyond the immediate setting that may have an effect on the landscape character. **Table 12.2** outlines the magnitude of change criteria (derived from GLVIA3) used to inform this judgement.

Table 12.2 Magnitude of Landscape Effects

Magnitude of Effect	Description
Very High	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 extensive change of the landscape in terms of character, value and quality.
High	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 a considerable change of the landscape in terms of character, value and quality.
Medium	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 noticeable changes in landscape character, and quality.

Low	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 that would lead to discernible changes in landscape character, and quality.
Negligible	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 leading to no material change to landscape character, and quality.

12.2.3 Assessment Criteria for Visual Effect

As with the landscape impact, the visual impact of the proposed project will be assessed as a function of receptor sensitivity versus magnitude. In this instance, the sensitivity of visual receptors weighed against the magnitude of visual effects.

12.2.3.1 Visual Sensitivity

As with landscape sensitivity, the sensitivity of a visual receptor is categorised as Very High, High, Medium, Low, and Negligible. Unlike landscape sensitivity, however, the sensitivity of visual receptors has an anthropocentric (human) basis. It considers factors such as the perceived quality and values associated with the view, the landscape context of the viewer, the likely activity the viewer is engaged in and whether this heightens their awareness of the surrounding environment.

Visual sensitivity is a two-sided analysis of receptor susceptibility (people or groups of people) versus the value of the view on offer at a particular location.

To assess the susceptibility of viewers and the amenity value of views, the assessors use a range of criteria and provide a four-point weighting scale to indicate how strongly the viewer/view is associated with each of the criteria. Susceptibility criteria are extracted directly from the GLVIA3, whilst the value criteria relate to various aspects of a view that might typically be related to high amenity including, but not limited to, scenic designations. These are set out below:

Susceptibility of Visual Receptors to change

In accordance with GLVIA3 visual receptors most susceptible to changes in views and visual amenity are:

- *"Residents at home*
- *People, whether residents or visitors, who are engaged in outdoor recreation, including use of public rights of way, whose attention or interest is likely to be focussed on the landscape and on particular views*
- *Visitors to heritage assets, or to other attractions, where views of the surroundings are an important contributor to the experience*

- *Communities where views contribute to the landscape setting enjoyed by residents in the area*
- *Travellers on road rail or other transport routes where such travel involves recognised scenic routes and awareness of views is likely to be heightened".*

"Visual receptors that are less susceptible to changes in views and visual amenity include:

- *People engaged in outdoor sport or recreation, which does not involve or depend upon appreciation of views of the landscape*
- *People at their place of work whose attention may be focussed on their work or activity, not their surroundings and where the setting is not important to the quality of working life".*

Values typically associated the visual amenity

The value attached to a view is determined by considering the following:

- **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 Development 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.
- **Intensity of use, popularity**. Whilst not reflective of the amenity value of a view, this criterion relates to the number of viewers likely to experience a view regularly and whether this is significant at the county or regional scale.
- **Connection 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 attuned to the surrounding landscape at locations that afford broad vistas.
- **Sense of remoteness and/or tranquillity**. Remote and tranquil viewing locations are more likely to heighten the amenity value of a view and have a lower intensity of

development in comparison to dynamic viewing locations such as 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 obvious human interventions.
- **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 or spiritual value**. Such attributes may be evident or sensed at certain viewing locations that 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 other similar views might be afforded in the local or the national context.
- **Integrity of the landscape character in view**. This criterion considers 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 criterion considers whether there is a special sense of wholeness and harmony at the viewing location.
- **Sense of awe**. This criterion considers whether the view inspires an overwhelming sense of scale or the power of nature.

Those locations where highly susceptible receptors or receptor groups are present and which are deemed to satisfy many of the view value criteria above are likely to be judged to have a high visual sensitivity and vice versa.

It is recognised that a viewer's interpretation and experience of the landscape can have preferential and subjective components. Where relevant, judgements are made on those elements of the landscape that are considered to contribute more prominently and positively as well as those elements that contribute negatively. Overall sensitivity may be a result of a number of these factors or a strong association with one or two in particular.

12.2.3.2 Magnitude of Change - Visual

The magnitude of change is determined on the basis of two factors; the visual presence of the proposal and its effect on visual amenity.

Visual presence is a somewhat quantitative measure relating to how noticeable or visually dominant the proposal is within a particular view. This is based on a number of aspects beyond simply scale in relation to distance. Some of these include the extent of the view as well as its complexity and the degree of existing contextual movement experienced such as might occur where turbines are viewed as part of/beyond a busy street scene. The backdrop against which

the proposed project is presented and its relationship with other focal points or prominent features within the view is also considered. Visual presence is essentially a measure of the relative visual dominance of the proposal within the available vista and is expressed as such i.e. minimal, sub-dominant, co-dominant, dominant, highly dominant.

For wind energy developments, a strong visual presence is not necessarily synonymous with adverse impact, specifically being 'noticed' by viewers and contributing memorably to the experience of that view or location – positive or negative. Instead, the 2018 Fáilte Ireland survey entitled 'Report on Visitor Awareness and Perceptions of the Irish Landscape' summarised results as below:

- *"The majority of visitors appear not to notice the majority of development – even very large and visually prominent structures such as wind turbines and powerlines*
- *It appears that there are significant divergences between the what can be seen and what is noticed*
- *The majority of visitors expressed very limited desire to change developments that they do notice*
- *The visibility of developments of all types give rise to significantly less adverse effects on the impression of landscape than may often be assumed in the decision-making process*
- *The majority of visible development does not appear to have any adverse effects on the impression of the quality of the landscape"*

With specific regard to wind farms, the following is mentioned within the main report:

- *"Visibility at Locations - Windfarms or Wind Turbines were visible from four locations, they were mentioned by visitors at one location – Cobh. At this site 11% of visitors mentioned noticing wind energy projects*
- *Visibility en-route to locations - Wind Energy projects were mapped as being visible en-route to six sites, they were mentioned by less than 5% of all visitors."*

The purpose here is not to suggest that turbines are unlikely to be noticed, regardless of the visual presence, but rather to highlight that the assessment of visual magnitude for wind turbines is more complex than just the degree to which turbines occupy a view. Furthermore, a clear and comprehensive view of a wind farm might be preferable in many instances to a partial, cluttered view of turbine components that are not so noticeable within a view.

On the basis of these reasons, the visual amenity aspect of assessing magnitude is qualitative and considers such factors as the spatial arrangement of turbines both within the scheme and in relation to surrounding terrain and land cover. It also examines whether the project 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 represent significant bulk; visual impacts result almost entirely from visual 'intrusion' rather

than visual 'obstruction' (the blocking of a view). **Table 12.3** outlines the magnitude of change criteria (derived from GLVIA3) used to inform this judgement.

Table 12.3 Magnitude of Visual Effect

Criteria	Description
Very High	The proposal obstructs or intrudes into a large proportion or critical part of the available vista and is without question the most noticeable element. An extensive degree of visual change will occur within the scene completely altering its character, composition and associated visual amenity
High	The proposal obstructs or 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 change will occur within the scene substantially altering its character, composition and associated visual amenity
Medium	The proposal represents a moderate intrusion into the available vista and is a readily noticeable element. A noticeable degree of visual change will occur within the scene perceptibly altering its character, composition and associated visual amenity
Low	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
Negligible	The proposal would be barely discernible within the available vista and/or it would not influence the visual amenity of the scene

12.2.4 Level of Effects

The purpose of an LVIA when produced in the context of an EIA is to identify any 'significant' effects on landscape and visual amenity arising from the proposed project. Neither EC Directive 2014/52/EU[2] nor domestic legislation defines a threshold at which an effect may be determined to be significant. In certain other environmental disciplines, there are regulatory thresholds or quantitative standards which help to determine the threshold of what constitutes a significant effect.

The EPA Guidelines (2022) defines 'Significant Effects' (within Table 3.4 of the guidelines), as "*an effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment.*" This definition is, however, provided as guidance alongside 7 other generalised definitions that may be used to describe the 'Significance' of effects, "i*n the absence of specific descriptions*". 'Significance' is cited as "a concept that can have different meanings for different topics", and a chart is included (at Figure 3.4 of the guidelines) to guide this process.

[2] Directive 2014/52/EU (2014). The assessment of the effects of certain public and private projects on the environment. Official Journal of the European Union.

GLVIA3 defines 'significance' as "*a measure of the importance or gravity of the environmental effect, defined by significance criteria specific to the environmental topic*". It does not define what may constitute a 'significant' effect or provide thresholds that indicate where effects would become significant rather than not significant but states that "*there are no hard and fast rules about what effects should be deemed 'significant'*" (paragraph 3.32 of GLVIA3).

This is further expanded upon in paragraph 5.54 (concerning landscape effects), which states that "significance can only be defined in relation to each development and its specific location. It is for each assessment to determine how the judgements about the landscape receptors and landscape effects should be combined to arrive at significance and to explain how the conclusions have been derived."

GLVIA3 also states that the assessment of significance is "*an evidence-based process combined with professional judgement*" (paragraph 3.23). Professional judgement is (as acknowledged in GLVIA3) a very important aspect of LVIA, and it is important to remember that "*even with qualified and experienced professionals there can be differences in the judgements made. This may result from using different approaches or different criteria, or from a variation in judgements based on the same approach and criteria*" (GLVIA3 paragraph 2.25). This LVIA has been undertaken by appropriately qualified and experienced LVIA practitioners, experienced in the production of LVIAs as previously outlined, using well-established and tested methodology.

The level of a landscape or visual effect (or relative significance) is based on a balance between the sensitivity of the receptor and the magnitude of change and is categorised as Profound, Substantial, Moderate, Slight, or Imperceptible. Intermediate judgements are also provided to enable an effect to be more accurately described where relevant. 'No Effect' may also be recorded as appropriate where the effect is so negligible it is not noteworthy.

The level category judgement is arrived at using the matrix in **Table 12.4** as a guide which applies the principle of significance being a function of magnitude weighed against sensitivity but employs slightly different terminology (level of effect) that avoids the potentially confusing use of the term 'Significant' (as recommended by GLVIA3 Statement of Clarification 1/13[3]).

Table 12.4 Effect Significance Matrix

	Sensitivity of Receptor				
Magnitude	*Very High*	*High*	*Medium*	*Low*	*Negligible*
Very High	Profound	Profound-substantial	Substantial	Moderate	Slight
High	Profound-substantial	Substantial	Substantial - moderate	Moderate-slight	Slight-imperceptible
Medium	Substantial	Substantial - moderate	Moderate	Slight	Imperceptible

[3] Landscape Institute GLVIA3 Statement of Clarification 1/13 – Significance. Landscape Institute 10-06-13

Low	Moderate	Moderate-slight	Slight	Slight-imperceptible	Imperceptible
Negligible	Slight	Slight-imperceptible	Imperceptible	Imperceptible	Imperceptible

Note: Judgements deemed 'Substantial' and above are considered to be 'significant effects' in EIA terms. Substantial-Moderate judgements are considered borderline significant.

Whilst the matrix and criteria provide a useful guide, the level of an effect is ultimately determined by the landscape specialist using professional judgement, and also in the context of occasionally using hybrid judgements to account for nuance.

For the purposes of assessment, effects assessed as 'Substantial' or greater (in bold text / shaded cells) in **Table 12.4,** are considered to be the most notable in landscape and visual terms, and most material in the decision-making process, albeit not a reflection of their acceptability in planning terms.

12.2.4.1 Quality and Timescale of Effects

In addition to assessing the level (significance) of landscape and visual effects, EPA Guidance requires that the quality of the effects is also determined. This could be negative/adverse, neutral, or positive/beneficial.

- Positive Effects: A change which improves the quality of the environment;
- Neutral and/or balanced Effects: No effects, or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
- Negative/adverse Effects: A change that reduces the quality of the environment

The same EPA guidelines also set out categories of duration:

- Temporary – Lasting for 1 year or less;
- Short Term – Lasting 1 to 7 years;
- Medium Term – Lasting 7 to 15 years;
- Long Term – Lasting 15 years to 60 years; and
- Permanent – Lasting over 60 years.

In the case of commercial wind energy developments and the associated introduction of new kinetic structures within rural and upland areas, the quality of the landscape and visual effects will almost always be negative, rather than positive, and unless otherwise stated is the default quality of any identified effect. Where effects are imperceptible or not possible as a result of distance, context, or views being screened by foreground elements, effects are considered Neutral as the proposals neither improve nor reduce the quality of the environment.

In terms of duration, the proposed turbines will have a long-term impact, as permission is being sought for a 35-year operational life after which the turbines will be decommissioned. Some other elements of the proposed project relating to Access Tracks and elements of the proposed Grid Connection Route (GCR) will likely remain in perpetuity and will therefore have permanent effects.

12.2.5 Assessment Criteria for Cumulative Effects

Whilst the WEDG remains the overarching guidance and provides a reference to cumulative effects in relation to the aesthetic considerations in siting and design (at section 6.5, P41), DWEDG references the need to assess the cumulative effects of the scheme (at 4.7.4, P41) as including the "wind energy development and the grid connection and any other works which are ancillary to the development of the wind energy development" in order that the planning application addresses the cumulative impacts of the whole project. Cumulative in this context relates to the project as a whole and has been the approach adopted in the main assessment (as outlined in **12.2.2**).

NatureScot's 'Guidance – Assessing the Cumulative Effects of Onshore Wind Farms' (2021) is considered a key reference with regard to cumulative landscape and visual effects. GLVIA3 provides comparable guidance in relation to cumulative issues whilst recognising that it is an emerging area of study.

The principal focus of wind energy cumulative impact assessment guidance relates to other wind farms, as opposed to other forms of development (existing, permitted or subject to a valid planning application) that are considered relevant. This will be the main focus herein.

In relation to cumulative landscape impacts, the NatureScot guidance states:

"Cumulative landscape impacts can change either the physical fabric or character of the landscape, or any special values attached to it. For example:

Cumulative impacts on the physical fabric of the landscape arise when two or more developments affect landscape components such as woodland, dykes, rural roads or hedgerows. Although this may not significantly affect the landscape character, the cumulative effect on these components may be significant – for example, where the last remnants of former shelterbelts are completely removed by two or more developments.

Cumulative impacts on landscape character arise when two or more developments introduce new features into the landscape. In this way, they can change the landscape character to such an extent that they create a different landscape character type, in a similar way to large scale afforestation. That change need not be adverse; some derelict or degraded landscapes may be enhanced as a result of such a change in landscape character, especially where opportunities for new woodland planting, or peatland restoration are maximised, for example."

In relation to cumulative visual impacts, the NatureScot guidance states:

Cumulative impacts on visual amenity can be caused by 'combined visibility' and/or 'sequential impacts':

Combined visibility occurs where the observer is able to see two or more developments from one viewpoint. Assessments should consider the combined effect of all wind farms which are (or would be) visible from relevant viewpoints. 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 impacts occur when the observer has to move to another viewpoint to see different developments. Sequential impacts should be assessed for travel along regularly-used routes like major roads, railway lines, ferry routes, popular paths, etc. The magnitude of sequential effects will be affected by speed of travel and distance between viewpoints'

The WEDG describes a cumulative effect as "t*he perceived effect on the landscape of two or more wind energy developments visible from any one place*" and provides guidance as to the aesthetic effects of multiple turbine developments in various landscape contexts. It also requires that cumulative effects are represented using Zone of Theoretical Visibility maps that show other wind energy developments.

Based on both sets of guidance, 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.

In terms of visual amenity, there is a range of ways in which an additional wind farm might generate visual conflict and disharmony with 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 distorted.

Table 12.5 provides Macro Works' criteria for assessing the magnitude of cumulative impacts. The approach adopted is informed by the NatureScot Guidelines (2021) and GLVIA3 but adopts a Study Area that is consistent with the main assessment to retain a proportionate focus on the most notable effects. As industry-specific guidance for the assessment of cumulative landscape and visual effects, this guidance is widely adopted for LVIA work and is considered best practice in Ireland, and the approach adopted in relation to many other schemes across Ireland.

Other wind energy developments are the most relevant type of development in a cumulative LVIA assessment given the comparable characteristics. In this regard, small and domestic-scale wind turbines are generally not considered relevant given their proportions and potential to generate notable cumulative effects. Given the potentially extensive scope of including all other types of development within a cumulative LVIA, a proportionate level of consideration is given to schemes that are considered to have the potential to significantly alter the cumulative landscape and visual baseline environment. Factors such as scale and proximity of a proposed project are important factors, in addition to the characteristics of the proposed project in question.

Table 12.5 Magnitude of Cumulative Effect

Magnitude of Effect	Description
Very High	The proposed wind farm will strongly contribute to wind energy development being the defining element of the surrounding landscape. It will strongly contribute to a sense of wind farm proliferation and being surrounded by wind energy development. Strongly adverse visual effects will be generated by the proposed turbines in relation to other turbines.

High	The proposed wind farm will contribute significantly to wind energy development being a defining element of the surrounding landscape. It will significantly contribute to a sense of wind farm proliferation and being surrounded by wind energy development. Significant adverse visual effects will be generated by the proposed turbines in relation to other turbines.
Medium	The proposed wind farm will contribute to wind energy development being a characteristic element of the surrounding landscape. It will contribute to a sense of wind farm accumulation and dissemination within the surrounding landscape. Adverse visual effects might be generated by the proposed turbines in relation to other turbines.
Low	The proposed wind farm will be one of only a few wind farms in the surrounding area and will be viewed in isolation from most receptors. It might contribute to wind farm development becoming a familiar feature within the surrounding landscape. 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.
Negligible	The proposed wind farm will most often be viewed in isolation or occasionally in conjunction with other distant wind energy developments. Wind energy development will remain an uncommon landscape feature in the surrounding landscape. No adverse visual effects will be generated by the proposed turbines in relation to other turbines.

12.2.6 Assumption and Limitations

The assessment of effects has been derived through the use of publicly available information and site visits. In terms of the latter, whilst it is unfeasible to visit every single location from which the proposed project might be visible, the authors of the LVIA know the landscape well and have undertaken LVIA work previously within the Study Area.

12.2.7 Visual Material and Photography

Photography has been undertaken with reference to Landscape Institute TGN 06/19, guidance which advocates proportionality regarding the production of technical LVIA visual material, and appropriate levels of accuracy. It refers to different 'types' of visualisations, based on the anticipated purpose and users of the visual material, the anticipated significance of effect, and other relevant factors.

Given that the purpose of the visual material is to accompany a planning application, the production of visual material has followed a highly accurate and verifiable process to accurately communicate the scale, appearance, context, form, and extent of development. The photomontages can be likened to Type 3 and 4 in the guidance.

The photography was captured during good weather conditions with high levels of visibility. Photography has been taken to a very high standard, with a full-frame sensor camera and 50mm fixed lens mounted on a tripod with a panoramic head. The equipment used is as follows:

- Camera: Canon EOS 5D Mark II Full Frame Sensor
- Lens: Canon 50mm Lens
- Tripod and camera mount: Manfrotto MT190XPRO3 tripod with panoramic head and leveller

Locational information was obtained via GPS equipment that affords a high degree of locational accuracy.

12.3 EXISTING ENVIRONMENT

12.3.1 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 proposed project 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).

A description of the landscape context of the Site and Study Area is provided below under the headings of landform and drainage, vegetation and land use, centres of population, transport routes and public amenities and facilities as well as the immediate site context.

Additional descriptions of the landscape, as viewed from each of the selected viewpoints, are provided under the detailed assessments later using a similar structure. 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 project. The visual resource will be described in greater detail below.

Figure 12.2 Site Context Map

12.3.1.1 Landform and Drainage

The 20km study area is largely made up of a relatively gentle rolling landscape without any major rises, with the exception of the south and east of the study area. The site area itself is situated in a flat lowland area with some soft undulations within the central study area. The site area has elevations of between c.45m AOD and c. 65m AOD.

A considerable portion of the Slieve Bloom mountain range falls within the eastern sector of the wider study area. Arderin, the county high point of Laois and Offaly, is the highest peak in this area at 527m AOD. Kilduff Mountain, at 446m AOD, is the most notable rise in the southern section of the wider study area.

The Little Brosna River flows along the eastern side of the proposed project, coming as close as 94m to the nearest turbine. The Camcor river flows west from just outside Kinnitty to where it meets the Little Brosna at Birr, 5.1km north of the closest turbine. The River Nore flows across

much of the southern quadrant off the study area, approximately 15.5km south of the nearest turbine. The River Suir rises c. 17.3km south of the nearest turbine. A number of notable watercourses converge around Shannon Harbour to join the River Shannon (approximately 18.5km north). These include the Brosna, the Grand Canal as well as some smaller streams. The River Shannon flows south from the northern extent of the study area towards Lough Derg to the west of the study area. The Ballyfinboy River, (11.6km southwest), the Silver (16.3km northeast), and the Ollatrim are other watercourses located within the wider study area.

12.3.1.2 Vegetation and Land use

There are considerable areas of peatland scattered throughout the study area, including a sizeable portion of the site area. This limits the agricultural activity within the area. Much of the land outside the bogs is agricultural farmland bound by a network of mixed hedgerow vegetation, used for pasture and tillage. Closer to the urban centres, the land use is more commercial and industrial in nature.

There is much evidence of anthropogenic activity on the landscape surrounding the proposed project. This is particularly evidenced by the widespread agricultural fields, buildings and associated infrastructure. In addition, there is precedent for renewable energy development in the area. Lacka wind farm (Carrig and Skehanagh) is located 1.7 to 2.7km southwest of the proposed wind farm. Additionally, quarries at Glasshouse (2.3km south of Shinrone) and Tullaroe further indicate that this is a working landscape.

12.3.1.3 WEDG (2006), and Draft Revised DWEDG (2019)

Wind Energy Development within the Republic of Ireland is undertaken in accordance with the Department of the Environment, Heritage and Local Government Wind Energy Development Guidelines (WEDG) for Planning Authorities (2006/2019 revision). Recommendations on the siting and design of wind energy developments are provided in Chapter 6 of the current / draft revised Guidelines based on six potential landscape character types. The proposed wind farm is considered to be most associated with the ''Flat Peatland' landscape character type. However, the wider context encompasses characteristics from the landscape type 'Hilly and Flat Farmland'. Siting and design recommendations for the 'Flat Peatland' landscape type are included below:

- **Location:** "Wind energy developments can be placed almost anywhere in these landscapes from an aesthetic point of view. They are probably best located away from roadsides allowing a reasonable sense of separation. However, the possibility of driving through a wind energy development closely straddling a road could prove an exciting experience".
- **Spatial extent:** "The vast scale of this landscape type allows for a correspondingly large spatial extent for wind energy developments."
- **Spacing:** "Regular spacing is generally preferred, especially in areas of mechanically harvested peat ridges."
- **Layout:** "In open expanses, a wind energy development layout with depth, preferably comprising a grid, is more appropriate than a simple linear layout. However, where a wind energy development is located close to feature such as a river, road or escarpment, a linear or staggered linear layout would also be appropriate."
- **Height:** "Aesthetically, tall turbines would be most appropriate. In any case, in terms of viability they are likely to be necessary given the relatively low wind speeds available. An even profile would be preferred."

- **Cumulative:** "The openness of vista across these landscapes will result in a clear visibility of other wind energy developments in the area. Given that the wind energy developments are likely to be extensive and high, it is important that they are not perceived to crowd and dominate the flat landscape. More than one wind energy development might be acceptable in the distant background provided it was only faintly visible under normal atmospheric conditions."

The proposed wind farm is consistent with the siting and design guidelines for the 'Flat Peatland' landscape type. The proposed wind farm is considered to be consistent with the locational guidance, as the turbines are situated at a reasonable distance from the roadside and surrounding infrastructure as well as vegetation.

Siting in Relation to Individual Properties ('Setback')

Section 6.18 of the Draft Revised Wind Energy Development Guidelines 2019 (December 2019) refers to appropriate setback distances for visual amenity purposes. The guidelines outline a mandatory minimum setback distance of "500 meters" or the distance of "4 times the tip height" of the proposed turbines "between the nearest point of the curtilage of any residential property". This is set out in SPPR2 which is included below:

SPPR 2: With the exception of applications where reduced setback requirements have been agreed with relevant owner(s) as outlined at 6.18.2 below, planning authorities and An Coimisiún Pleanála, shall, in undertaking their development planning and development management functions, ensure that a setback distance for visual amenity purposes of 4 times the tip height of the relevant wind turbine shall apply between each wind turbine and the nearest point of the curtilage of any residential property in the vicinity of the proposed wind farm, subject to a mandatory minimum setback of 500 metres from that residential property. Some discretion applies to planning authorities when agreeing separation distances for small scale wind energy developments generating energy primarily for onsite usage. The planning authority or An Coimisiún Pleanála, shall not apply a setback distance that exceeds these requirements for visual amenity purposes.

The design of the proposed wind farm site has included a minimum set-back distance of 720 m (i.e., four times the tallest tip height being considered) (with the exception of an involved landowner, see Chapter 5 for further details) between the curtilage of sensitive property receptors and the proposed turbine locations, which will reduce the potential for construction of the wind turbine infrastructure to have a significant effect on residential amenity. The distance from the proposed onsite substation to nearest sensitive receptor is also 350 m

12.3.2 Landscape Policy Context and Designations

12.3.3 Offaly County Development Plan 2021 - 2027

12.3.3.1 Landscape Character Assessment

Nine out of the eleven turbines are contained in County Offaly with the remaining two northernmost turbines contained just within County Tipperary. A Landscape Sensitivity Assessment was completed for County Offaly and is included within the current Offaly County Development Plan. This divides the landscape of County Offaly into three Landscape Sensitivity Classifications: Low, Moderate, and High Sensitivity. The proposed wind farm lies within the Moderate and Low Sensitivity classifications. Low Sensitivity Areas are described as "predominantly flat and undulating agricultural landscape coupled with a peatland landscape.

Field boundaries, particularly along roadside verges which are primarily composed of mature hedgerows typify the county's rural landscape." in relation to development it is stated that "These areas in general can absorb quite effectively, appropriately designed and located development in all categories (including: telecommunication masts and wind energy installations, afforestation and agricultural structures)." Cutaway bog areas are classed as having a Moderate sensitivity. *"Generally, there are a number of land uses suitable for cutaway bog, not included in High Sensitivity Areas, which include wilderness, grassland, forestry and recreation. Some cutaway bog landscapes are more robust and may be considered for other uses."* In terms of development, the plan states *"some of these cutaway bogs may be appropriate for other sensitively designed and located developments including renewable energy (wind farms, biomass crops) and/or industrial use."*

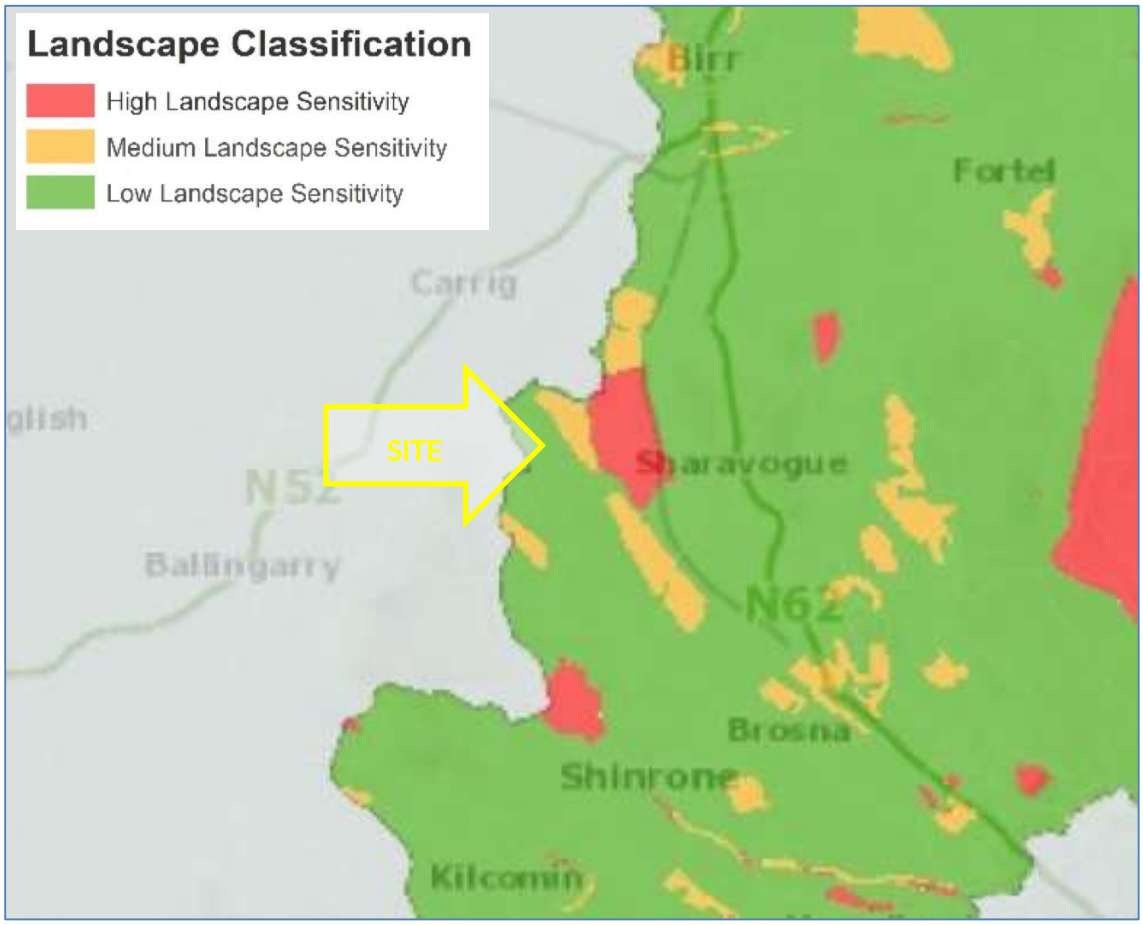

Figure 12.3 Excerpt from Offaly County Development Plan - Landscape Sensitivity Map

The CDP also sets out a number of general policy objectives relating to landscape:

BLO-24: *It is an objective of the Council to have regard to the Landscape Sensitivity Areas in Tables 4.18, 4.19 and 4.20 in the consideration of planning applications.*

BLO-25: *It is an objective of the Council to protect skylines and ridgelines from development where such developments will create significant visual intrusion.*

12.3.3.2 Areas of High Amenity

The Offaly County Development Plan identifies 13 Areas of High Amenity which are worthy of special protection / enhancement due to their uniqueness and scenic / amenity value. While none of these areas overlap with the proposed wind farm site, five of these areas are located within the 20km radius study area. These are the River Shannon and Callows; Grand Canal; Lough Boora Discovery Park; Slieve Bloom Mountains; and Other Eskers.

12.3.3.3 Offaly Wind Energy Strategy

A wind energy development strategy is included in the current Offaly County Development Plan. The assessment identifies areas which are deemed Open to Consideration for Wind Energy Developments and areas which are Not Deemed Suitable for Wind Energy Developments. Areas which are deemed Open for Consideration were designated on the following criteria:

- have a viable wind speed and good access to the electricity grid
- have fewer environmental and landscape constraints
- are characterised by dispersed or sparse patterns of rural housing
- are of a sufficient size to accommodate commercial wind farms and associated infrastructure rather than a smaller remote and dispersed area

The proposed wind farm and surrounding areas are designated as 'Areas Not Deemed Suitable for Wind Energy Developments' (Map No. 10). These areas are deemed unsuitable as a result of "significant environmental, heritage and landscape constraints and housing density." However, the proposed wind farm appears to meet all of the individual criteria, as outlined in the preceding sections of the assessment and it is reasonable to consider that the project can be assessed on its own merits given the broad-brush approach to establishing wind energy deployment zones.

It is important to note that the permitted Carrig Wind Farm (AIR[4]), which is c. 6km to the northwest of the proposed project in a similar peatland / peatland fringe farmland landscape in County Tipperary was granted in 2024 as a material contravention to the Tipperary County Development plan. The An Coimisiún Pleanála inspectors report (ABP-318689-23) in that case cited national, regional and local policy in favour of wind energy development, but also made specific reference to the fact that the Tipperary Renewable Energy strategy had inappropriately classified cutaway peatland as sensitive to wind energy development. The inspector stated;

> *"The classification of the site in the Development Plan as 'Areas not suitable for New Wind Energy Development', is based solely on the fact that the site is peatland. It does not take into consideration the degraded nature of the bog. I consider that the redevelopment of the site which comprises in the main cutover bog for the purposes of wind energy to be a good use of exploited peatland and I consider the use of the site for the purposes of wind energy generation to be an acceptable and sustainable re-use of the land."*

Notwithstanding that the Carrig Wind Farm site is wholly contained in County Tipperary, it should be noted that both County Tipperary and County Offaly take the same approach to classifying peatland areas (including cutaway peatlands) as sensitive to wind energy

[4] Atlantic Infrastructure Renewables

development and use that as justification for classifying otherwise suitable areas for wind energy development as unsuitable.

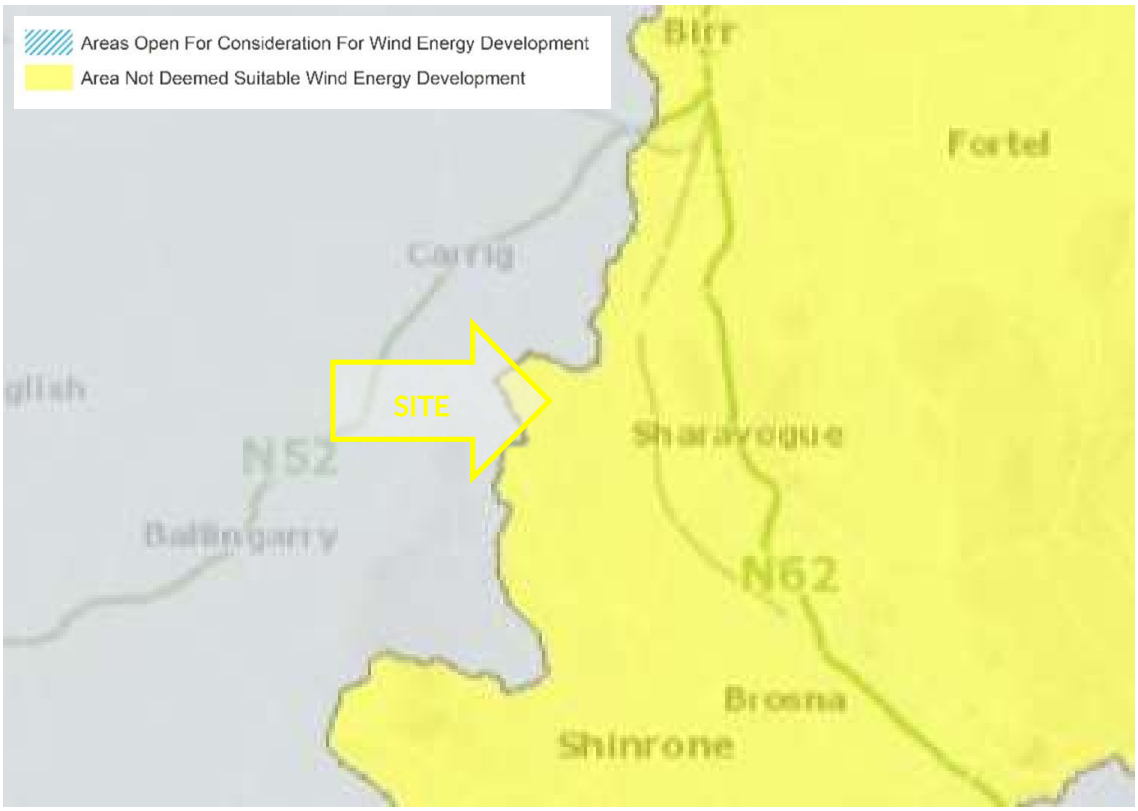

Figure 12.4 Excerpt from Offaly County Wind Energy Strategy

12.3.4 Tipperary County Development Plan 2022 - 2028

12.3.4.1 Landscape Character Assessment

The Landscape Character Assessment for County Tipperary was prepared in 2016 and has been incorporated into the latest County Development Plan. This divides the landscape into four principal Landscape Character Areas (LCAs). These are further divided into a number of geographically specific Landscape Character Types (LCTs). The proposed wind farm lies within the Plains - Peatlands and Wet Mixed Farmland LCA. The Plains has the highest coverage of the LCAs in County Tipperary and described as *"working landscapes containing most settlements and services as well as large continuous areas used for pasture, tillage and peat harvesting. This landscape also contains major rivers and many historic sites."* Within that, the Peatlands and Wet Mixed Farmland is separately compartmentalised on the basis that there is *"lower intensity of farming in these areas – resulting in fewer houses and roads and more areas of natural vegetation."* The site is located within the Borrisokane Lowlands LCT 7 which is described as a *"large, generally low lying area contains good quality pasture though there are also quite extensive pockets of tillage, largely in the southern part of this LCA. Towards the north, the landcover starts to share characteristics with the Shannon Callows LCA as well as a number of raised bogs."* This LCT has been class as having a "Moderate sensitivity to change". Additionally, there are six other LCTs within the wider study area. These are Shannon Callows; Upper Lough Derg; Nenagh Corridor; Devilsbit Uplands; Templemore Plains; Urban & Fringe Area.

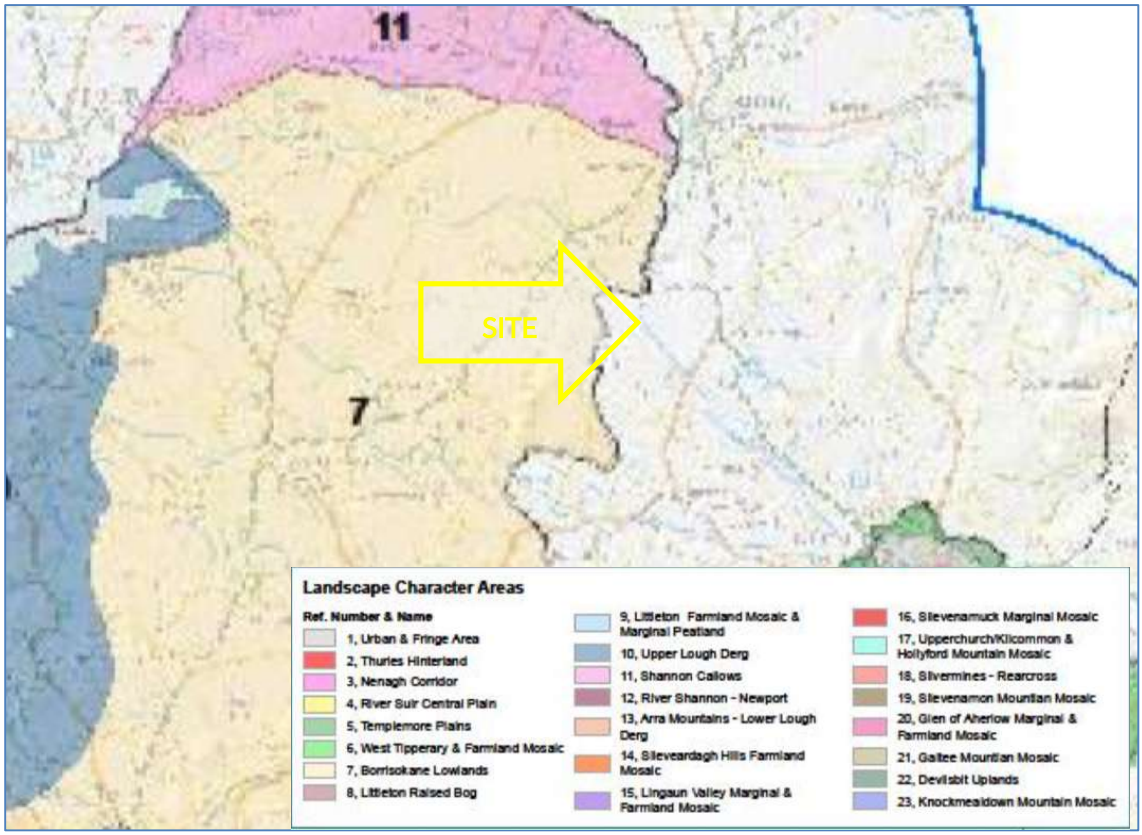

Figure 12.5 Excerpt from Tipperary County Landscape Character Assessment

The CDP also sets out a number of general planning policies relating to landscape:

11-16: *Facilitate new development which integrates and respects the character, sensitivity and value of the landscape in accordance with the designations of the Landscape Character Assessment, and the schedule of Views and Scenic Routes (or any review thereof). Developments which would have a significant adverse material impact on visual amenities will not be supported.*

11-17: *Ensure the protection of the visual amenity, landscape quality and character of designated 'Primary' and 'Secondary' amenity areas. Developments which would have a significant adverse material impact on the visual amenities of the area will not be supported. New development shall have regard to the following: a) Developments should avoid visually prominent locations and be designed to use existing topography to minimise adverse visual impact on the character of primary and secondary amenity areas. b) Buildings and structures shall integrate with the landscape through careful use of scale, form and finishes. c) Existing landscape features, including trees, hedgerows and distinctive boundary treatment shall be protected and integrated into the design proposal.*

12.3.4.2 Primary and Secondary Amenity Areas

The CDP outlines a number of primary and secondary amenity areas where the Council will ensure a "balance is achieved between the protection of sensitive landscapes and the appropriate socio-economic development of these areas. In this respect, development proposals will be required to demonstrate that they integrate and respect the visual quality of

the amenity area." The proposed wind farm is not within a Primary or Secondary Amenity Area, however, the Lough Derg primary amenity area and Devilsbit secondary amenity area are located within the wider study area.

12.3.4.3 Tipperary Wind Energy Strategy

Tipperary County Council produced an updated renewable energy strategy in 2016 in which the Tipperary Wind Energy Strategy 2016 is included in Appendix 1. The wind energy strategy identifies two designation types in relation to wind energy development which are outlined below:

Open For Consideration: "wind energy development in these areas may or may not be appropriate, depending on the character of the landscape and the potential impact of the proposed wind farm. Any impact on the environment must be low and subject to proper planning and sustainable development, and the guidelines set out in this policy document."

Unsuitable for Further Development: "new wind energy development in these areas is not permitted. These areas have a special or unique landscape character where the main objective is conservation. Where there are existing wind energy developments in these areas, their repowering may be considered appropriate. Any impact on the environment must be low and subject to proper planning and sustainable development, and the guidelines set out in this strategy."

The proposed site is located in an area designated as 'unsuitable for further development'. General wind energy policies relating to areas identified as 'unsuitable for further development' are also outlined within the Section 7 of the wind energy strategy. Those that are deemed relevant to this assessment are included below:

TWIND 4.13: *New wind energy projects will not normally be considered in these areas.*

TWIND 4.14: *Proposals for wind farm development may be considered on a case-by-case basis in the following limited circumstances: a) Where there are existing wind farms in these areas, proposals for 'repowering' may be considered appropriate, on a case by case basis. Repowering is the process of replacing older turbines with newer ones that either have a greater capacity or more efficiency which results in a net increase of power generated. Repowering may also seek to extend the overall lifespan of the development. Proposals for repowering, shall not result in a net increase in turbines, and it shall be demonstrated that there is no adverse impact on the receiving environment. or b) In areas located outside of Natura 2000 sites, proposals for an extension to an existing wind farm (of up to 20% in terms of permitted numbers of turbines or in cases where 5 or less turbines are permitted in a wind farm, one additional turbine) will be considered. The proposal will be required to demonstrate that the additional turbines may be served by the infrastructure serving the existing development. or c) In areas located outside of Natura 2000 sites, where an existing wind farm has been permitted and this permission expires over the lifetime of this Wind Energy Strategy, a revised proposal will be considered within the planning unit of the previously permitted development, and where it is demonstrated that the is no net increase in turbines. All proposals will be required to comply with the policies and development management standards set out in the Wind Energy Strategy.*

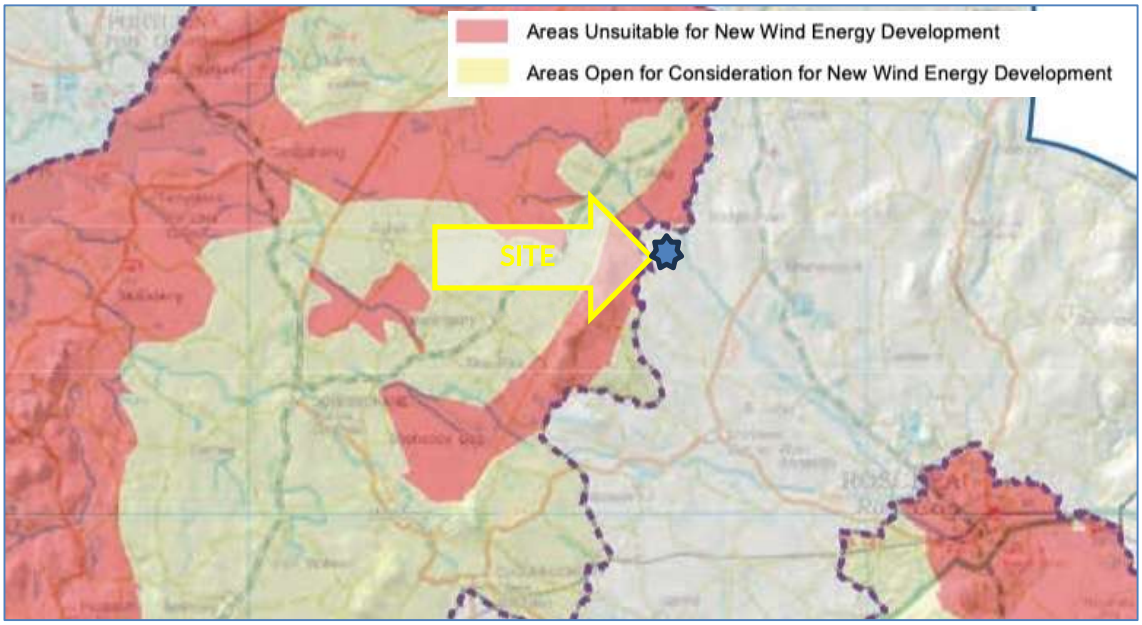

Figure 12.6 Excerpt from Tipperary Wind Energy Strategy

As highlighted in section 12.3.3.3 above in relation to the Offaly Wind Energy Strategy, the nearby Carrig Wind Farm (AIR) was granted planning permission on 2024 as a material contravention to the wind energy policy of the Tipperary County Development Plan because, amongst other reasons, it was considered by the An Coimisiún Pleanála inspector that classifying cutaway peatland areas as unsuitable for wind energy development was not appropriate. For this reason, limited weight can be given to the Tipperary Wind Energy Strategy map and the proposed project should be considered based on its effects rather than the Tipperary wind energy policy context.

12.3.5 Laois County Development Plan

The wider eastern periphery of the study area includes a section of County Laois. A County Laois Landscape Character Assessment has been prepared as part of the current Laois County Development Plan (CDP). Section 4 of the Assessment entails "Landscape Trends of County Laois," with section 4.2 relating to "Infrastructure and Industry," which states that:

"…Wind energy is also a visually prominent form of development and should be located away from highly sensitive landscapes and those of exceptional value. One landscape character type in the county being considered for this form of development is harvested peatland. While substantially lower than hill and mountain locations, the potential landscape impact will still need careful appraisal."

In Section 5 of the County Laois Landscape Character Assessment, the county is divided up into seven Landscape Character Areas. The 'Mountain, Hills and Upland Areas' and 'Lowland Agricultural Areas'. These areas are located more than 14.5km away from the proposed wind farm. As such, it is not expected that the proposed wind farm will affect the landscape character of County Laois given the considerable physical / contextual separation.

12.3.6 Galway County Development Plan

A Landscape Character Assessment was carried out by Galway County Council and incorporated into the current County Development Plan. This divides the landscape of County Galway into four Landscape Regions, which are broken down into 10 Landscape Character Types (LCT). These LCTs, are further divided into geographically distinct Landscape Character Units (LCUs). The study area includes the 'Shannon Environs Landscape' and the 'Lake Environs Landscape' character types. However, despite falling within the wider study area for this assessment, the character of Galway's landscape is not expected to be impacted by the proposed wind farm given the considerable physical / contextual separation (c. 16km).

12.3.7 Visual Baseline

12.3.7.1 Zone of Theoretical Visibility (ZTV)

Only those parts of the Study Area that potentially afford views of the proposed project are relevant to this part of the assessment. Therefore, the first part of the visual baseline is establishing a ZTV and subsequently, identifying visual receptors on which to base the visual impact assessment.

A computer-generated ZTV map has been prepared to illustrate where the Proposed wind farm is potentially visible. The ZTV map is based solely on terrain data (bare ground visibility) and ignores features such as trees, hedges, or buildings, which may screen views. Given the nature of the topography in parts of the landscape, and the combined influence of successive layers of vegetation throughout the landscape, the main value of this form of ZTV mapping is to determine those areas from which the proposed project will not be visible, such as to retain a proportionate focus on locations where there is potential for visibility.

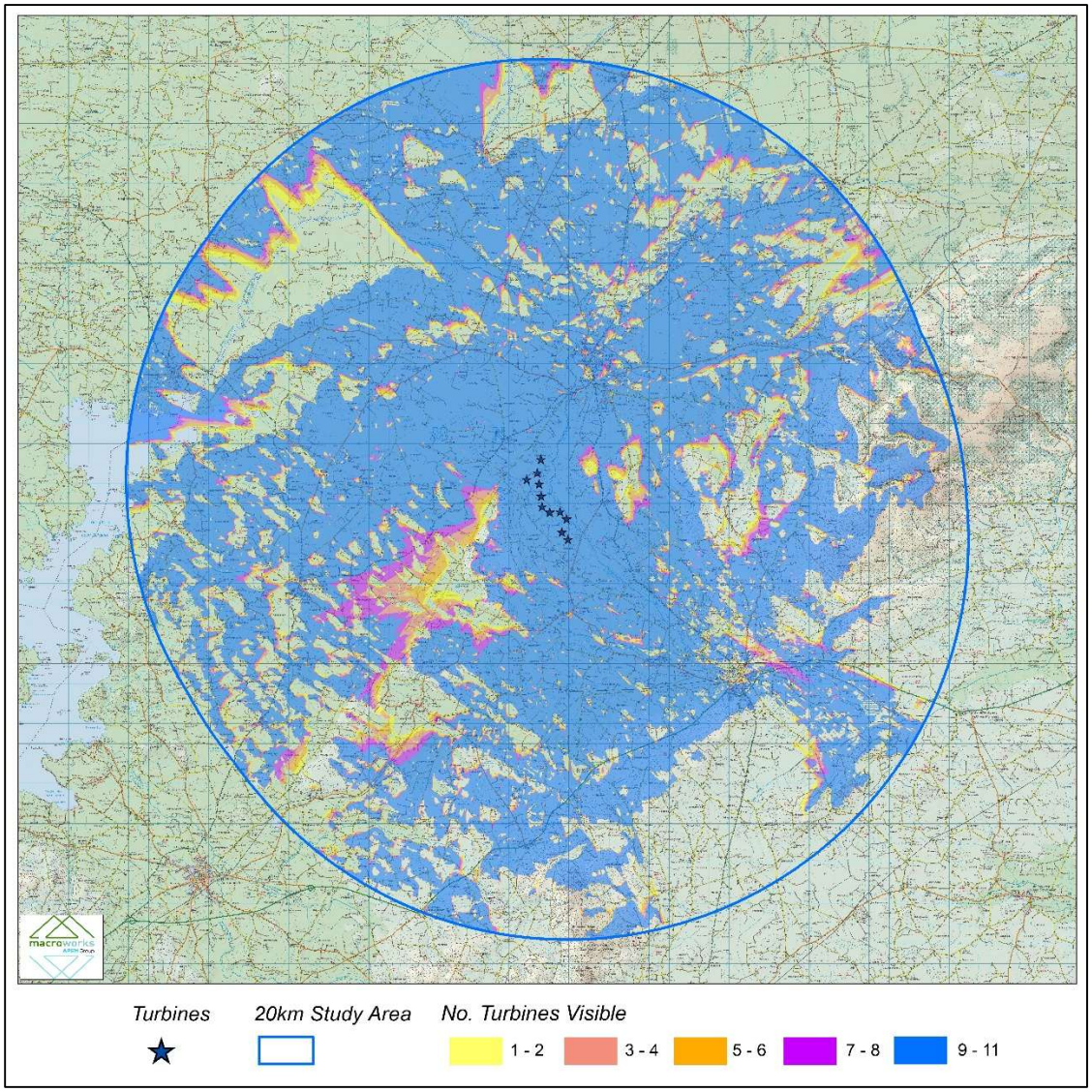

Figure 12.7 Bare-ground ZTV Map based on 180m tip height (See Appendix 12.2 for larger scale map)

The following key points are illustrated by the 'bare-ground' ZTV map (see Figure 12-7 above):

- The proposed turbines have a strong potential for visibility throughout the central study area, with considerable areas affording views of up to 11 turbines. However, there is also a sizeable area with no potential for visibility approximately 2.5km to 6km southwest of the proposed project. Additionally, there is considerable ZTV coverage along the N52 and N62 routes in this area.

- In the northern quadrant, the ZTV pattern does not have as much coverage as within the central study area, with numerous pockets of varying sizes with no ZTV coverage (no visibility). Much of the area between Redwood Bog and Portumna shows no potential for visibility, as well as the surrounds of the R356 east of Banagher. The settlements of Banagher and Cloghan showed some potential for visibility, while Birr exhibits nearly full ZTV coverage. There will be potential for visibility of up to 11 turbines up to 20km from the site at sections in the northern quadrant.

- The ZTV shows a sparser coverage in the southern quadrant. While ZTV coverage is relatively continuous from the site directly south to Dunkerrin, there are notable areas with no potential for visibility. The ZTV displays no potential for visibility at Cloughjordan and its surrounds. Additionally, a large area south of Roscrea, either side of the N62, has no ZTV coverage all the way to the extents of the study area. Much of the settlement of Moneygall has ZTV coverage, while there is potential for visibility at Roscrea and Toomevara. There is potential for visibility along sections of the M7 around Moneygall and further northeast around Rathnavogue. There is some ZTV in the Scenic Amenity Area at Kilduff Mountain.

- The eastern quadrant also sees considerable areas without and ZTV coverage. This is largely owed to the Slieve Bloom mountains and the rolling landscape in their surrounds. There is potential for visibility from certain sections of the Slieve Bloom mountains, including the summit of Arderin. The settlement of Kinnitty shows considerable ZTV coverage, while most major routes in the area show some potential for visibility. The ZTV identified potential visibility from Birr Castle and Demesne, while there is no potential for visibility at Kinnitty Castle or Leap Castle.

- There is potential for visibility in the western quadrant. There are some patches with no ZTV coverage, as a result of undulations in the landscape. The settlement of Carrigahorig as well as the Shannon River valley north of Portumna are noticeable areas with no potential for visibility of the proposed wind farm. Portumna, as well as Portumna Castle and Portumna Golf Club show potential for visibility of up to 11 turbines. Additionally, there is potential for visibility throughout much of Borrisokane. The ZTV demonstrates a potential for visibility along N65 and N52 at intermittent points.

- The most important point to reiterate with respect to this 'bare-ground' ZTV map is that it is theoretical. Any development, including wind energy developments, has the potential to be screened by intervening or surrounding vegetation (e.g., roadside hedgerows), as well as buildings, walls, and embankments in proximity to the viewer, resulting in a much lesser degree of actual visibility. For these reasons, the ZTV represents a worst-case scenario of what is already an entirely theoretical projection.

12.3.7.2 Views of Recognised Scenic Value

Views of recognised scenic value are primarily indicated within CDPs in the context of scenic views/route designations, but they might also be indicated on touring maps, guidebooks, roadside rest stops or on postcards that represent the area. The relevant scenic designations (views, prospects, and scenic routes) contained in the various CDPs throughout the Study Area have been identified, and all of those that fall within the 20km Study Area have been identified below. There were no scenic views identified from other sources in this instance.

There are numerous scenic routes/views throughout the Study Area, and a critical analysis of these scenic views/routes has been undertaken to determine their relevance to the assessment of visual effects. Where these fall outside the ZTV pattern, they have been discounted on the basis that the turbines have no potential to generate visual impacts.

As will be explained later in the assessment, VRP's (also referred to as viewpoints) have been used to study the landscape and visual impact of the proposed project in detail. Those scenic designations that fall inside the ZTV pattern were investigated during fieldwork to determine whether actual views of the proposed project might be afforded.

The critical analysis seeks to maintain a proportionate focus on the identification of significant effects, and as such a number of those that fall within the ZTV pattern have been discounted. The rationale varies, but includes:

- locations where there is limited potential for any visibility as a result of intervening screening elements;
- locations where the potential for effects to be significant would be minimal, as a result of the turbines being seen at long distances, or where views are more strongly influenced by foreground turbines; or
- the primary aspect of the view in terms of its relevance to the scenic designation, orientates away from the proposals.

Where visibility may occur and the location is considered helpful in understanding effects from parts of the landscape, a VRP has been selected for use in assessing visual impacts. The analysis is presented in **Figure 12.8.**

Offaly

There are 10 scenic views within the wider study area as designated in the Offaly County Development Plan. These are listed below:

Scenic View	Proximity to Site	Description
V02	19km Northeast	View from road No. L-08003 in the Slieve Bloom Mountains, townlands of Clough, Ballykelly, Coolcreen, Glenletter, Glenregan, Castletown, Forelacka and Glinsk towards Slieve Bloom Mountains, River Shannon northwards over lowlands.
V05	14.3km Northeast	View from N52 in the townlands of Heath, Bunaterin, Derrydolney, Ballywilliam, Curraghmore, Ballynacard, Bally na Curra towards Slieve Bloom Mountains
V06	16.3km North	R356 and Road No. L-07014 in the townlands of Cushcallow, Park, Mullaghakeeraun and Curralahan towards River Shannon and bog lands
V12	18.3km North	Road No. L-07009 in the townland of Stonestown over bog lands and Slieve Bloom Mountains

V13	10.3km Northwest	Road No. L03012 in the townlands of Glaster, Ballynasrah, Newtown, Kilmochonna over Little Brosna and Callows
V14	8.2km Northeast	R440 in the townlands of Kyle, Cloghanmore, Streamstown, Ballinree, Killaun towards Slieve Bloom Mountains
V15	7.7km East	Road No. L-04006 in the townland of Knock towards Slieve Bloom Mountains, Leap Castle
V16	14.9km Northeast	Road No. L-04025 in the townlands of Clonee, Cumber Lower looking westward over farmland
V17	19.9km Northeast	Road No. L-06034 in the townlands of Knockhill and Drinagh towards North East and North West over lowlands
V18	13.2km East	Road No. L-08008 in the townlands of Grange, Belhill, Longford Big and Church Land towards Seir Keiran Monastic Site

There are two Key Amenity Routes in County as designated in the Offaly County Development Plan, both of which are contained within the 20km study area. These are listed below:

Route	**Description**
R357 Blueball to Shannonbridge	This route links the N52 at Blueball to Shannonbridge. It passes through esker landscape, peatlands, undulating agricultural lands, Lough Boora Discovery Park and the Callows area of the River Shannon in particular.
R440 Birr through Kinnitty to the county boundary towards Mountrath, and R421 Kinnitty to Ballard.	This route provides an attractive drive within the open countryside to the attractions of the Slieve Bloom Mountains and around the foothills of the mountains themselves.

The following policy objectives relating to Key Scenic Views, Prospects, and Amenity Routes are contained in the CDP:

BLO-26: It is an objective of the Council to protect Key Scenic Views and Key Prospects contained in Table 4.21, and Key Amenity Routes as listed in Table 4.22 from inappropriate development.

BLO-27: It is an objective of the Council to ensure that proposed developments take into consideration their effects on views from Key Scenic Views and Prospects and Key Amenity Routes and are designed and located to minimise their impact on this views and prospects.

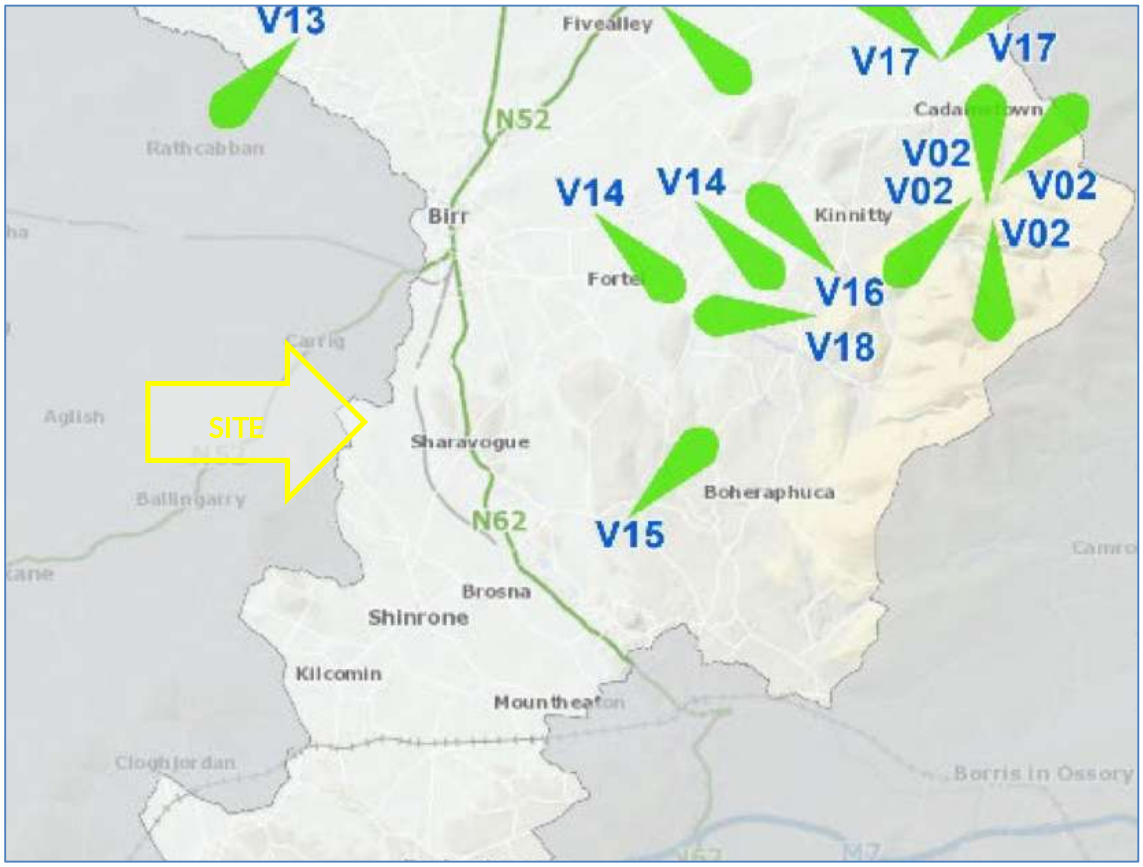

Figure 12.8 Designated Views and Prospects – Offaly County Development Plan

Tipperary

There are 7 scenic route and view designations within the wider study area as designated in the Tipperary County Development Plan (CDP schedule refers to both scenic routes and views within the same table). They are included below:

Scenic View	Proximity to Site	Description
V49	17.3km Southwest	Views west of L5080 north of Ballinderry
V50	16.3km west	Views west of the L1091 southwest of Terryglass

V51	13.2km Northwest	West of the R493 north of Terryglass
V52	12.3km Northwest	South on the R489 north of Terryglass
V53	13.1km Southwest	Views east on the R491 Cloughjordan to Nenagh
V58	16.7km Southeast	West on the N62 north of Templemore
V61	15.5km Southwest	Views of the landscape from the M7 at Clash

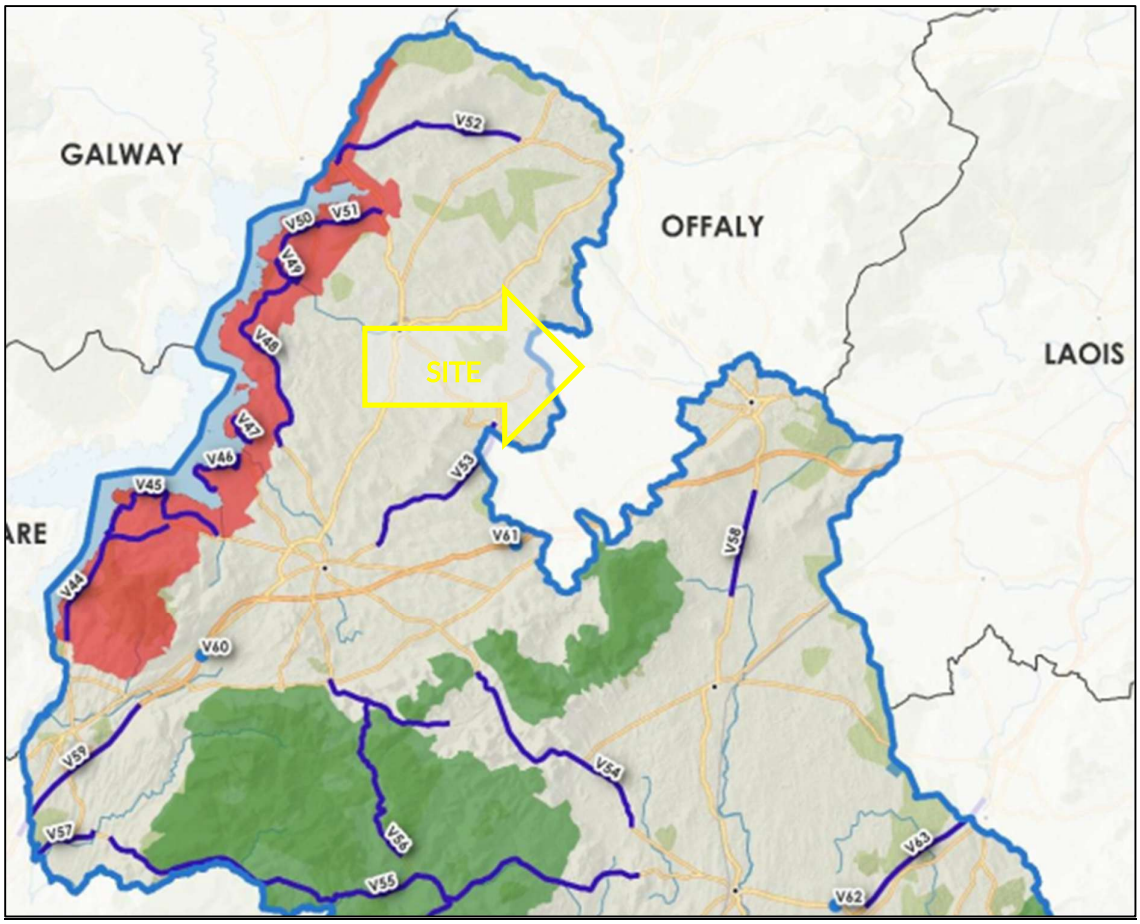

Figure 12.9 Designated Scenic Routes and View – Tipperary CDP 2022-2028

Laois

There is one designated scenic view as set out in the Laois CDP which is located within the study area:

Views & Prospects	Proximity to Site	Description
007	19km Northeast	View from road No. L10317 in the Slieve Bloom Mountains towards Slieve Bloom Mountains, Killeen River.

The following policy relates to the Scenic View and Prospects of County Laois:

SV 1: "Protect views from designated scenic routes indicated in Table 11.7 and Map (Scenic Views and Prospects in County Laois) of the Plan, by avoiding any development that could disrupt the vistas or disproportionately impact on the landscape character of the area, thereby affecting the scenic and amenity value of the views."

Galway

There are five protected views within the wider study area as designated in the Galway County Development Plan. These are listed below:

Views	Proximity to Site	Description
47	18.3km northwest	Portumna Church Spires
48	17.8km northwest	Portumna Castle Harbour
49	17.2km northwest	Lough Derg Water Recreation Park
51	16.4km northwest	Meelick Quay
52	15.8km north	Shannon bank from Banagher Bridge entering Galway

In addition, there is one scenic route within the wider study area:

Route	Description
Slieve Aughty Scenic Route	This route follows the R352 running from the outskirts of Portumna to the outskirts of Gort. The route passes through extensive areas of commercial forestry and areas of cut-over bog. Parts of the route provide expansive and panoramic views – both north and south. Large arrays of wind turbines are visible along parts of the route.

12.3.7.3 Centres of Population and Houses

The immediate surrounds of the proposed wind farm are quite sparse in terms of dwellings, with houses tending to follow local roadsides. Loughkeen (1km west) is the nearest crossroad settlement to the site, while Shinrone (3.6km south) is the closest notable settlement to the development. Birr (5km north) is the largest settlement in the central study area. In the wider study area, there are several medium to large sized towns. The most notable of these are Borrisokane (12.6km west); Cloughjordan (11km southwest); Roscrea (10.9km southeast);

Moneygall (15.3km south); Toomevara (20km southwest); Kinnitty (15.4km northeast); Banagher (15.2km north); and Portumna (18.2km northwest).

12.3.7.4 Transport Routes

The immediate surrounds of the site contains a network of local roads, including the L1071, L1072, L5031, and L80283. The R492 borders the southeastern corner of the proposed wind farm boundary. The N52 (2km west) and N62 (2km east), both of which dissect the study area, run relatively close to the proposed project to the east and west. The R491 and R489 also run within the central study area. In the wider study area, the M7 runs east west across the southern quadrant (c. 12.4km south). Additionally, the N65 runs through a portion of the western part of the study area between Borrisokane and Portumna (11.7km west).

A section of Iarnród Éireann Irish Rail railway runs across the southern quadrant of the study area (7.5km south at its nearest point), passing through Roscrea and Cloughjordan.

12.3.7.5 Identification of Viewshed Reference Points as a Basis for Assessment

The results of the ZTV analysis provide a basis for the selection of VRP's, which are the locations used to study the landscape and visual impact of the proposed project in detail. It is not warranted to include every location that provides a view of the proposed project as this would result in an unwieldy report and make it extremely difficult to draw out the key impacts arising from the proposed project. Instead, a variety of receptor locations was selected that are likely to provide views of the proposed project from different distances, different angles and different contexts, in accordance with relevant guidance and best practice.

The visual impact of a development is assessed using up to 6 categories of receptor type as listed below:

- Key Views (from features of national or international importance);
- Designated Scenic Routes and Views;
- Local Community views;
- Centres of Population;
- Major Routes; and
- Amenity and heritage features.

Key Views

These VRPs are at features or locations that are significant at the 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.

Designated Scenic Routes and Views

Due to their identification in the CDP, 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.

Local Community Views

This type of VRP represents those people who live and/or work in the locality of the proposed project, usually within a 5km radius of the Site. Although the VRPs 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 VRPs is necessary to sample the spectrum of views that would be available from surrounding dwellings.

Centres of Population

VRPs 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 and/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.

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 project. 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 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.

Tourism, Recreational and Heritage Features

These views are often one and the same given that heritage locations can be 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.

The VRPs selected in this instance are set out in **Table 12.6** and their location and orientation are shown on **Figure 12.4**, and the Map in the photomontage booklet. They have all been selected based on relevant guidance and best practice.

*Key Views (KV) / Designated Scenic Routes and Views (DSR) / Local Community views (LCV) / Centres of Population (CP) / Major Routes (MR) / Amenity and heritage features (AH)

Table 12-6 Selected Viewshed Reference Points (VRPs)

VRP No.	Location	Distance to nearest turbine (km)	Representative of	Direction of view
VP1	Meelick Harbour	16.3	SV	SE
VP2	L80082 at Ballyegan	1.8	LCV	S/SW
VP3	Local road at Moynure	6.0	LCV	NW
VP4	Local Road at Clonlee	13.3	SV	W
VP5	R440 at Ballinree	10.1	SV/SR	SW
VP6	Birr Rugby Club	5.3	CP/AH	S
VP7	L1074 at Aglish	8.4	CP	E
VP8	R489 at junction with L5052	12.8	SV	SE
VP9	L1092 at junction with N52	13.2	MR	SW
VP10	R445 at Limerick Road Roundabout (Roscrea)	10.9	CP	NW
VP11	Local road at Rathnaveoge at M7 overpass	12.5	MR	NW
VP12	Moneygall GAA Club	15.1	CP/AH	N
VP13	Toomevara Road at Brickanagh	12.0	CP	NE
VP14	Local road at Borrisokane GAA Club	12.4	CP/AH	NE
VP15	Knockshegowna GAA Club	5.4	CP/MR/AH	E
VP16	L4019 at Kilcomin Church	5.9	AH	N
VP17	L8079 outside Ettagh	3.7	LCV	NW
VP18	L4006 at Coolderry	5.9	CP/LCV	W
VP19	L4007 at Castletown	7.3	LCV	SW
VP20	L1071 at Doughkill	1.0	LCV	E/SE
VP21	R492 at Sharavogue	1.3	LCV/MR	W

VP22	L1072 at Ballinamoe	1.0	LCV	NE
VP23	L80283 at Rath Beg	1.9	LCV	SW
VP24	R489 at Riverstown	3.8	CP/LCV	S
VP25	N62 at Boolinarrig	9.7	MR	SW
VP26	Birr Castle Demesne	5.4	AH	S
VP27	L3013 at Banagher	14.4	CP	S

Viewpoint Locations

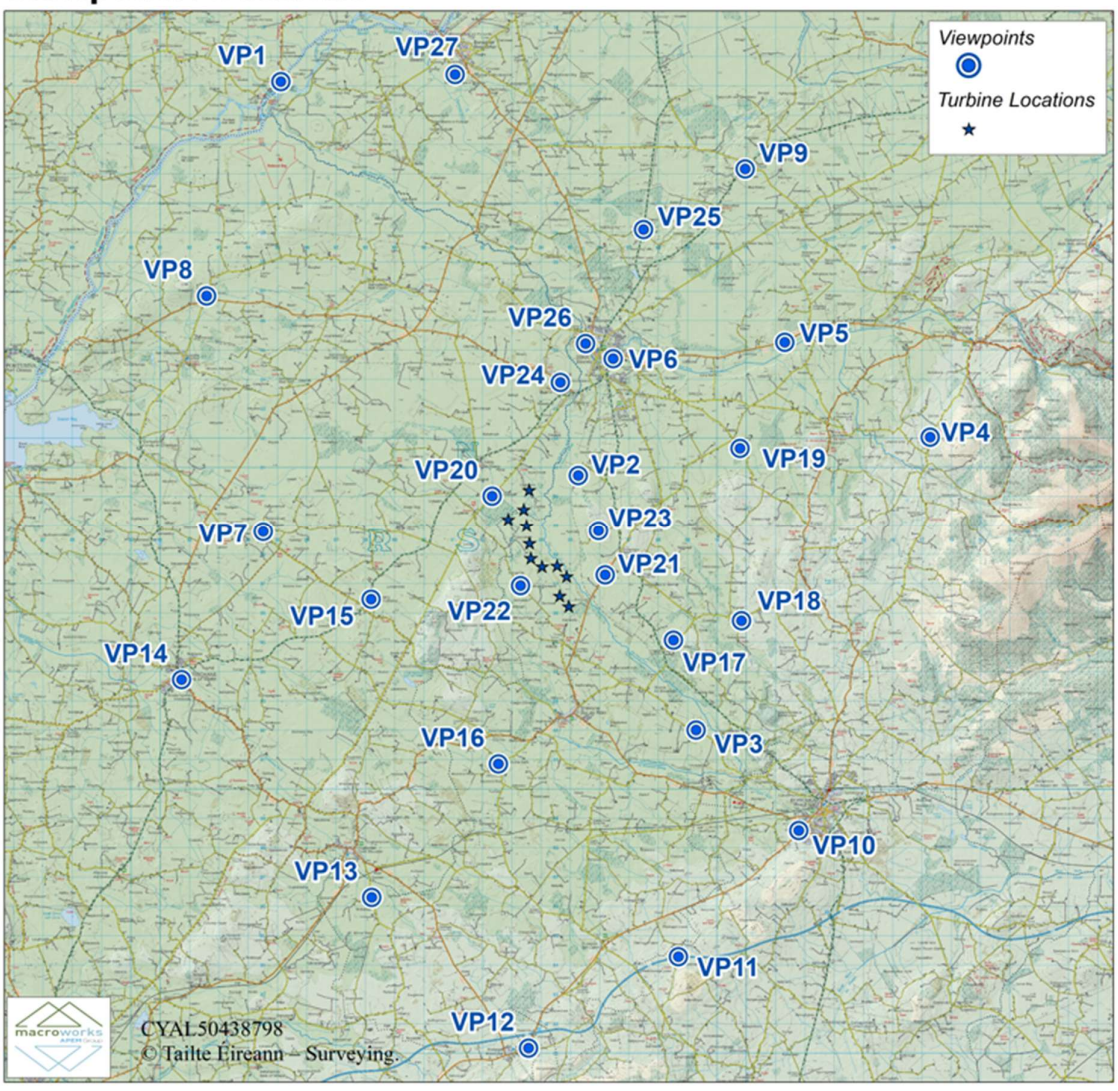

Figure 12.10 Viewpoint location map

12.3.8 Cumulative Baseline

There are currently three operational Wind Farm and two permitted wind farms contained within the study area. These are set out below in terms of number of turbines, project status and distance from the proposed site;

- Lacka Wind Farm (8 turbines / Operational / 2.5 km southwest of site)
- Carrig Wind Farm (7 turbines / Permitted / 5 km northwest of site)
- Cush Wind Farm (8 turbines / Permitted / 10 km north of site)
- Derrinlough Wind Farm (21 turbines / Operational / 13 km north of site)
- Cloghan Wind Farm (7 turbines / Operational / 15 km north of site)

12.4 Assessment of Effects

12.4.1 Do nothing Scenario / Future Baseline

12.4.1.1 Evolution of the baseline

In advance of identifying the potential landscape and visual effects of the proposed project, it is considered relevant to consider the changes that are likely to occur in the landscape over time in its absence. From a landscape and visual perspective, there are many political, economic, social and environmental factors that may influence the baseline landscape and visual environment in the longer term, and being accurate in how these may individually, or in combination, influence the baseline landscape and visual environment is problematic.

12.4.1.2 Do Nothing Effects

The '*do-nothing*' impact refers to the non-implementation of the proposed wind farm. The primary effect of this would be that the impacts and effects identified would not directly occur. In this regard the following issues are relevant. The site, which is currently contained in peatland and peatland fringe farmland, would likely be protected and preserved in line with Bord na Mona's current bog restoration best practices. The intensification of wind farm development would also likely continue, with consented developments being constructed and other applications for wind farm developments arising throughout the study area.

12.4.2 Landscape Effects

Landscape effects are assessed on the basis of landscape sensitivity weighed against the magnitude of change, both in terms of impacts of the proposed project on the physical landscape within the site and impacts on landscape character within the wider landscape setting. This wider setting is considered with respect to the Central Study Area (<5 km) as well as the Wider Study Area (5-20km).

12.4.2.1 Landscape Sensitivity

Landscape value and sensitivity are considered in relation to a number of factors highlighted in the Guidelines for Landscape and Visual Impact Assessment 2013, which are set out below and discussed relative to the proposed wind farm site and wider study area.

Central Study Area (Approximately <5km)

The site itself is located in an area comprised of a mixture of cutaway peatland, forestry and pastoral agrarian land. This mixture is seen throughout much of the central and wider study areas. The central study area is quite flat, with some gentle undulations throughout. There is a slight rise in the landscape immediately southwest of the proposed wind farm. With a height of c. 200m AOD, this is the highest section of landscape within the central study area. Due to its relatively flat and low-lying nature, the landscape of the central study area does not afford any remarkable vistas across the terrain. While there are some locally elevated positions which facilitate views across the undulating landscape, this is not considered to be a landscape of distinctive scenic quality.

The development straddles the 'Plains - Peatlands and Wet Mixed Farmland' LCA, as set out in the Tipperary CDP, and areas of Moderate and Low Sensitivity as per the Offaly CDP. The respective county development plans recognise the working nature of these landscape types, predominantly in the form of agriculture and former peat harvesting. The CDP also outline their ability to absorb new developments. While the areas of peatland are considered to be of a moderate sensitivity, there is scope and precedent for alternate land use (WF c. 15km north). The CDPs of Offaly and Tipperary, therefore, indicate that the landscape context of the proposed wind farm is not one that should be considered overly sensitive. The agricultural nature and presence of cutaway bog highlight the working nature of this landscape. Additionally, the southern extents of Birr are included within the central study area. This is an urbanised environment where land use predominantly comprises of residential, commercial, and industrial interests albeit with the important heritage and tourism asset of Birr Castle also present. There is considerable infrastructure in the surrounds, with the N52 and N62 roads, as well as Birr Airfield noticeable features on the landscape. The presence of similar existing developments on the landscape (as outlined in section 12.2.7), indicates that this is a robust landscape for wind farm development.

Notwithstanding the above, the Offaly and Tipperary Wind Energy Strategies both identify the locality of the proposed wind farm as 'unsuitable' for wind energy development. From a Landscape and Visual Impact perspective, this is not considered to be a fair reflection of the robustness of this landscape setting in terms of its capacity to accommodate wind energy development. As outlined, this is a productive rural landscape with numerous anthropogenic features with a mixture of peatland and grassland land cover and without scenic of naturalistic designations. Such landscape types have become synonymous with wind energy across the country as well as both of the host counties. This is a robust landscape context which is not deemed to be unduly sensitive to development of this scale and nature.

Therefore, on balance of these factors and in accordance with the criteria outlined in Table 12.1, the landscape sensitivity is deemed to be **Medium-low**.

Wider Study Area (c.5-20km)

A similar blend of productive farmland, forestry and peatland is seen throughout much of the wider study area, particularly within the flat landscape of the northern half, and to the southwest. Some notable landscape features within the outer study area include the southwestern extents of the Slieve Bloom Mountains to the east, the north-eastern portions of Lough Derg to the west and the northern portion of the Devil's Bit Mountains to the south. The River Shannon also flows from the north of the study area across the north-western quadrant into Lough Derg to the west. Whilst these are distinctive features, they are encompassed or contain working rural landscapes and are not highly susceptible to change in the landscape that

surrounds them. Although considerable smaller in scale / extent, Birr Castle and Demesne is the nearest (5km to the north) distinct landscape feature of considerable heritage, tourism and recreational value.

Therefore, on balance of these factors and in accordance with the criteria outlined in Table 12.1, the landscape sensitivity is deemed to be **Medium-low** throughout much of the wider study area, albeit with some discrete areas or features of higher sensitivity.

12.4.2.2 Construction Phase

12.4.2.2.1 Construction Phase Landscape Effects

The physical landscape of the site as well as the character of the central study area (5km) is affected by the proposed wind turbines as well as ancillary development such as access and circulation roads, areas of hard standing for the turbines, grid connection, works along the proposed turbine delivery route (TDR) and the substation compound. By contrast, for the wider landscape of the study area, landscape impacts relate exclusively to the influence of the proposed turbines only on landscape character. The aspects of the proposed project that are likely to have an impact on the physical landscape and landscape character are described in Chapter 2, with construction processes described in the Construction and Environmental Management Plan (CEMP) in Appendix 2-3.

12.4.2.2.2 Wind Farm Site

It is considered that the proposed project will have a modest physical impact on the landscape within the site as none of the proposed project features have a large 'footprint' and land disturbance/vegetation clearing will be relatively limited in the context of the overall site. The topography and land cover of the proposed project site will remain largely unaltered with construction being limited to tracks, areas of hard standing for the turbines, the on-site substation compound, BESS, temporary site construction compounds, proposed met mast and proposed borrow pits. Excavations will tie into existing ground levels and will be the minimum required for efficient working. Any temporary excavations or stockpiles of material will be re-graded to marry into existing site levels and reseeded appropriately in conjunction with advice from the project ecologist.

The finalised internal road layout has been designed to avoid environmental constraints, and every effort has been made to minimise the length of necessary roadway by utilising and upgrading existing forestry tracks. Furthermore, the road layout has been designed to follow the natural contours of the land wherever possible reducing potential for areas of excessive 'cut and fill'. There will be an intensity of construction stage activity associated with the access tracks and turbine hardstands consisting of the movement of heavy machinery and materials, but this will be temporary/short term in duration and transient in location. There will also be construction stage landscape effects along the surrounding road networks, which relate to the temporary modifications to surrounding local and national roads and localised removal of roadside vegetation to facilitate turbine deliveries. The construction stage effects on landscape character from these familiar and dispersed construction-stage surface activities will be dispersed and minor.

There will be one 110kV on-site substation compound constructed to collect the generated power from the proposed project and it will be an Air Insulated Switchgear (AIS) design with external componentry. It will be located in the northwest of the site approximately 500m to the southwest of the L1071 local road within an area of marginal farmland at the fringe of peatland

within County Tipperary. There is a patch of existing mature trees that will serve as a partial visual screen of the substation construction works from the local road. Immediately to the southeast of the substation and further into the site from the local road is the proposed BESS facility. This will occupy a marginally greater area than the substation but consists of low lying containerised battery units that will not be conspicuous or require large scale machinery or stockpiling of materials during the construction phase. Indeed, In the context of the proposed turbines, the proposed substation and BESS facility will present as minor ancillary development during the Construction Phase. However, there will be a higher intensity and duration of activity centred around the substation and BESS facility during construction.

All internal site cabling will be underground along internal access roads feeding into the on-site substation. Trenching will be required to place the cables but this will only require small scale works that are transient and temporary and will be barely noticeably in the context of turbine and substation / BESS construction.

A permanent meteorological (Met) masts will be erected on site. This will be a tall but narrow / fine structure that will generate little in terms of construction activity especially in the context of the construction of the turbines and substation / BESS facility.

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 than the operational phase, but it is a 'short-term' impact that will cease as soon as the proposed project is constructed and becomes operational (24 months from starting onsite to completion of commissioning of the turbines).

There will be some long term/permanent construction stage effects on the physical landscape in the form of turbine foundations and hardstands, access tracks and a substation, and the on-site substation and grid connection will remain in perpetuity as part of the national grid network. It is likely that with the exception of some residually useful access tracks, all other development features will be removed from the project site, and it will be reinstated to upland heath and forestry use upon decommissioning. Thus, the construction stage landscape effects of the proposed project are largely reversible.

Overall, the magnitude of construction stage landscape effects within the site and its immediately surrounding context is deemed to be **low** and of a **Negative** quality, but of a **Short-term** duration. Beyond 5km from the site, the magnitude of landscape impact is deemed to reduce to **Low** and **Negligible** at increasing distances as the construction activities relating to the proposed project becomes a proportionately smaller component of the overall landscape fabric. Such effect is deemed to be not significant in EIA terms.

12.4.2.3 Operational Phase

12.4.2.3.1 Operational Phase Effects on Landscape Character

12.4.2.3.2 Wind Farm Site

For most commercial wind energy developments, the greatest potential for landscape impacts to occur is as a result of the change in character of the immediate area due to the introduction of tall structures with kinetic components. Thus, wind turbines that may not have been a characteristic feature of the area become a new defining element of that landscape character. In this instance, there is some physical presence of wind turbines within the central study area with the eight small scale turbines from the Lacka Wind Farm present approximately 2.5km to

the west of the site. Notwithstanding, numerous medium and large scale wind farm developments exist within the midlands landscape just beyond the study area and may be partially and intermittently visible from within the study area, especially where locally elevated views are afforded across the wider landscape.

In terms of scale and function, the proposed wind farm is well accommodated in this landscape setting due to the broad-scale of the underlying cutaway peatland and productive agricultural land use patterns. These attributes prevent the proposed turbine height and overall wind farm extent from causing the type of scale conflict that can occur in more intricate landscape areas. The study area also has a strong history with the harvesting of peat for fuel and energy. The proposed wind farm represents a continuation of this, albeit the proposed project represents a much more environmental friendly and less invasive form of harnessing energy than the previous exploitation of the surrounding peatlands. Overall, the central and wider study area has strong productive values, which the proposed project is not at odds with. Although the proposed project represents a stronger human presence and an increased level of built development than currently exists on the site, it will not detract significantly from the salient character of this productive rural setting.

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 and is reversible. The lifespan of the project is 35 years, after which time it will be substantially dismantled and the landscape reinstated to prevailing conditions. Within 2-3 years of decommissioning there will be little evidence that a wind farm ever existed on the site, albeit the proposed on-site substation and underground grid connection will remain in perpetuity as part of the national grid infrastructure, in addition to residually useful access tracks.

In summary, the proposed wind farm will result in some physical impacts on the land cover of the site and the proposed wind farm will result in a distinct increase in the scale and intensity of development in this landscape context. However, the proposed wind farm will be well assimilated within its landscape context without undue conflicts of scale with underlying land form and land use patterns. Indeed, the extensive and broad scale of the underlying peatlands can well accommodate larger turbines as set out in the current WEDGs. For these reasons the magnitude of the landscape impact is deemed to be **High-medium** for the site and its immediate surrounds (<1km) reducing to **Medium** for the remainder of the Central Study Area. Beyond 5km from the site, the magnitude of landscape impact is deemed to reduce to **Low** and **Negligible** at increasing distances as the wind farm becomes a proportionately smaller and more familiar component of the overall landscape fabric (not significant).

12.4.2.3.3 Proposed Grid Connection Route and Turbine Delivery Route

There will be limited operational stage landscape effects relating to the proposed GCR and TDR. Landscape effects relating to the proposed TDR will be confined to just the construction stage of the project, whilst much of the proposed GCR will run underground, and the trenches will be fully reinstated during the construction phase of the proposed project. There is the potential for a slight intensification of development where the proposed GCR links back to the existing substation. Notwithstanding, any landscape impacts related to the proposed GCR during the construction stage will be minor, localised and are not considered to generate significant landscape effects (not significant).

12.4.2.3.4 Decommissioning Phase Effects on Landscape Character

With the potential exception of site access tracks that may be left in situ for use by landowners and the substation which will form part of the established grid network, the decommissioning phase will see the removal of all turbines and associated infrastructure from the site, with areas of hard standing that are of no further use reinstated and reseeded to blend with the prevailing surrounding land cover. The below-ground concrete associated with turbine bases will not be removed as this would generate potentially greater environmental effects than leaving it in-situ under the prevailing land cover.

It is expected that the decommissioning phase will be completed within six months and that within a relatively short period of time following decommissioning there will be little evidence that a wind farm was present.

The decommissioning phase will have similar effects as the construction phase primarily as a result of the removal of turbines and the movement of large turbine components away from the Site. There may be a minor disturbance to roadside and trackside vegetation that has grown during the operational phase, and temporary stockpiling of material, albeit these aspects would be temporary and readily reinstated. There are no likely significant effects as a result of the decommissioning phase.

12.4.3 Visual Effects

12.4.3.1 Sensitivity of Visual Receptors

The study area generally presents as a typical rural landscape of rolling farmland, forestry and peatlands with most of the population outside of population centres involved in aspects of the rural economy or supporting services.

The more elevated and scenic parts of the surrounding landscape are typically identified by the presence of scenic routes and view designations. Within the study area, many of the scenic designations are likely included as a result of their elevated nature, where views are afforded across the working rural landscape. It is important to note that although these routes and views offer some scenic value, they also show clear signs of human activity. The landscape is shaped by various land uses, including farmland, major roads, cutaway peatlands, plantation forests, and towns. While many of these viewpoints also represent other receptors, their primary significance in this assessment lies in their scenic designation as outlined in the relevant CDP. Visual receptor sensitivity is generally deemed to be High-medium for these scenic designations on balance their broad extent weighed against the productive rural character of the afforded views.

Views of the working agricultural landscape are generally pleasant in terms of the rolling pastoral aesthetic and ‘green’, settled working character. The network of hedgerows and vegetation contributes to some sense of naturalness and combined with the undulating topography, generates a sense of containment in many locations. Overall, the sensitivity of visual receptors within the more typical working landscape context tends to range between Medium and Medium-low, with those of a Medium sensitivity representing more open expansive views across the wider landscape.

Key differentials in terms of visual receptor sensitivity relate to the occupation of the visual receptor and whether views of the surrounding landscape are an inherent part of the experience. Static residential receptors are considered generally more susceptible to changes

in views over those where views are experienced transiently by those travelling through the landscape, particularly on major transport routes where road infrastructure and traffic volume draw from visual amenity. Likewise, receptors located in closer proximity to the site are considered more susceptible to changes in views over those where views are experienced at a distance.

12.4.3.2 Construction Phase Visual Effects

During construction, the main visual impacts will arise from frequent heavy vehicle movements and worker vehicles travelling to and from the site and using the site entrance. In addition, there will be construction machinery on site, which may rise above intervening vegetation and buildings. There will also be stockpiles of stripped topsoil and construction materials awaiting use. However, aside from the site's immediate vicinity, a large part of this temporary activity within the site will remain screened and partially screened from view the surrounding mature layers of intervening vegetation. Furthermore, construction-related activity is temporary in nature and will cease once the proposed project becomes fully operational.

Coupled with the Medium-low visual receptor sensitivities in the near surrounds of the site, the construction stage visual impacts in the immediate vicinity of the site will be no greater than Substantial-moderate and Moderate and will reduce considerable beyond 1 km from the site, where the proposed construction works will be more heavily screened. As a result, construction stage visual impacts are considered to be **Not Significant**.

12.4.3.3 Operational Phase

As stated previously, visual effects are discussed around visual receptor groups, based on the outcome of the visual assessment that has been undertaken for each of the 27 selected representative viewpoint locations. This section should be read in conjunction with this visual assessment and the associated photomontage set accompanying the EIAR.

A summary table (**Table 12.7**) collates the operational stage effects identified within this visual impact assessment, and a discussion is provided thereafter in relation to the various visual receptor groups.

Table 12-7 Visual Impact Assessment Summary

VRP No.	Distance to nearest turbine km	Visual receptor Sensitivity (see appendix 12.1)	Visual Impact Magnitude	Significance of Visual effect
VP1	16.3	**High-medium**	Negligible	**Imperceptible / Neutral / Long-term**
VP2	1.8	**Medium-low**	Medium	**Moderate-slight/ Negative/ Long-term**
VP3	6.0	**Medium-low**	Low	**Slight/ Negative/ Long-term**
VP4	13.3	**High-medium**	Low	**Slight/ Negative/ Long-term**
VP5	10.1	**High-medium**	Low	**Slight/ Negative/ Long-term**

VRP No.	Distance to nearest turbine km	Visual receptor Sensitivity (see appendix 12.1)	Visual Impact Magnitude	Significance of Visual effect
VP6	5.3	**Medium low**	Low-negligible	**Slight-imperceptible/ Neutral-Negative/ Long-term**
VP7	8.4	**Medium-low**	Negligible	**Imperceptible / Neutral / Long-term**
VP8	12.8	**High-medium**	Low	**Slight/ Negative/ Long-term**
VP9	13.2	**Medium low**	Negligible	**Imperceptible / Neutral / Long-term**
VP10	10.9	**Medium low**	Low	**Slight-imperceptible/ Negative/ Long-term**
VP11	12.5	**Medium**	Low	**Slight / Negative/ Long-term**
VP12	15.1	**Medium-low**	Negligible	**Imperceptible / Neutral / Long-term**
VP13	12.0	**Medium-low**	Negligible	**Imperceptible / Neutral / Long-term**
VP14	12.4	**Medium-low**	Negligible	**Imperceptible / Neutral / Long-term**
VP15	5.4	**Medium-low**	Negligible	**Imperceptible / Neutral / Long-term**
VP16	5.9	**Medium-low**	Low	**Slight / Negative/ Long-term**
VP17	3.7	**Medium**	Medium-low	**Moderate-slight / Negative/ Long-term**
VP18	5.9	**Medium-low**	Low	**Slight / Negative/ Long-term**
VP19	7.3	**Medium-low**	Low-negligible	**Slight-imperceptible/ Neutral-Negative/ Long-term**
VP20	1.0	**Medium-low**	High	**Substantial-moderate/ Negative/ Long-term**
VP21	1.3	**Medium-low**	High-medium	**Moderate/ Negative/ Long-term**
VP22	1.0	**Medium-low**	High-medium	**Moderate/ Negative/ Long-term**
VP23	1.9	**Medium-low**	High-medium	**Moderate/ Negative/ Long-term**

VRP No.	Distance to nearest turbine km	Visual receptor Sensitivity (see appendix 12.1)	Visual Impact Magnitude	Significance of Visual effect
VP24	3.8	**Medium-low**	Low	**Slight / Negative/ Long-term**
VP25	9.7	**Medium-low**	Negligible	**Imperceptible / Neutral / Long-term**
VP26	5.4	**High-medium**	Negligible	**Imperceptible / Neutral / Long-term**
VP27	14.4	**Medium**	Low-negligible	**Slight / Neutral-Negative/ Long-term**

Visual Effects on Designated Scenic Routes and Views

All of the scenic routes and views that fall inside the ZTV pattern were investigated during fieldwork to determine whether actual views of the proposed project might be afforded. Of the 27 viewpoints assessed as part of this LVIA, four were selected specifically in relation to designated scenic route / view receptors. These were VP1 at Meelick Harbour, VP4 at Clonlee, VP5 from the R440 at Ballinree and VP8 from the R489 at its junction with L5052 local road. All of these scenic designations was considered to have a High-medium sensitivity on balance of the broad and elevated vistas afforded, but the scenes containing typical rolling farmland. The only exception being VP1, which is a more enclosed but tranquil setting at Meelick Harbour.

VP1 at Meelick Harbour was used as an illustrative view – to illustrate the absence of visibility at this sensitive receptor resulting in an Imperceptible significance of effect. At all of the other scenic viewpoints, the significance of effect was deemed to be Slight on the basis of considerable viewing distance, the broad and productive rural context and / or a degree of intervening screening by vegetation.

For the reasons outlined above, the visual effects at scenic designations is deemed to be **Not Significant**.

Visual effects on Local Community Views

In total, of the 27 viewpoints assessed as part of this LVIA, 11 were selected as being relevant to a consideration of visual effects in relation to the local community due to being within approximately 5km of the nearest proposed turbines. These include VP2, VP3, VP15, VP16, VP17, VP18, VP19, VP20, VP21, VP22, VP23 and VP24.

The sensitivity was generally considered to be Medium-low on balance of the views representing the everyday views of people who live in the local area but also comprising of typical rural scenes of farming and forestry interspersed with peat bogs. The only exception is VP17, which is deemed to be of Medium sensitivity due to the elevated and expansive nature of the afforded view.

The highest significance of effect at any of the local community viewpoints is Substantial-moderate and this occurs at VP20, which is only 1km from the nearest turbine. The turbines are

seen at a dominant but not overbearing scale in the broad rural context that is visible from VP20. They are seen in a clear and legible manner with a strong sense of perspective generated between the nearest and furthest turbines due to the scale differential between them. This emphasises the depth of the array and the provides a sense of space and distance to reinforce the extent of receiving context. There will be a marked increase in the scale and intensity of built development within the VP20 visual setting, but it is a broad and productive rural context that can accommodate the wind farm in terms of scale and function.

The significance of effect is also deemed to be Moderate from VP21, VP22 and VP23 for similar reasons of the scale in relation to proximity of the nearby turbines (all within 2km) and the scale and intensity they bring to otherwise typical rural scenes. In none of these views are the proposed turbines deemed to be overbearing in terms of scale or enclosure and nor are they considered to be ambiguous features within the broad and productive rural setting.

Viewpoints VP2 and VP17 both incur Moderate-slight significance judgements, but for different reasons. VP2 is the closer of the two and the turbines are seen at a prominent scale, albeit partially screened by intervening vegetation. At VP17, which has a marginally higher sensitivity judgement there is a clear view of most of the turbines, but some scale conflict with the existing turbines that lie beyond on the same viewing alignment.

At the remaining Local Community viewpoints, the significance of visual effect does not exceed Slight. Overall, it is considered that although there will be some notable negative impacts from the Local Community receptor locations, these are **Not Significant**.

Visual effects on Centres of Population

In total, of the 27 viewpoints assessed as part of this LVIA, 10 were selected as being relevant to the consideration of visual effects from Centres of population and in some instances coinciding with the Major Route and Local Community View receptor types. The Centre of Population viewpoints include; VP6 at Birr, VP7 at Aglish, VP10 at Roscrea, VP12 at Moneygall, VP13 near Cloughjordan, VP14 at Borrisokane, VP15 at Knockshegowna, VP18 at Coolderry, VP24 at Riverstown and VP27 at Banagher.

Population centres are generally considered to have mid to low levels of visual receptor sensitivity because they are built-up environments where visual change is more common and less impactful particularly where it occurs within the surrounding rural hinterland.

The highest significance of visual effect arising from the Centre of Population receptor group (and not already covered by a summary in relation to above receptor types) is Slight and this occurs at VP18, VP24 and VP27. From VP18 and VP24, which are both near the perimeter of the 5km radius central study area, there are partial views of blades sets that present at a noticeable scale, but due to distance and screening are ultimately not a notable draw on visual amenity. The turbines are more openly visible within the more open and elevated view from VP27 at Banagher but are seen at a small scale within a vast context from a distance of nearly 15km.

At all other Centre of Population viewpoints, the significance of effect is deemed to range between Slight-imperceptible and Imperceptible with the majority in the latter category.

For the reasons outlined above, the visual effects at Centres of Population are assessed to be **Not Significant**.

Visual effects on Major Routes

Only three of the 27 representative viewpoints were selected as being specifically relevant to the consideration of visual effects from Major Routes. These include VP9 on the N52 at Fivealley, VP11 on an overpass above the M7 motorway at Rathnaveoge, and VP25 on the N62 at Boolinarrig.

Major routes typically provide views experienced whilst in motion and these may be fleeting and intermittent depending on screening by intervening vegetation or buildings. As receptors are generally focussed on travelling between destinations, they are not generally considered to be sensitive to visual change within the surrounding landscape. Consequently, visual receptor sensitivity is typically in the range of Medium-low to Low.

At both VP9 and VP25 there will be no clear views of the proposed turbines, hence the significance of effect is deemed to be Imperceptible in both cases. From VP11, there is some distant visibility of the proposed turbines and the overall effect is deemed to be Slight. However, the main purpose of this viewpoint selection is to illustrate that there will not be any visibility of the proposed wind farm from the M7 motorway that runs below the overpass.

For the reasons outlined above, the visual effects at Major Routes are assessed to be **Not Significant**.

Visual effects Amenity and Heritage Features

Of the 27 viewpoints assessed as part of this LVIA, five were selected as being relevant to the consideration of visual effects from Amenity and Heritage locations. These include; VP6 at Birr Rugby Club, VP12 at Moneygall GAA club, VP14 at Borrisokane GAA Club, VP15 at Knockshegowna GAA Club, VP16 at Kilcomin Church and Cemetery, and VP26 at Birr Castle Demesne. In the majority of cases these viewpoints relate to views from local sports pitches and have been assessed more relevantly under the heading of Centres of Population above. Sports pitches are often used for viewpoints from settlements as they are key nodes within the community and tend to have open foregrounds across the sports pitches giving the greatest potential for visibility of proposed wind farms within the rural hinterland. Only VP16 and VP26 are specifically relevant to heritage features. Whilst a Slight significance of effect was assessed at Kilcomin Church and Cemetery it is a substantially enclosed features contained within private property that does not appear to be regularly visited. Conversely, Birr Castle and Demesne are a very popular heritage destination for tourists and visitors, but no visibility of the proposed wind farm is afforded from within these heavily enclosed grounds that are over 5km from the wind farm site.

For the reasons outlined above, the visual effects at Amenity and Heritage features are assessed to be **Not Significant**.

Night time Visual Effects from lighting

Red aviation lighting will be provided on the hubs of outer turbines within the array. This is of a low intensity designed to be seen from distance but not to illuminate the surrounding area. It can also be baffled such that it is not readily visible from the ground below the turbines.

Although this is a rural area with relatively low levels of ambient lighting, it is not an area subject of a dark skies designation. Effects from turbine aviation lighting will be subtle and dispersed and are not considered to generate significant effects on nighttime visual amenity and enjoyment of dark skies.

12.4.3.4 Decommissioning Phase Visual Effects

With the potential exception of the substation and site access tracks that may be left in situ, the decommissioning phase will see the removal of all turbines and above-ground infrastructure from the Site, with areas of hard standing that are of no further use reinstated and reseeded to blend with the prevailing surrounding land cover.

It is expected that the decommissioning phase will be completed within one year and that within a relatively short period of time following decommissioning (approximately 2-3 years) there will be little evidence that a wind farm was present.

The decommissioning phase will see a similar nature of effects to the construction phase due to the movement of heavy machinery within the Site, and to and from the Site removing turbine components. However, such effects will be temporary in duration and decrease in scale as turbines are removed from view and the landscape is substantially reinstated.

As with construction phase impacts, decommissioning phase effects are considered to be Not Significant

12.4.3.5 Visual effects Conclusion

Based on the visual impact assessment outlined, it is not considered that the proposed project will generate significant visual impacts at receptors in the Central Study Area or Wider Study Area.

12.5 Mitigation Measures

12.5.1 Construction Phase Mitigation

Aside from construction stage mitigation measures to minimise land and vegetation disturbance and dust emissions (which may reduce visual amenity), there are no specific mitigation measures to be implemented. The appropriate management and reinstatement of excavations, in a timely manner, will ensure that any negative effects caused, for example at site entrances or road upgrade locations, are minimised insofar as possible. Similarly, the progressive reinstatement and landscaping of the site will remediate any short-term negative effects on the local landscape.

12.5.2 Operational Phase Mitigation

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.

In this instance, the two main forms of landscape and visual mitigation employed were:

- Mitigation by avoidance and design
- Buffering of Residential Receptors

12.5.2.1 Mitigation by Avoidance and Design

The proposed wind farm has been located in a robust and productive rural landscape encompassing peatland fringe and marginal farmland where relevant landscape designations identify medium and low levels of landscape sensitivity within both the Offaly and Tipperary County Development Plans. The organic linear layout responds to the underlying landscape pattern and also accords with the design guidance for 'Flat Peatland' and 'Hilly and Flat Farmland' in the Wind Energy Development Guidelines (2006 and draft revised 2019).

12.5.2.2 Buffering of Residential Receptors

For the proposed project, the minimum distance of any turbine from the nearest residential receptor is 720 m, which is in excess of the draft revised Wind Energy Development Guidelines (2019) minimum set back of 500m and in line with the setback distance of 4 times the tip height of the proposed turbines. In this instance and based on the Draft revised WEGS 2019, the setback distance for visual amenity purposes is 720m from residential receptors on the basis of the 180m high turbines (this represents the greatest potential setback distance with regard to all potential turbines ranges).

Variation in residential buffer distances within the nearest kilometre has a much more noticeable effect on perceived turbine scale than when it occurs in the context of more distant views. This is due to the law of perspective – that doubling the distance to an object halves its perceived height. The reduction factor is even more pronounced when considered in the context of the 'swept area' of turbine blades and not just their tip height. This exponential 'scale in relation to distance scenario is illustrated in **Figure 12.11** below.

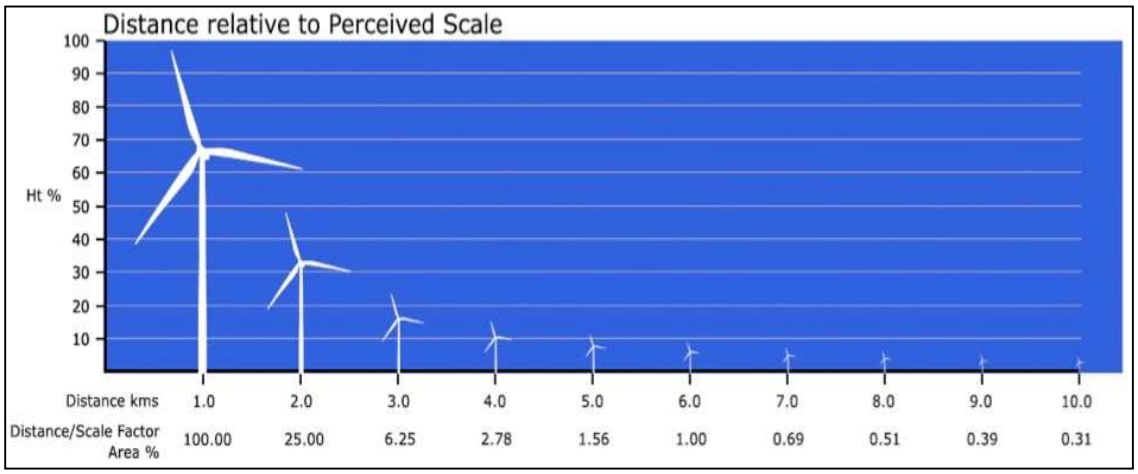

Figure 12.11 Turbine 'scale in relation to distance' relationship

12.5.2.3 Decommissioning phase

Upon decommissioning, the turbines, Met Mast, BESS will be removed. Other elements will be retained in situ to avoid further disturbance. No specific landscape or visual mitigation measures are proposed in relation to the Decommissioning phase beyond adherence to best practice methods to reduce environmental impacts upon the environment.

12.5.2.4 Monitoring

As there are no specific landscape and visual mitigation measures proposed in relation to reducing landscape and visual effects, monitoring measures are not considered necessary.

12.6 Residual Effects

Best practice in general terms requires that the level of significant effects be assessed, mitigation proposals identified, and the 'residual' effect (with mitigation in place) then re-assessed to demonstrate the effectiveness of the mitigation proposed.

No specific landscape or visual mitigation measures are proposed beyond adherence to best practice methods to reduce environmental impacts upon the environment, and undertaking reinstatement / replacement planting, and seeding works. These measures together with the consideration given to the siting and design of the proposals, have been iteratively embedded into the scheme being assessed as part of a holistic approach to design and assessment, and it is not considered that there are any specific additional mitigation measures that would moderate effects further. The effects of the scheme described should be considered the 'residual' effects.

12.6.1 Turbine Range Assessment

For the landscape and visual assessment, the pertinent aspect of the design range relates to the turbine dimensions used to prepare the photomontages, upon which, the visual impact assessment is based.

Macro Works has taken the approach of using the highest possible tip height and highest hub height combination. This is on the basis that a viewer who can see a hub rising above a skyline ridge is likely to feel they are seeing more of the turbine than when the hub is screened from view (i.e. in the case of a lower hub / longer blade combination). That premise is based on the hub being perceived as the key and central component of a turbine in a figurative sense. In this instance, the photomontages were prepared using a turbine envelope of 150m rotor diameter, 105m hub height and 180m tip height which represents the most potential for visibility of the hub and tip height combination.

An alternative range of turbine dimensions is also being proposed by the applicant. However, it is important to note that all the potential turbines will have a tip height of no more than 180m and no less than 179.5. The only other variation in the turbines relates to their potential rotor diameter and hub Height. The comparative scenarios and range of turbine types considered which covers the entire range are included below:

- Base-case Scenario – 105m Hub Height, 150m Rotor Diameter, 180m Tip Height (used and assessed in the LVIA)
- Alternative Scenario 1 – 98.5m Hub Height, 163m Rotor Diameter, 180m Tip Height
- Alternative Scenario 2 – 105m Hub Height, 149m Rotor Diameter, 179.5m Tip Height

As can be seen from the comparative photomontages prepared for VP20, VP22 and VP23 and included in Volume 4, there is only a very subtle difference in the rotor diameter to hub height ratios of the proposed turbines across all three scenarios, which will be nearly impossible to discern from even the nearest visual receptors. Indeed, the visual presence of the turbines in all instances will be the same due to subtle variations in the turbine dimensions, and it is not considered that any of the turbine combinations proposed in the entire range will result in any

contrasting landscape or visual effects than those already stated in the assessment above. Furthermore, the subtle variations in the turbine dimensions will be indiscernible beyond c. 2-3km from the proposed wind farm site.

Regardless of whether the difference between the alternative turbine dimensions can be discerned or not, there will be no material difference in the level of visual impact between them, and certainly not a higher impact than the base-case outlined in the visual impact appraisal highlighted above. Furthermore, the alternative turbine dimensions will result in no material difference to the residual landscape effect outlined in section 12.6. above. Thus, the submitted LVIA is deemed to comfortably cover the range of potential turbine dimension options proposed and it is not considered necessary to prepare separate photomontages / assessments at all viewpoints for all possible turbine dimensions highlighted above.

12.7 Cumulative Effects

In cumulative landscape impact terms there is not a strong concentration of existing wind farms within the central study area currently but the one that does exist is nearby (2.5km southwest) where it already contributes to landscape character at a local level. In combination with this operational wind farm, the proposed wind farm will contribute to the extent and intensity of wind energy development within the central study area but without contributing to the diversity of land use given the established precedent. Even in combination these two modest scale developments do not contribute to a marked change in landscape character, as this area remains a rural landscape context of primarily agriculture, forestry and cutaway peatland that also contains wind energy development. It will not become a landscape that is defined by wind energy development.

There are two mid to large scale wind energy developments contained in the outer northern portion of the study area that have been recently constructed (Derrinlough and Cloghan). These are adjacent to each other and likely to be read as a single large-scale development of 28 turbines covering flat peatland areas of County Offaly. These are a notable contributor to land use and landscape character in the northern study area.

In terms of cumulative visual impact potential, a cumulative ZTV map has been prepared (See Figure 12.12). This highlights that from the vast majority of the areas that have some potential for visibility of the proposed project, there is also potential to see other existing or permitted wind farms that are contained within the study area. Notable areas where only other wind farms will be visible are contained within the outer northern and eastern areas beyond hills that otherwise screen the proposed project. The sporadic visibility of other wind farms in isolation in the southwest of the study area is likely to relate solely to the existing Lacka Wind Farm due to its relatively closer proximity than the proposed wind farm.

Notwithstanding the theoretical potential for cumulative visibility in a bare-ground scenario, it is clear from the photomontage set and the relatively limited intervisibility with the nearby Lacka Wind Farm that the cumulative ZTV map considerably overrepresents actual cumulative effects and a more detailed analysis of the likely cumulative visual impact is provided below based on the photomontage set.

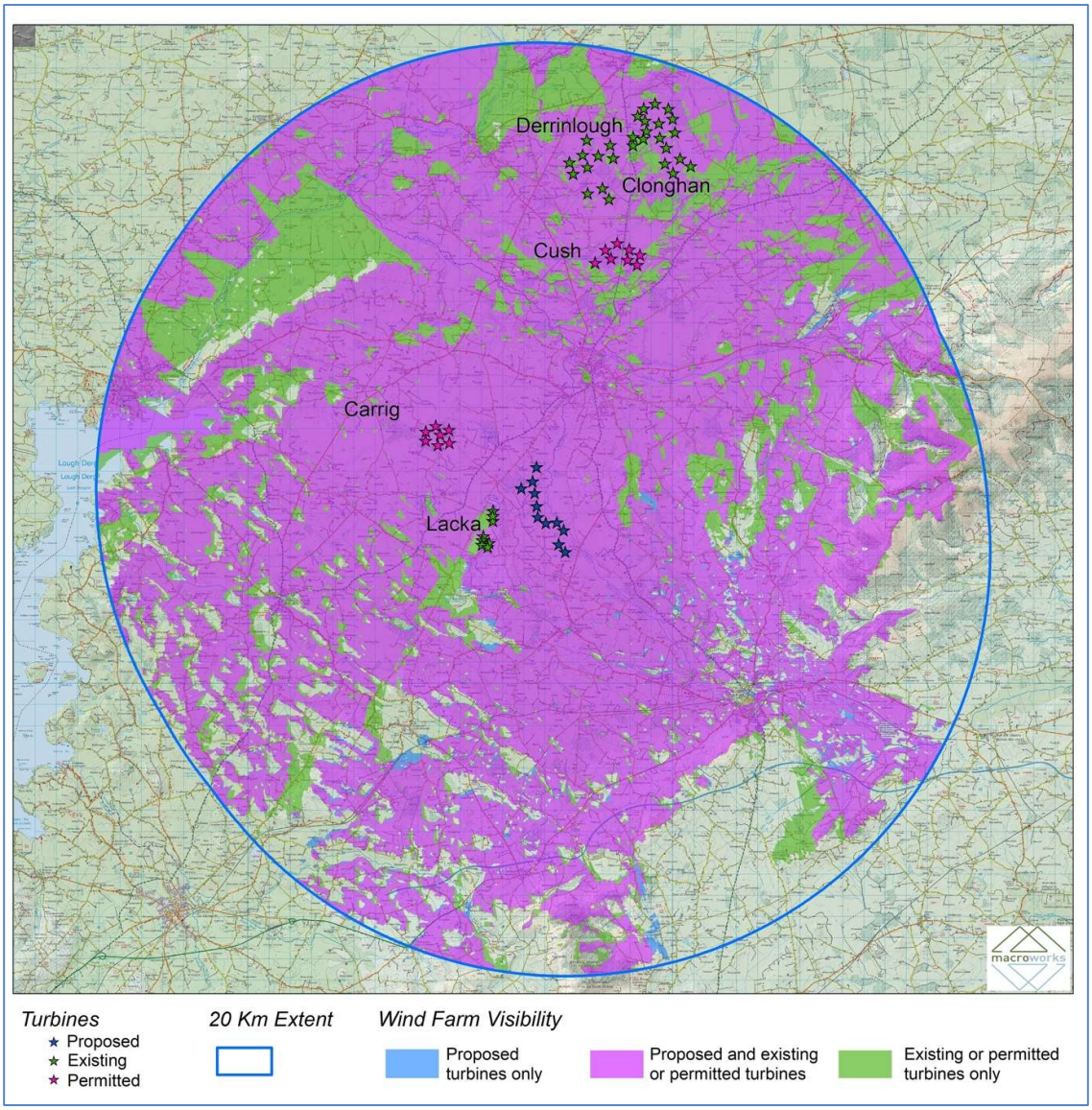

Figure 12.12 Cumulative ZTV Map

From a cumulative visual impact perspective, the proposed project is only seen in combination with the existing Lacka Wind Farm in a modest number of the representative viewpoints used for the visual impact assessment. These are primarily those contained in relatively close proximity to the east of the proposed project where turbines from the Lacka Wind Farm are visible in the background rising at a modest scale above the skyline (VP18, VP21 and VP23). There is also potential for relatively close views of turbines from both developments from open locations between these developments (represented herein by VP20 and VP22) albeit in opposite / broadly disparate viewing directions. The key point to note is that cumulative effects in relation to Lacka Wind Farm have already been assessed in the context of the main visual impact assessment of the proposed project because it forms part of the baseline context. There were no instances where the visual relationship with the Lacka turbines contributed to confusion, visual discord or distinct proliferation of wind turbines.

In relation to the more distant developments, the greatest potential for cumulative effects from intervisibility arise in relation to the permitted Carrig Wind Farm. However, in this context either Carrig Wind Farm will be a distant background feature of closer views of Ballincor Wind Farm i.e. from the east of Ballincor or the opposite will occur from just to the west of Carrig. From locations between, the two developments may both be seen in relatively close proximity, but in opposite viewing directions.

It will be very rare that the operational cluster of developments within the outer northern portion of the study area will be seen in combination or succession with the proposed wind farm and not to the degree that material cumulative effects will be experienced. However, some linear receptors, such as the N52 National secondary road might afford sequential views of this northern cluster if developments followed shortly thereafter for road users by a view of the proposed project – or vice versa for northbound traffic.

On the basis of the reasons outlined above, the magnitude of cumulative impact is deemed to be Low in accordance with the criteria set out in Table 12.5. This will not generate significant cumulative effects.

12.8 Statement of Significance

Based on the landscape, visual and cumulative assessment contained herein, it is considered that there will not be any significant effects arising from the proposed project.

12.9 Summary of Significant Effects

It is not considered that there will be any significant effects arising from the Proposed wind farm.

12.10 REFERENCES

- Environmental Protection Agency (EPA) publication 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports (2022) and the accompanying Advice Notes on Current Practice in the Preparation of Environmental Impact Assessment Reports;
- Landscape Institute and the Institute of Environmental Management and Assessment publication entitled Guidelines for Landscape and Visual Impact Assessment – Third Edition (2013);
- NatureScot: Assessing the cumulative landscape and visual impact of onshore wind energy developments (2021);
- Department of the Environment, Heritage and Local Government Wind Energy Development Guidelines (2006) and Draft Revised Wind Energy Development Guidelines (2019);
- Scottish Natural Heritage (SNH) Visual representation of wind farms: Best Practice Guidelines (version 2.2 - 2017); and
- Landscape Institute Technical Guidance Note (TGN) 06/19 Visual Representation of development proposals (2019).
- Failte Ireland: Report On Visitor Awareness And Perceptions Of The Irish Landscape (2018)