



GALETECH
ENERGY SERVICES

Islandmore Wind Farm

Environmental Impact Assessment
Report

Chapter 10: Landscape

Islandmore Wind Farm Limited

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10.1 INTRODUCTION

This chapter assesses the likelihood of significant effects on the landscape and visual amenity of the receiving environment during the construction, operation, and decommissioning phases of the project.

This chapter is supported by a visual impact assessment at **Annex 10.1 (Volume II)** and a portfolio of photomontages at **Annex 10.2**.

This Landscape and Visual Impact Assessment (LVIA) describes the landscape context of the project site and assesses the likely landscape and visual effects of the project 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 a 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 project without causing unacceptable adverse changes to its character.

Visual Impact Assessment (VIA) relates to assessing 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 project in conjunction with other developments (associated or separate from it).

10.1.1 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; and,
- 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 assessment adopts the GLVIA3 terminology, arriving at a judgement regarding the level (significance) of a landscape or visual effect, before arriving at an assessment as to whether the effect is 'Significant'.

10.1.2 STATEMENT OF AUTHORITY

This chapter was prepared by Mark Salisbury, Associate Director and Landscape Architect at Macro Works Ltd (part of APEM Group), in Cherrywood, Dublin. Mark is a Chartered Landscape Architect with the Landscape Institute (UK) and has over 15-years of experience preparing LVIA reports for a broad range of development types, including numerous wind farm projects such as that proposed.

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 140 no. on-shore wind farm proposals throughout Ireland, including numerous Strategic Infrastructure Development (SID) wind farms. Macro Works and its senior staff members are affiliated with the Irish Landscape Institute.

The chapter has been reviewed by Richard Barker, Divisional Director in Macro Works, and Landscape Architect affiliated with the Irish Landscape Institute. Richard has undertaken LVIA work for over 90 no. wind farms amongst numerous other development projects in Ireland and has considerable oral hearing training and expert witness experience.

10.1.3 DESCRIPTION OF THE PROJECT

In summary, the project comprises the following main components as described in **Chapter 3:-**

- 10 no. wind turbines, 3 no. with an overall height of 185m and 7 no. with an overall height of 150m;
- All associated and ancillary site development, excavation, construction, landscaping and reinstatement works, including provision of site drainage infrastructure and forestry felling;
- Works to the public road network along the turbine component haul route; and,
- 110kV electricity substation and installation of c. 7km of underground electricity line to facilitate connection of the wind farm to the existing Tonroe 110kV electricity substation at Ballaghaderreen, County Roscommon.

The project is located in north County Roscommon; c. 2km north of Ballaghaderreen, c. 13km east of Charlestown (Co. Mayo) and c. 6km southwest of Gorteen (Co. Sligo); and is located in close proximity to the county boundaries between counties Roscommon, Sligo and Mayo.

It is envisaged that turbine components will be transported from the Port of Galway through the counties of Galway, Mayo and Roscommon to the project site utilising, predominately, motorway and national roads.

A full description of the project is presented in **Chapter 3**.

10.2 METHODOLOGY

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

10.2.1 DEFINITION OF STUDY AREA

The *Wind Energy Development Guidelines for Planning Authorities 2006* ('the 2006 Guidelines') published by the Department of the Environment, Heritage and Local Government (DOEHLG) (2006) and the *Draft Revised Wind Energy Development Guidelines 2019* ('the 2019 Guidelines') specify various radii for examining the Zone of Theoretical Visibility (ZTV) of proposed wind energy developments. 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; and,
- 25km radius where landscapes of national and international importance exist.

In the case of this project, the blade tips will be a maximum of 185m and, therefore, the minimum ZTV radius recommended is 20km from the outermost turbines of the project.

It is noted that the heritage site at Rathcroghan and part of 'The Passage Tomb Landscape of County Sligo' are both located just beyond the 20km study area recommendation, with both included in Ireland's Tentative List for World Heritage Properties.

Whilst these sites have not been officially recognised as World Heritage Properties, there are no formal UNESCO endorsed Statements of Outstanding Universal Value (OUV), no proposals for a buffer zone to support OUV, and no comprehensive analysis of the wider setting has been conducted; given their importance and the presence of recreational receptors, it was deemed appropriate to extend the study area to 25km to understand the nature and likelihood of effects. The extent of the study area is illustrated at **Figure 10.1**.

Effects pertaining to other aspects of the project, such as the electricity substation and underground electricity line and turbine component haul route are localised to the immediate environment and, as such, the assessment focuses on the immediate landscape context within approximately 500m.

The study area adopted is in accordance with the 2006 Guidelines and 2019 Guidelines and is consistent with study areas employed for comparable wind energy applications throughout Ireland. It is considered a robust area on which to structure the assessment whilst being proportionate to the most notable effects.

Notwithstanding the full extent of the study area, there will be a particular focus on receptors and effects within the 'central study area' where there is a higher potential for significant effects to occur. When referenced within this assessment, the 'central study area' is the landscape within 5km of the project site. The remainder of the study area beyond 5km to the outer limit is referred to as the 'wider study area'. Relevant guidance does not require a 'central study area', or 'wider study area' to be defined, but it has become standard/best practice to highlight the distinction between the immediate context of the project site and then the context of the wider landscape.

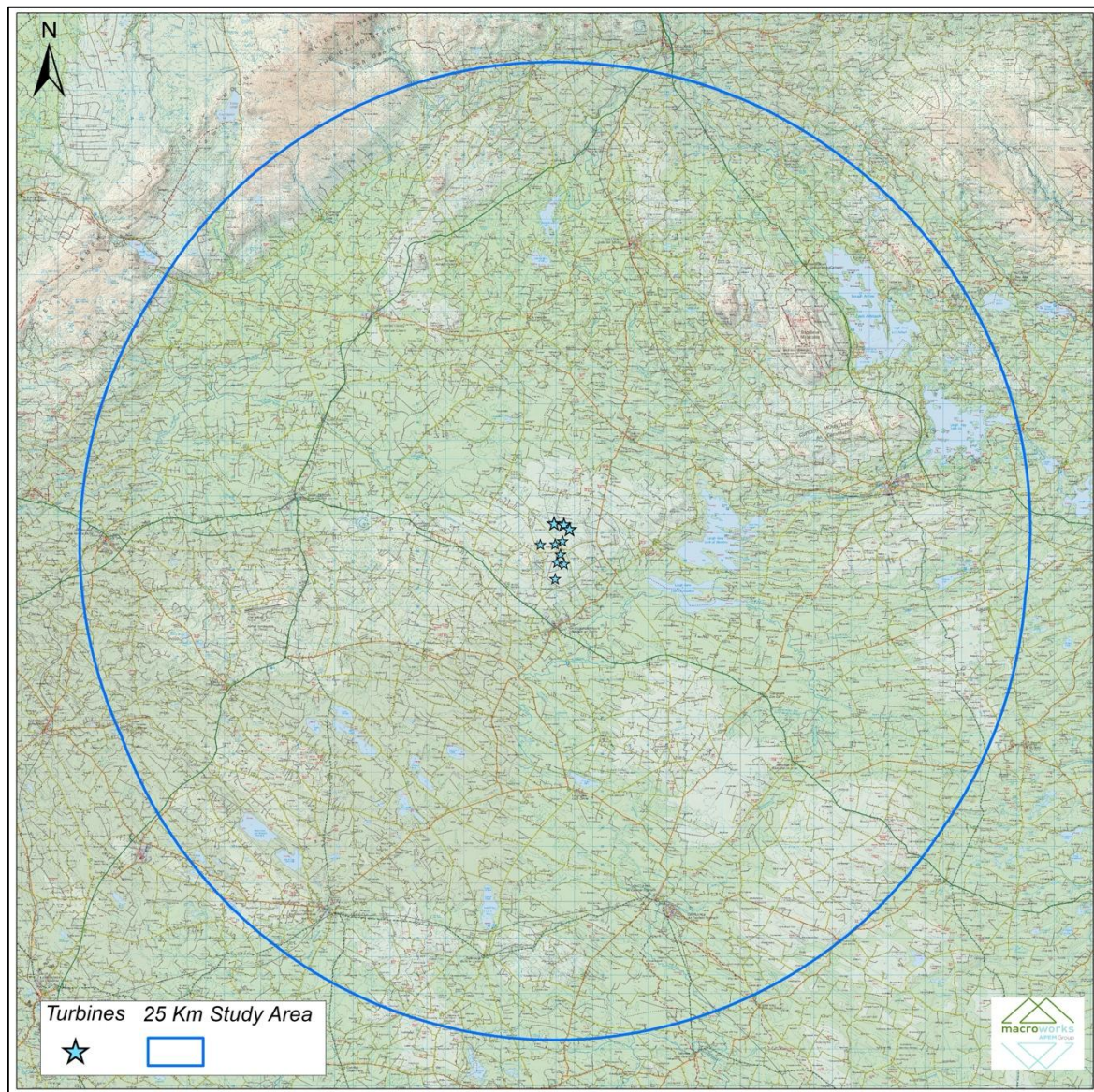


Figure 10.1: Mapping illustrating the full extent of the study area

10.2.2 DESKTOP STUDY

The desktop study comprised: -

- A review of a ZTV map which indicates areas from which the project is potentially visible in relation to terrain within the study area;
- A review of relevant County Development Plans (CDP), particularly regarding sensitive landscape and scenic view/route designations; and,
- A selection of potential Viewshed Reference Points (VRPs) from key visual receptors to be investigated during fieldwork for actual visibility and sensitivity.

10.2.3 FIELDWORK

Macro Works has a comprehensive understanding of the project site context within the wider study area and has carried out numerous site visits to the locality over the last 10+ years. In respect of this project, site visits to potential VRP locations and the wider study area were carried out in Summer/Autumn 2023, to gain a baseline

understanding of landscape context and to interrogate the ZTV. Subsequent site visits to the site and surrounding landscape context have also been undertaken in 2024 and 2025. Photography obtained for use in the production of photomontages was undertaken in 2025.

10.2.4 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, operation 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.

10.2.5 RELEVANT LEGISLATION AND GUIDANCE

This LVIA uses a methodology that is in accordance with that prescribed within the following guidance documents: -

- Environmental Protection Agency (EPA) publication entitled: *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) (Denoted GLVIA3);
- Landscape Institute publication entitled: *Technical Guidance Note (TGN) LITGN-2024-01, Notes and Clarifications on aspects of Guidelines for Landscape and Visual Impact Assessment Third Edition* (2024);
- Department of the Environment, Heritage and Local Government publication entitled: *Wind Energy Development Guidelines for Planning Authorities 2006* and *Draft Revised Wind Energy Development Guidelines 2019*;

- NatureScot publication entitled: *Assessing the cumulative landscape and visual impact of onshore wind energy developments* (2021);
- Scottish Natural Heritage (SNH) publication entitled: *Visual representation of wind farms: Best Practice Guidelines* (version 2.2 - 2017); and,
- Landscape Institute publication entitled: *Technical Guidance Note (TGN) 06/19 Visual Representation of development proposals* (2019).

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.

10.2.6 COMPUTER GENERATED IMAGES, PHOTOMONTAGES AND WIREFRAMES

This assessment is supported by a variety of computer-generated maps and graphics including ZTV maps and verifiable photomontages that depict the project within the views from a range of represented visual receptor locations. Photomontages include existing views, wireframe views and proposed views.

10.2.7 ASSESSMENT CRITERIA FOR LANDSCAPE EFFECTS

10.2.7.1 Landscape Sensitivity

When assessing the likely landscape effects of the 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

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, tranquility, 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 and/or 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 and/or 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 and/or Local scale (undesigned 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.

Landscape Quality

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 10.1**.

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.

Table 10.1: Landscape Value and Sensitivity

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 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 10.2** outlines the magnitude of change criteria (derived from GLVIA3) used to inform this judgement.

Magnitude of Impact	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.

Table 10.2: Magnitude of Landscape Impacts

10.2.8 ASSESSMENT CRITERIA FOR VISUAL EFFECT

As with the landscape impact, the visual impact of the 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.

10.2.8.1 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; and,
- 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; and,
- 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 with Visual Amenity

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

- Recognised scenic value of the view (CDP 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 CDPs, 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 CDP 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; and,
- 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.

10.2.8.2 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 a 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 a 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; and,*
- *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; and,*
- *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 10.3** outlines the magnitude of change criteria (derived from GLVIA3) used to inform this judgement.

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

Table 10.3: Magnitude of Visual Impact

10.2.9 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 a project. Neither EC Directive 2014/52/EU¹ 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 no. other generalised definitions that may be used to describe the 'Significance' of effects, *"in 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.

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

¹ 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.

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 assessment 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 10.4** 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 1/13²).

Magnitude	Sensitivity of Receptor				
	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
Low	Moderate	Moderate-slight	Slight	Slight-imperceptible	Imperceptible
Negligible	Slight	Slight-imperceptible	Imperceptible	Imperceptible	Imperceptible

Table 10.4: Impact Significance Matrix

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 shaded cells) in **Table 10.4**, 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.

10.2.9.1 Quality and Timescale of Effects

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

² Landscape Institute GLVIA3 Statement of Clarification 1/13 – Significance. Landscape Institute 10-06-13

- 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; and,
- 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 moving 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 wind turbines will have a long-term impact, as permission is being sought for a 40-year operational life after which the turbines will be decommissioned. Some other elements of the project relating to access tracks and elements of the electricity substation and electricity line will likely remain in perpetuity and will therefore have permanent effects.

10.2.10 ASSESSMENT CRITERIA FOR CUMULATIVE EFFECTS

Whilst the 2006 Guidelines remain the overarching guidance and provide a reference to cumulative effects in relation to the aesthetic considerations in siting and design (at section 6.5, p.41), DWEDG references the need to assess the cumulative effects of the scheme (at 4.7.4, p.41) 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.

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 2006 Guidelines describe a cumulative effect as "*the 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 wind energy developments in various landscape contexts. It also requires that cumulative effects are represented using ZTV 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 farms 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 10.5 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 is absent in Ireland, this guidance is widely adopted for LVIA work and is considered best practice, and the approach adopted in relation to many other projects across Ireland.

Other wind energy developments are the most relevant type of development in a cumulative 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 assessment, a proportionate level of consideration is given to projects that are assessed as likely to significantly alter the cumulative landscape and visual baseline environment. Factors such as scale and proximity of a project are important factors, in addition to the characteristics of the development in question.

Criteria	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.

Table 10.5: Magnitude of Cumulative Impact

10.2.11 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 project might be visible, the authors of the assessment are familiar with the landscape and have undertaken extensive work previously within the study area.

10.2.12 VISUAL MATERIAL AND PHOTOGRAPHY

Photography and photomontages have been produced by Galettech Energy Services. The production of visual material has followed a highly accurate and verifiable process to accurately communicate the scale, appearance, context, form, and extent of the project. The photography has been captured during good weather conditions with high levels of visibility. Photography has been taken with a full-frame sensor camera (Nikon EOS 6D) and 50mm fixed lens mounted on a tripod with a panoramic head.

10.3 DESCRIPTION OF THE EXISTING ENVIRONMENT

10.3.1 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 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 CDPs).

The relevant CDP covering the project site is the Roscommon CDP 2022-2028 ('the Roscommon CDP'). However, the Sligo CDP 2024-2030 ('the Sligo CDP') covers a notable area of the northern part of the study area. Similarly, the Mayo CDP 2022-2028 ('the Mayo CDP') occupies the western part of the study area.

A description of the landscape context of the project 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 project. The visual resource will be described in greater detail below. **Figure 10.2** shows the project site in its landscape context and the immediate surroundings.



Figure 10.2: Project Site and its local context.

10.3.1.1 Landform and Drainage

Topography across the site varies between approximately 140m and 170m AOD, with the terrain rising towards the northern part of the site.

The landscape of the study area has a gently rolling character, synonymous with a glacially influenced landscape. It comprises large tracts of raised bogs and blanket bogs punctuated by low hills, with flat planar wetland landscapes interspersed with lakes and watercourses, most notably Lough Gara lies to the east of the site, and the more distant Lough Arrow and Lough Key to the northeast.

The River Lung, River Owenmore, and River Boyle are arguably the most notable water courses in the nearby landscape; with the Trimogue River, Glore River, River Moy, Lough Talt River, Owenaher River, Owenmore River, Owengarve River, Mullaghanoe River being notable in the wider study area.

In terms of pronounced landform features, the low rounded cone shaped Bockagh Hill (227m AOD) lies approximately 1km to the west of the project site, with

Mullaghanoe (230m AOD) lying approximately 9km to the west. The Curlew Mountains and the Bricklieve Mountains lie approximately 15km to the northeast.

The Ox Mountains lie on the edge of the study area to the northwest, with the locally prominent landform around Knocknashee and Mucklety Hill forming the southern edge of the Moy Valley.

The overall image of the project site and its local landscape context is that of a marginal upland landscape set within a vast planar landscape bound by more pronounced landform in the outskirts of the study area. The landscape of the wider study area is synonymous with the glacially influenced landscape of central and western Ireland.

10.3.1.2 Vegetation and Land Use

The project site forms part of a marginal and largely treeless upland landscape defined by blanket bog and heather covered moorland. In a slightly wider context, with reference to the central study area, the landscape is predominantly defined by agricultural farmland, exhibiting a broadly flat to gently undulating landform. Field patterns are varied, and typically small- to medium-scale and display a regular geometric arrangement enclosed by a network of hedgerows and drystone walls; the latter becoming more prevalent in elevated parts of the landscape. This pattern reflects the long-established nature of this landscape, with stone walled enclosures contributing to a sense of place.

Landcover is varied across the study area, with a mix of wet and dry grassland on lower elevations and large tracts of raised bog and upland blanket bog at higher elevations. Coniferous forestry and tracts of peatland cuttings occupy large expanses of the study area at higher elevations and, although not widespread, wind turbines at Largan Hill Wind Farm, Roosky Wind Farm and the Grady Joinery Wind Turbine; in addition to commercial premises on the edges of urban areas (such as to south southeast of Ballaghaderreen); contribute to an anthropogenic character.

In the wider study area, the land cover remains broadly similar, with agricultural land continuing to dominate. Landcover varies within more elevated parts of the landscape, being more heavily defined by upland moorland.

Urban land cover is largely concentrated around the settlements of Ballaghaderreen, Gorteen, Tobercurry, Charlestown, Ballyhaunis, Castlerea, and Boyle. These urban centres are connected by a network of national and regional road corridors, which traverse the landscape as prominent linear features and represent a major infrastructural overlay within the surrounding rural context.

10.3.1.3 Centres of Population

Typical of a rural landscape, the wider study area contains a relatively dispersed rural population consisting of linear ribbon development along the local and regional roads and crossroad settlements. Excepting in upland areas, where settlement is more sparse and well distributed, it is relatively well settled, with high concentrations of residential dwellings in many places. The nearest settlement is the large market town of Ballaghaderreen, located approximately 2km south of the wind farm site along the N5 and R293 road corridors.

Residential properties tend to comprise a mixture of single and two-storey buildings

of a broad range of differing styles and vernaculars, orientated towards the road along which they are situated. Residential properties are interspersed with farm complexes.

The largest centres of population in the study area relate to the settlements of Ballaghaderreen, Gorteen, Tobercurry, Charlestown, Ballyhaunis, Castlerea, and Boyle.

10.3.1.4 Transport Routes

The study area is well connected by national and regional road corridors, as well as a network of local roads. The most notable of these extend between the main urban centres and include the N4, N5, N17, N26, N60, and N83 National Roads.

The R293, R294, R296, R325, R361, and R375 Regional Roads are also notable, and together with a dense network of local roads provides access to many parts of the study area.

The Dublin to Westport/Ballina railway line passes through the southern part of the study area, with stops connecting Ballyhaunis and Castlerea. It is also noted that the Ireland West Airport lies approximately 14km to the west of the site and is a key international point of arrival.

10.3.1.5 Tourism, Recreation, and Heritage Features

The landscape of the study area is recognised as playing host to numerous tourism, recreational and heritage features, many of which are highly frequented visitor sites.

There are numerous local recreational facilities and features of tourism scattered throughout the landscape, associated primarily with the urban concentrations. This is typical of most settled landscapes throughout Ireland.

The river and lake landscapes, together with the mountainous terrain in the more distant parts of the study area offer notable recreational value, reflected by the scenic designations and defined viewpoints, such as Wynne's View (12km to the northeast), and the Carinara Viewpoint (18km northwest).

The Lung Lough Gara Way waymarked trail passes through the project site and study area south to north, connecting the Suck Valley Way at Castlerea to the south and the Miner's Way & Historical Trail to the northwest. The Sligo Way passes through the extreme northern part of the study area. Numerous other promoted walks such as the Bockagh Hill walking loop (1km to the west), the Ballaghaderreen and Brusna Walking loop (4km to the southwest), and the more distant Lough O'Flynn – Wild Goose Bog Loop (16.5km south) also demonstrate the recreational value of the landscape.

The Keshcorran Caves (14km northeast) are a series of limestone caves located on the west side of Keshcorran Hill, which forms part of the Bricklieve Mountains. They are a notable visitor destination as a natural feature but also due to their mythical and cultural value, as well as for the views afforded by their elevation.

Typical of many rural landscapes in Ireland, there are numerous archaeological features and features of cultural significance scattered throughout the landscape. However, the most significant is considered to relate to Rathcroghan (23km southeast) and part of 'The Passage Tomb Landscape of County Sligo', which covers 2 no. well-known clusters of monuments: a northern group on the Cúil Iorra peninsula, including the monuments at Carrowmore and on Knocknarea; and a southern group comprising the Keash/Carrowkeel monuments in the Bricklieve Mountains. In the context of the study area, passage tombs at Mucklety Hill and Knocknashee (around

19km northwest), and Carrowkeel (17km northeast) form part of this wider passage tomb landscape. Both Rathcroghan and 'The Passage Tomb Landscape of County Sligo' are in Ireland's Tentative List for World Heritage Properties and are highly frequented locations given their cultural significance and elevated locations.

10.3.1.6 2006 Guidelines and 2019 Guidelines

Wind energy development within the Republic of Ireland is undertaken in accordance with the 2006 Guidelines and generally has regard to the draft guidelines published in 2019.

Recommendations on the siting and design of wind energy developments are provided in Chapter 6 of the 2006 and 2019 Guidelines based on 6 no. potential landscape character types. The project site is assessed as being most associated with the 'Transitional Marginal Land' landscape character type, albeit the wider study area contains elements of the 'Hilly and flat farmland' landscape character type.

'Transitional Marginal Land' Landscape Type

The key characteristics are outlined in the 2006 and 2019 guidance as follows:-

- Comprises something of both mountain moorland and farmland, thus involving a mix of small fields, tight hedgerows and shelterbelts;
- May include relatively rugged and rocky terrain, and thus a reasonable degree of spatial enclosure;
- Higher ground tends to be wet and boggy. Lower areas are usually cultivated and managed as fields;
- Houses and farmsteads are usually fairly common; and,
- This landscape type bridges the organised and intensively managed farmland and the more naturalistic moorland.

"The essential key here is one of respect for scale and human activities. These landscapes are often relatively small-scale due to spatial enclosure provided by hills and wind energy developments should respond sensitively to this intimacy. These landscapes are also visually complex due to diverse landform and landcover, as well as houses and power and telegraph poles and lines. Wind energy developments should avoid adding to such complexity due to the risk of creating visual confusion and conflict."

Key recommendations for siting and design within the 'Transitional Marginal Land' landscape type are set as follows:

Location

"As wind energy developments, for reasons of commercial viability, will typically be located on ridges and peaks, a clear visual separation will be achieved from the complexity of lower ground. However, wind energy developments might also be located at lower levels in extensive areas of this landscape type, where they will be perceived against a relatively complex backdrop. In these situations, it is important to minimise visual confusion such as the crossing by blade sets of skylines, buildings, utility lines and varied landcover."

Spatial Extent

"Wind energy developments in these landscapes should be relatively small in terms of

spatial extent. It is important that they do not dominate but achieve a balance with their surrounds, especially considering that small fields and houses are prevalent.

Wind energy development with regular spacing and linear layout - may not be appropriate due to the undulation of landform as well as limited field pattern.

Wind energy development with irregular spacing and random layout - is more appropriate given the relative undulation of the setting.

Large wind energy development straddling two landscape character types within the same visual unit - this creates a visual ambivalence and, thus, negative tension between the two-character types involved."

Spacing

"All options are possible, depending on the actual landscape characteristics. However, irregular spacing is likely to be most appropriate, given the complexity of landform and land cover typical of these landscapes, and the absence of extensive swaths of fields of regular and rectilinear pattern."

Layout

"The likely location of wind energy developments on ridges suggests a linear or staggered linear layout whereas on broader hilltops they could be linear or clustered. Grid layouts are less likely to succeed aesthetically unless there is an open continuity of similar landcover.

Height

"In small-scaled enclosed areas, short turbines are preferred in order to avoid their spatial dominance and to ensure visual balance. However where the upper ground is relatively open and visually extensive, taller turbines may be more appropriate. In terms of perceived height, the profile can be even or uneven, depending on the profile and visual complexity of the terrain involved. The more rugged and undulating, the greater the acceptability of an uneven profile provided it does not result in significant visual confusion and conflict."

Cumulative Effect

"This would have to be evaluated on a case-by-case basis, but great caution should be exercised. The spatial enclosure often found in transitional marginal landscapes is likely to preclude the possibility of seeing another wind energy development. However, should two or more wind energy developments be visible within a confined setting a critically adverse effect might result, depending on turbine height and wind energy development extent and proximity."

'Hilly and Flat Farmland' Landscape Type

The key characteristics are outlined in the 2006 and 2019 guidance as follows:-

- Intensively managed farmland, whether flat, undulating or hilly;
- A patchwork of fields delineated by hedgerows varying in size;
- Farmsteads and houses are scattered throughout, as well as occasional villages and towns;
- Roads, and telegraph and power lines and poles are significant components; and,
- A working and inhabited landscape type.

"The essential key here is one of rational order and simplicity, as well as respect for scale and human activities. The predominance of field pattern introduces an organised patchwork landcover structure that not only prompts a similar response in the siting and design of wind energy developments, but also provides a spatial structure and rhythm. Although hilly and flat farmland type is usually not highly sensitive in terms of scenery, due regard must be given to houses, farmsteads and centres of population."

Key recommendations for siting and design within the 'Hilly and Flat Farmland' landscape type are set as follows:

Location

"Location on ridges and plateaux is preferred, not only to maximise exposure, but also to ensure a reasonable distance from dwellings. Sufficient distance should be maintained from farmsteads, houses and centres of population in order to ensure that wind energy developments do not visually dominate them. Elevated locations are also more likely to achieve optimum aesthetic effect."

Spatial Extent

"This can be expected to be quite limited in response to the scale of fields and such topographic features as hills and knolls. Sufficient distance from buildings, most likely to be critical at lower elevations, must be established in order to avoid dominance by the wind energy development."

Spacing

"The optimum spacing pattern is likely to be regular, responding to the underlying field pattern. The fields comprising the site might provide the structure for spacing of turbines. However, this may not always be the case and a balance will have to be struck between adequate spacing to achieve operability and a correspondence to field pattern."

Layout

"The optimum layout is linear, and staggered linear on ridges (which are elongated) and hilltops (which are peaked), but a clustered layout would also be appropriate on a hilltop..."

Height

"Turbines should relate in terms of scale to landscape elements and will therefore tend not to be tall. However, an exception to this would be where they are on a high ridge or hilltop of relatively large scale. The more undulating the topography the greater the acceptability of an uneven profile, provided it does not result in significant visual confusion and conflict."

Cumulative Effect

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

Setback

Section 6.18 of 2019 Guidelines refers to "siting in relation to individual properties" which is known as 'setback'. The guidelines outline a mandatory minimum setback

distance of “500 metres” or the distance of “4 times the tip height” of the project turbines “between the nearest point of the curtilage of any residential property”. This is set out in SPPR2 which states:-

“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 Bord Pleanála (where relevant), 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 development, 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 Bord Pleanála (where relevant), shall not apply a setback distance that exceeds these requirements for visual amenity purposes.”

It is worth noting that the 2019 Guidelines have not been adopted. However, the project has been designed such that the turbines exceed the mandatory minimum setback distance of 500m, and complies with the 4-times tip height recommendation of 600m and 740m (4 x 150m and 4 x 185 tip height)³.

10.3.2 LANDSCAPE POLICY CONTEXT AND DESIGNATIONS

The project is contained within County Roscommon and as such consideration is given to the Roscommon CDP. As can be seen in **Figure 10.3**, parts of the study area fall within counties Sligo and Mayo, and reference has been made to the CDP context of these administrative areas insofar as there is the likelihood of the project generating indirect effects on landscape character, or visual effects.

³ It should be noted that a static caravan has been identified and is located approximately 570m south of turbine T10. However, as the structure does not have planning permission or an Eircode, is it not considered to be a ‘residential property’ per SPPR 2.

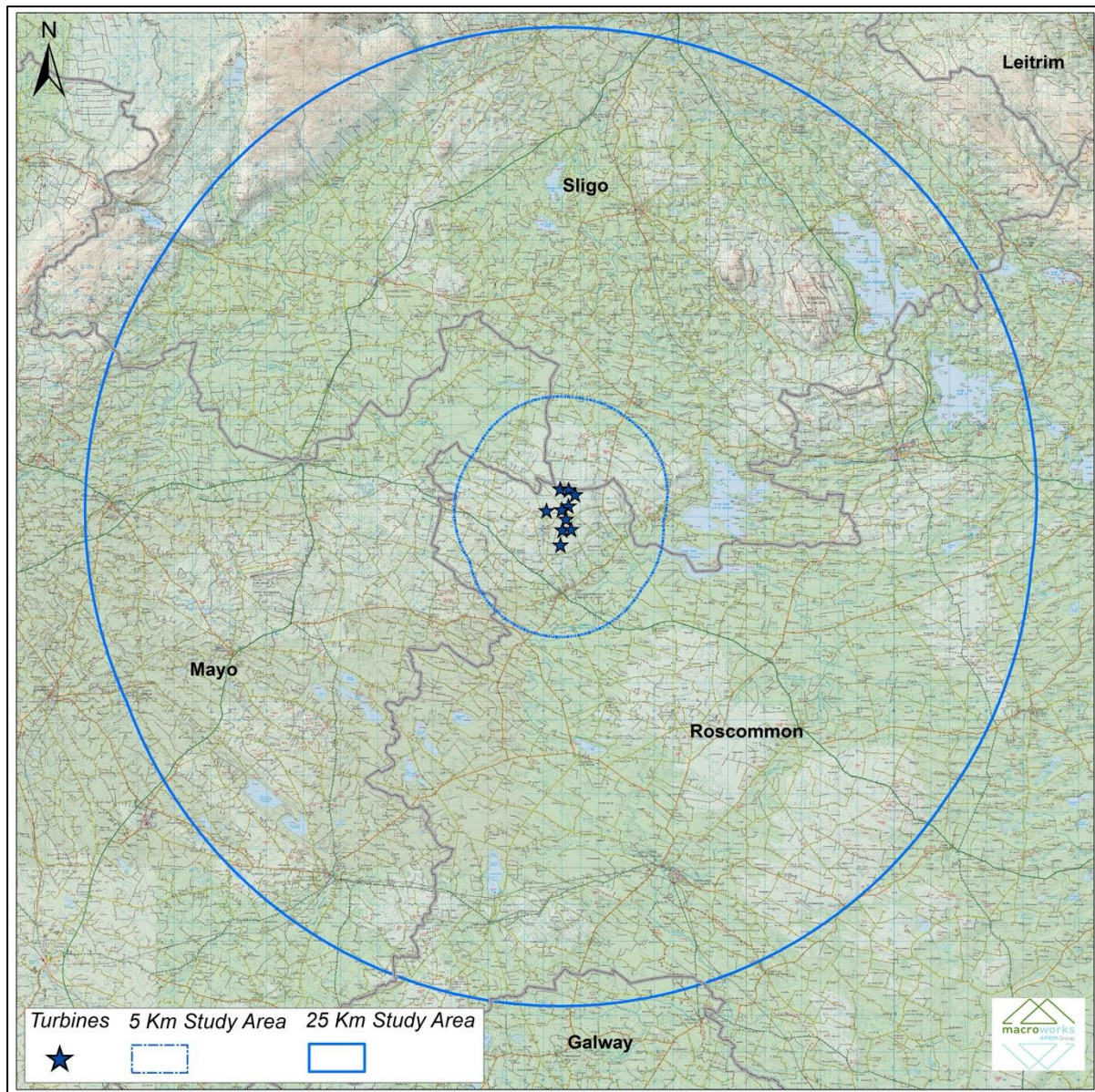


Figure 10.3: County Boundaries within the Study Area

10.3.2.1 Roscommon CDP 2022-2028

A Landscape Character Assessment is included within the Roscommon CDP which divides the county into 7 no. Landscape Character Types (LCTs). The project site falls within the 'Hills and Uplands' LCT. The county is further subdivided into Landscape Character Areas (LCAs) that broadly align with the LCT areas. The project site is located within LCA 23 'Ballaghaderreen and Bockagh Hill Uplands'.

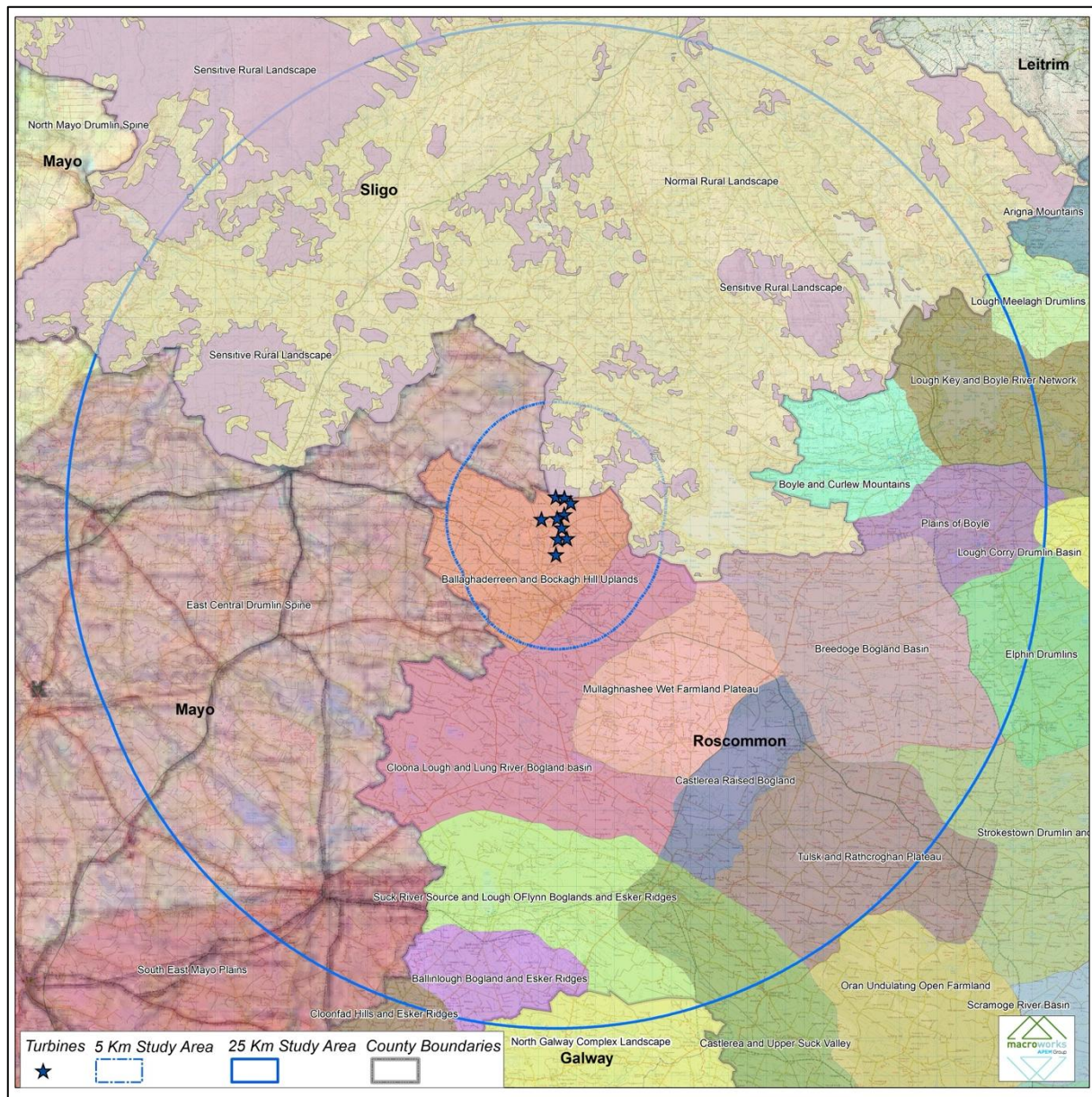


Figure 10.4: Landscape Character within the Study Area

The key characteristics of LCA23 are described as follows:-

“This landscape character area is located in the northwestern corner of County Roscommon, defined to the north and west by the county boundary and to the southeast by the R293 which defines the northern edge of planar bogland surrounding the Lung River. The area is punctuated by Bockagh Hill (227m ASL), a low rounded cone-shaped hill that provides elevated views over the surrounding landscape. Landcover is extremely varied in this character area, comprising an intimate mix of wet and dry grassland on lower elevations and raised bog and upland blanket bog at higher elevations. There has also been some degree of coniferous afforestation at higher elevations. The character area drains both to the north and the south, the latter feeding the Lung River network. In terms of road networks, the N5 winds its way through a shallow valley connecting with the east-west R293 and a dense network of local roads throughout. The largest settlement in this character area is the large market town of Ballaghaderreen. There is a wind farm in this landscape of medium spatial extent and some telecommunication masts near the summit of the hill. The overall

image is one of a marginal upland landscape defining the gateway to Mayo and the wild landscape of the west of Ireland."

LCA 23 is identified as being of 'Moderate Value', with the description stating: "The elevated Scenic Route from Bockagh Hill affords views of the Roscommon and Mayo landscape and provides spatial relief from the predominantly low-lying landscape of much of the rest of the county. The intimate landscapes of small fields and stone walls to the northwest of the character area signal the transition from the midlands to the west of Ireland."

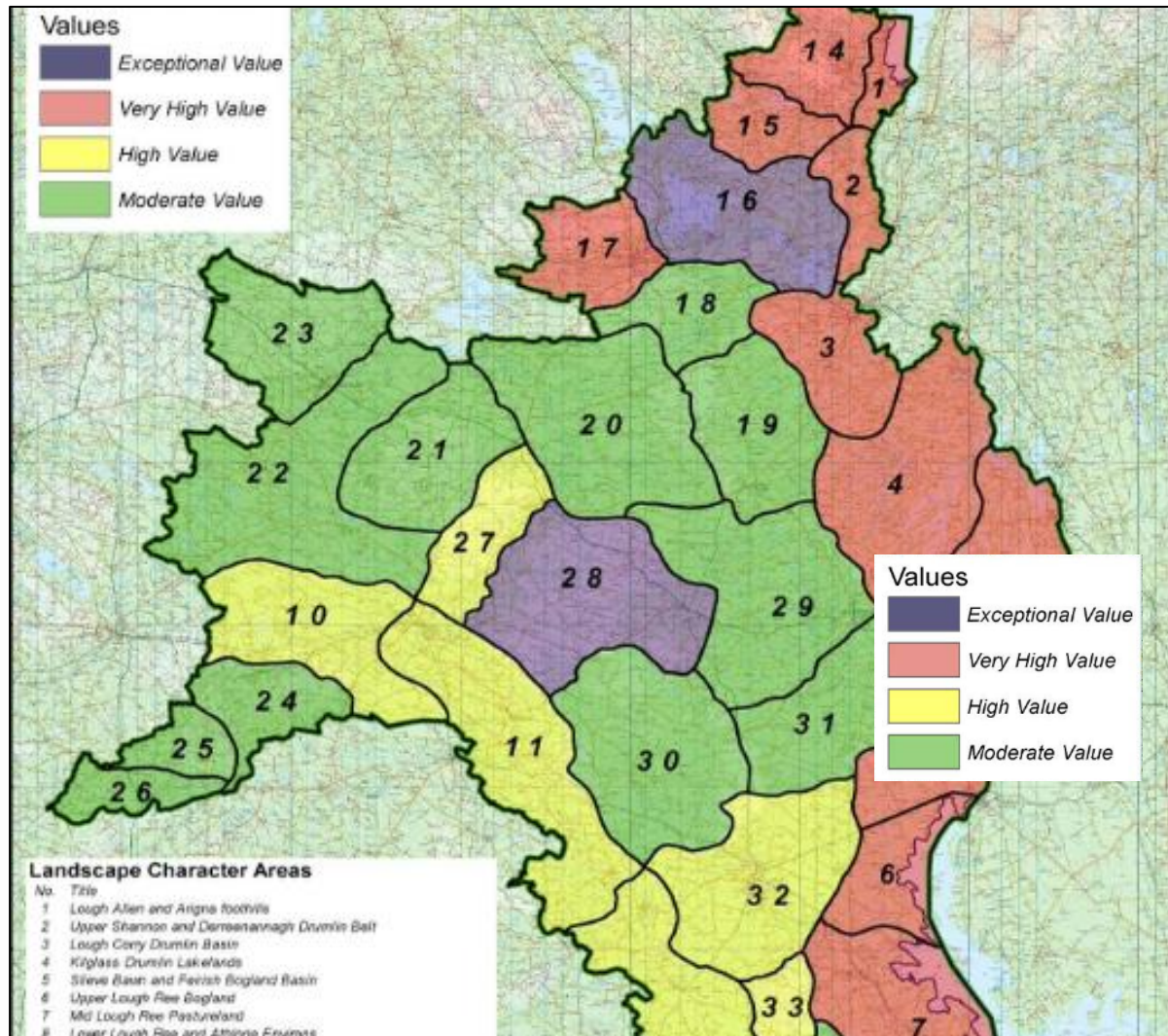


Figure 10.5 Extract from the Roscommon Landscape Character Assessment showing Landscape Values of Landscape Character Areas

LCA 22 'Cloona Lough also occurs within the central study area, and is also considered to be of 'Moderate Landscape Value'.

Within the wider study area, High Value landscapes covered by LCA 10, LCA 11 and LCA 27 lie to the south of the project site and are recognised for their quiet wetland and river corridor landscapes, and for the areas of bogland that bring with them a strong sense of remoteness and tranquility.

Very High value landscape LCA 17 'Boyle and Curlew Mountains') lies to the east of the site and is known for fine examples of built heritage including Boyle Abbey and King House and for the archaeological sites located in the Curlew Mountains.

The only two LCAs in the county defined as having 'Exceptional value' are LCA 16 'Lough Key and Boyle River Network' and LCA 28 'Tulsk and Rathcroghan Plateau', these located in more distant parts of the study area to the east and south respectively. These landscapes are recognized for their habitat/recreational/scenic quality and their nationally significant archaeological value respectively.

Within the Roscommon CDP, the following policies apply to landscape:-

- NH 10.25: Minimise visual impacts on areas categorised within the County Roscommon Landscape Character Assessment including "moderate value", "high value", "very high value" and with special emphasis on areas classified as "exceptional value" and where deemed necessary, require the use of Visual Impact Assessment where proposed development may have significant effect on such designated areas;
- NH 10.26: Protect important views and prospects in the rural landscape and visual linkage between established landmarks, landscape features and views in urban areas; and,
- NH10.27: To co-ordinate with all adjoining Local Authorities in reviewing Landscape Character Assessments (LCAs) to ensure consistency in classification and policy in adjoining areas of similar character. A targeted review of the LCA shall be undertaken following the completion of the National Landscape Character Assessment, and any associated statutory Guidelines as well as the Regional Landscape Character Assessment to be completed by the Regional Assembly.

Roscommon Wind Energy Strategy 2022-2028

A Renewable Energy Strategy is incorporated within the Roscommon CDP, which divides the County into areas of suitability including 'Less Favoured, Most Favoured and Not Favoured' in regards to wind energy (refer to **Figure 10.7**). These areas are described within the CDP as:-

- Most Favoured - Wind farm development will be considered favourably, subject to compliance with all necessary siting and design standards;
- Less Favoured - Wind farm development will be considered, but the sensitivities revealed in these areas would render exploitation more problematic and therefore these areas are less favoured for wind energy development; and,
- Not Favoured - Wind farm development will not be considered favourably in these areas.

The analysis of sensitivity that underpin these areas was informed by landscape value (amongst other considerations) and regard was had to the Landscape Character Assessment.

The project falls entirely within part of the landscape that is defined as 'Most Favoured'.

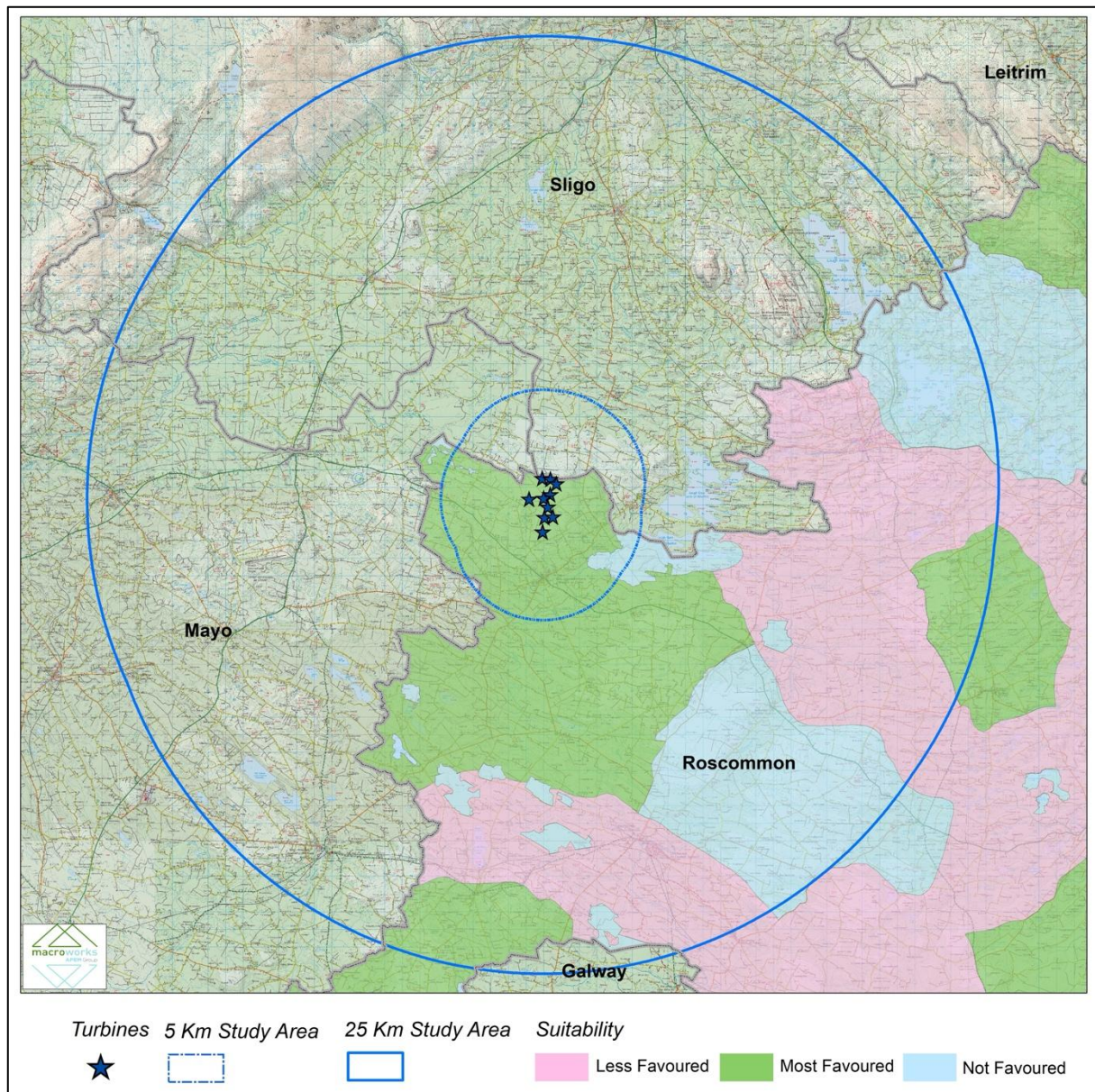


Figure 10.6: Roscommon Wind Energy Strategy showing Wind Energy suitability in relation to the location of the Proposed Development

Scenic Amenity

Scenic views and routes in County Roscommon that fall within the study area are identified at **Figure 10.7** and include Scenic Views 3-7, 9-15, and 26.

An analysis of these in terms of their relevance to the assessment is provided in **Table 10.6**.

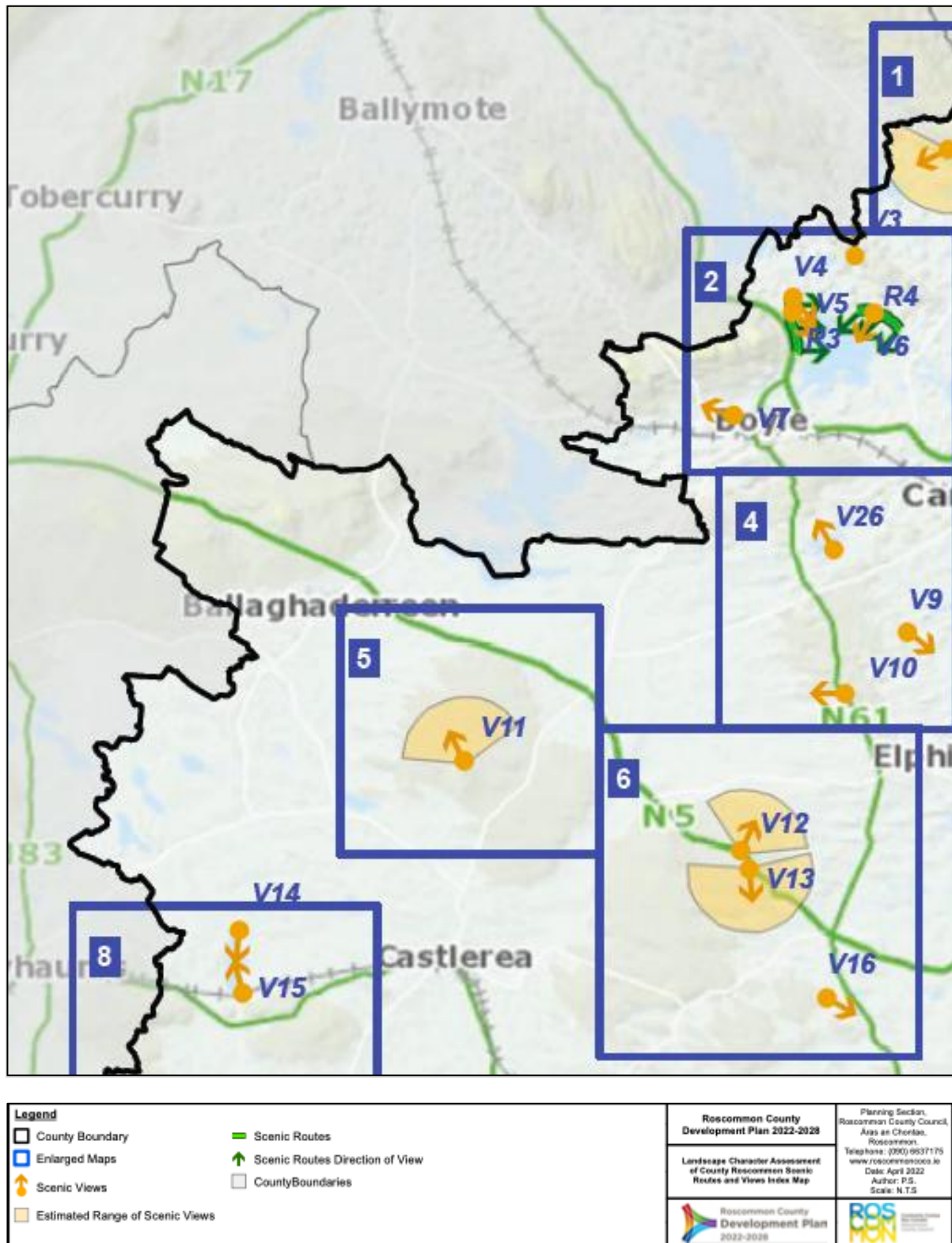


Figure 10.7 Extract from the Roscommon Landscape Character Assessment showing Scenic Amenity in relation to the proposed development

10.3.2.2 Sligo CDP 2024-2030

The Sligo CDP does not contain a Landscape Character Assessment of the traditional form that objectively identifies geographically distinct landscape character units.

Instead, it includes a landscape characterisation and appraisal study that classifies the County according to its visual sensitivity and capacity to absorb new development without compromising the scenic character of certain areas. It identifies 'Normal Rural Landscapes', 'Sensitive Rural Landscapes', 'Visually Vulnerable' linear features such as ridgelines and coastlines.

It should be noted that the landscape characterisations provided within the Sligo CDP are essentially landscape sensitivity areas/features and are not derived from landscape character per se. The 3 no. classes of landscape characterisation are described below:-

- Sensitive Rural Landscapes are defined as *"areas that tend to be open in character, highly visible, with intrinsic scenic qualities and a low capacity to absorb new development – e.g. Knocknarea, the Dartry Mountains, the Ox Mountains, Aughris Head, Mullaghmore Head etc."*;
- Visually Vulnerable Areas are defined as *"distinctive and conspicuous natural features of significant beauty or interest, which have extremely low capacity to absorb new development – examples are the Ben Bulbin plateau, mountain and hill ridges, the areas adjoining Sligo's coastline, most lakeshores etc."*; and,
- Normal Rural Landscapes are defined as *"areas with natural features (e.g. topography, vegetation) which generally have the capacity to absorb a wide variety of new development forms - these are largely farming areas and contain most of the County."*

At the same time, areas located within Normal Rural Landscape may have superior visual qualities related to, due to their specific topography, vegetation pattern the presence of traditional farming or residential structure. These areas may have limited capacity for development or may be able to absorb new development only if it is only if it is design to integrate seamlessly with the existing environment.

In the context of the study area, much of the landscape falls within the 'Normal Rural Landscape'; with the 'Visually Vulnerable Areas' relating to the shores of Lough Gara, Templehouse Lake, Cloonacleigha Lough, the elevated landscape around both the Curley and Bricklieve Mountains to the northeast, and the pronounced landscape at Knocknashee and Mucklety Hill to the northwest. The 'Sensitive Rural Landscapes' relate to the large areas of raised bogs and blanket bogs as well as these more elevated landscapes.

Scenic Designations

In addition to landscape characterisations, the map excerpt also shows designated scenic routes with the nearest of these relating to routes through and to the west/north of Lough Gara, a loop drive to the northeast around Derrinaghran (taking in Wynne's View), and then more elevated locations on the R295 to the northeast where views are over the wider landscape at its interface with the Bricklieve Mountains. Other routes occurring in the wider study area (such as that passing through Coolaney Village, occur in parts of the landscape where views towards the site would be limited.

10.3.2.3 Mayo CDP 2022-2028

A Landscape Appraisal for County Mayo is incorporated in the Mayo CDP. It identifies 16 no. Landscape Character Units (LCU) which are described in terms of their defining landscape characteristics. Boundary determinant factors are provided together with 'Critical Landscape Factors' which are linked to the sensitivities within the LCUs.

That part of the study area that falls within County Mayo forms part of LCU K 'East Central Drumlin Spine'. This covers the majority of the southwestern quadrant of the study area, with LCU L 'South East Mayo Plains' falling within the outer southwestern corner of the study area. It is also one of the most expansive in terms of its coverage in the county.

LCU K is described as an area *"made up of glacial drumlins that are uniform at its western end near its transition with the distinct drumlins of Clew Bay. In the east, these become less uniform and severe, and the terrain merges into several sets of geologically distinct and isolated hills as the unit encapsulates the towns of Castlebar, Swinford, and Charlestown. This area is characterised by a mixed land use pattern. Peat bogs and agricultural lands with significant areas of natural vegetation and transitional woodland scrub. There are also significant areas where pasturelands represent a major land use. Charlestown, Castlebar and Swinford towns display the significance of urban settlement areas in this region of the County."*

The boundaries of the LCU are determined by the large Moy and Corrib water catchments which coincide with a gradual change in landcover from poor quality scrub and bog to high quality pasture. Critical landscape factors are referenced as the undulating topography, shelter vegetation, prominent ridge lines, and localised lake vistas.

The county is divided into 4 no. Policy Areas relating to landscape protection and capacity to absorb development. The Landscape Appraisal also includes a Landscape Sensitivity Matrix that provides a general indication of the likelihood of success of planning applications for each development type, in each policy area.

That part of the study area covered by the appraisal falls within Policy Area 4: Drumlins and Inland Lowlands. It is described as *"These undulating areas of pasture, woodland and forest make up the remainder of the County and are considered to have a generally similar ability to absorb development. Many of these areas are underlain by glacial drumlins and incorporate low-lying lakelands."* Again, it is expansive in its geographic coverage.

The landscape sensitivity matrix states that Policy Area 4 has a High-to-Medium potential of experiencing adverse impacts on the existing landscape character as a result of wind energy development. The other 3 no. Policy Areas are of High sensitivity.

Whilst visibility is likely from parts of the wider landscape that falls within the administrative boundary of County Mayo, there are no designated 'Scenic Routes' or 'Scenic Routes with Designated Views' that fall within the study area or ZTV pattern.

In terms of the scenic evaluation, skylines are considered vulnerable features, with the elevated ridge of landform southeast of Ireland West Airport and the elevated landform at Knocknashee and Muckelty Hill also referenced. River banks and lake shorelines are also identified as vulnerable features, with those to the southwest around Lough Nanoge and Lough Roe and the River Moy to the northwest being referenced. Also with reference to scenic evaluation, sensitive areas are identified as relating to the 'peat bogs', 'transitional woodland scrub' and 'agricultural land with significant natural vegetation'.

Landscape policies NEP14, NEO 25 to 29 are assessed as being relevant.

10.3.3 VISUAL BASELINE

10.3.3.1 Zone of Theoretical Visibility (ZTV)

Only those parts of the study area that potentially afford views of the 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 locations from where the project 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 project will not be visible, such as to retain a proportionate focus on locations where there is potential for visibility.

ZTV mapping is enclosed at **Annex 10.2**; having been produced to illustrate three separate scenarios, half hub height, hub height, and tip height. In combination, these help to present the theoretical visibility of the wind turbines.

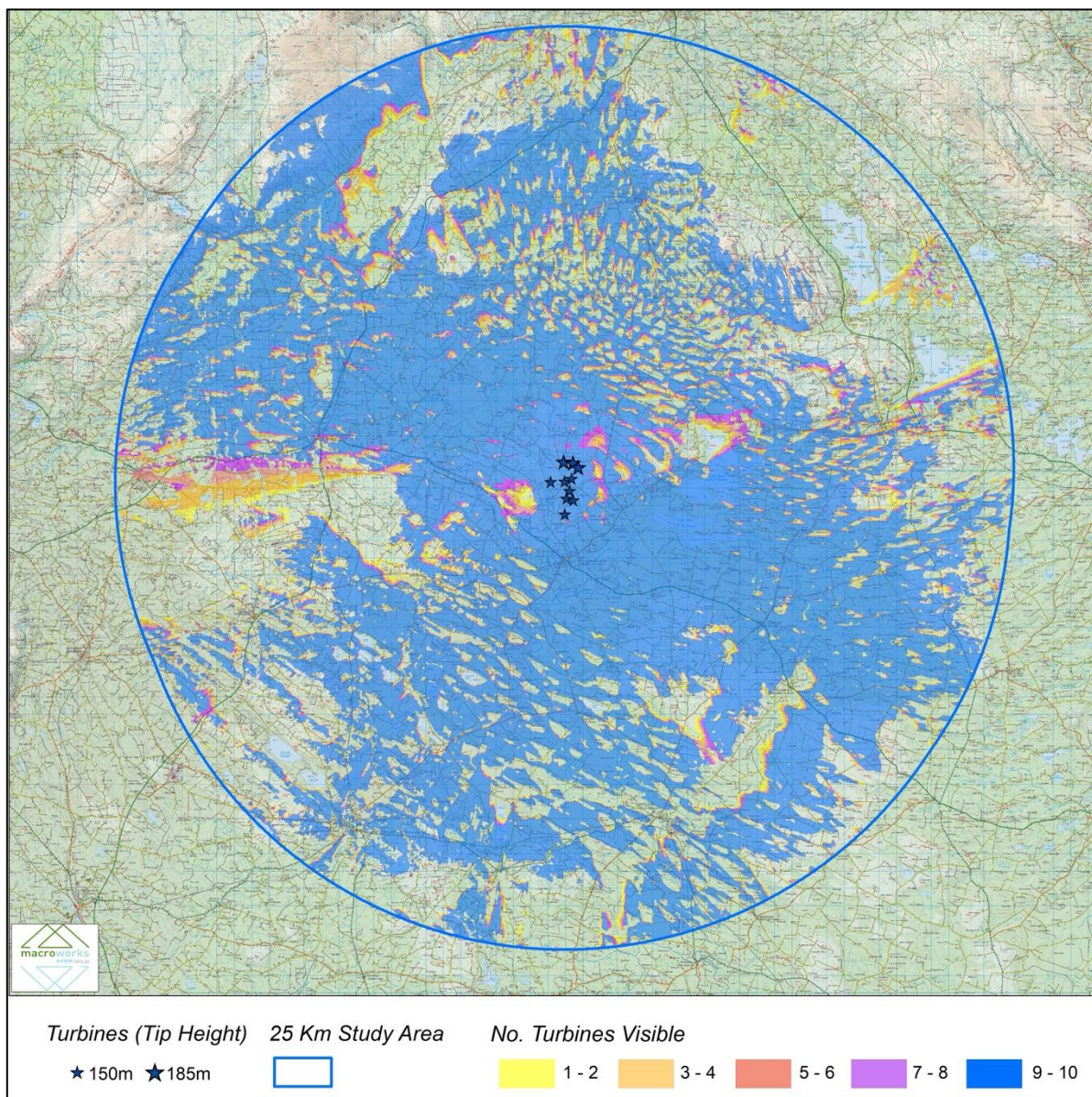


Figure 10.8: Bare-ground ZTV Map based on Turbine Tip Height

The ZTV pattern indicates that theoretical visibility is extensive across the study area, and certainly within 8km of the project site. The following key points are illustrated by the 'bare-ground' ZTV map:-

- The ZTV illustrates that the most comprehensive theoretical visibility occurs across the landscape that dissects the study area on a northwest to southeast axis;
- Theoretical visibility becomes patchy and somewhat sporadic across the mid to far distance to the north and south of the site as a result of the undulating drumlin landscape. This part of the landscape exhibits a more fragmented and intermittent visibility;
- Bockagh Hill to the west and Mullaghthee Hill to the east generate visibility shadows in the central study area;
- Mullaghanoe to the west of the site generates a more notable visibility shadow which extends to much of the western part of the study area;
- The landscape of the Bricklieve and Curlew Mountains to the northeast of the site acts to preclude theoretical visibility to the northeast; and,
- The elevated landscape to the northwest, around Knocknashee and Muckelty Hill, precludes views from the Moy Valley, with theoretic visibility resuming again in line with the Ox Mountains.

While areas of comprehensive visibility (blue shading) are theoretically present throughout the study area, views are likely to be frequently interrupted by the combined influence of topography and vegetation.

The most important point to reiterate with respect to this 'bare-ground' ZTV map is that it is theoretical. Any development, including wind energy development, 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 or highly conservative scenario of what is already an entirely theoretical projection.

10.3.3.2 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) are outlined in **Table 10.6**, alongside a critical analysis to determine their relevance to the assessment of visual effects. There are no 'Scenic Routes' or 'Scenic Routes with Designated Views' within the administrative boundary of County Mayo that fall within the study area or ZTV pattern.

Where scenic designations fall outside the ZTV pattern, they have been discounted on the basis that the turbines will not be visible and will not generate any visual impacts. Those that fall inside the ZTV pattern were investigated during fieldwork to determine whether actual views of the 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;
- the primary aspect of the view in terms of its relevance to the scenic designation, orientates away from the project; and,
- 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.

Reference	Relevance	VRP Ref
Roscommon CDP 2022-2028		
Scenic View 3	Not Relevant - Outside of ZTV pattern.	-
Scenic View 4	Not Relevant - Outside of ZTV pattern.	-
Scenic View 5	Not Relevant - Outside of ZTV pattern.	-
Scenic View 6	Not Relevant - Outside of ZTV pattern.	-
Scenic View 7	Discounted - View located in edges of ZTV pattern indicating partial views. Successive layers of vegetation at over 16.5km distance will make views highly unlikely.	-
Scenic View 9	Discounted - View located in edges of ZTV pattern indicating partial views. Successive layers of vegetation at 25km distance will make views highly unlikely.	-
Scenic View 10	Discounted - Unlikely to generate notable effects at over 23km distance. Effects generally represented by closer viewpoints.	-
Scenic View 11	Relevant - View oriented in the direction of the proposed development, with views considered possible.	VRP 26
Scenic View 12	Relevant - Views theoretically possible.	VRP 29
Scenic View 13	Relevant - Views theoretically possible.	VRP 29
Scenic View 14	Not Relevant - Outside of ZTV pattern.	-
Scenic View 15	Discounted - No views anticipated	-
Scenic View 26	Discounted - View located in edges of ZTV pattern indicating partial views. Successive layers of vegetation at over 16.5km distance will make views highly unlikely.	-
Sligo CDP 2024-2030		
Sligo Scenic Route 3	Not Relevant - Outside of ZTV pattern	-
Sligo Scenic Route 19	Discounted - Unlikely to generate notable effects at over 23km distance. Effects generally represented by closer viewpoints.	-
Sligo Scenic Route 20	Discounted - Limited potential visibility.	-
Sligo Scenic Route 21	Relevant - Views possible. Represented by Viewpoint 6.	VRP 6
Sligo Scenic Route 49	Discounted - Unlikely to generate notable effects at over 23km distance. Effects generally represented by closer viewpoints.	-
Sligo Scenic Route 51	Not Relevant - Outside of ZTV pattern	-
Sligo Scenic Route 51	Not Relevant - Outside of ZTV pattern	-
Sligo Scenic Route 56	Not Relevant - Outside of ZTV pattern	-
Sligo Scenic Route 57	Not Relevant - Outside of ZTV pattern	-
Sligo Scenic Route 58	Discounted - Limited potential visibility.	-
Sligo Scenic Route 60	Relevant - Views possible. Represented by Viewpoint 4.	VRP 4
Sligo Scenic Route 63	Not Relevant - Outside of ZTV pattern	-
Sligo Scenic Route 64	Not Relevant - Outside of ZTV pattern	-
Sligo Scenic Route 65	Not Relevant - Outside of ZTV pattern	-
Sligo Scenic Route 68	Relevant - Views possible. Represented by Viewpoint 4.	VRP18
Sligo Scenic Route 69	Relevant - Views possible. Represented by Viewpoint 4.	VRP 6
Sligo Scenic Route 70	Relevant - Views possible. Represented by Viewpoint 4.	VRP 5
Sligo Scenic Route 71	Not Relevant - Outside of ZTV pattern	-

Table 10.6: Rationale for Selection of VRPs from Scenic Designations

10.3.3.3 Identification of Viewshed Reference Points as a Basis for Assessment

The results of the ZTV analysis provide a basis for the selection of VRPs, which are the locations used to study the landscape and visual impact of the project in detail. It is not warranted to include every location that provides a view of the project as this would result in an unwieldy report and make it extremely difficult to draw out the key impacts arising from the project. Instead, a variety of receptor locations were selected that are likely to provide views of the project from different distances, different angles and different contexts. The visual impact of a project is assessed using up to 6 no. 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 a 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 project, usually within a 5km radius of the project site. Although the VRPs are generally located on local classed 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 project 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 roads and rail lines and are relevant VRP locations

due to the number of viewers potentially impacted by a 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 cultural or heritage importance.

As previously discussed, the study area has been extended to consider the likely visibility of the project from Rathcroghan and part of 'The Passage Tomb Landscape of County Sligo', both of which are listed in Ireland's Tentative List for World Heritage Properties. Representative locations relevant to each context have been selected to assess the visibility of the project.

The VRPs selected are set out in **Table 10.7** and their location illustrated **Figure 10.9**. All locations have been selected based on relevant guidance and best practice.

VRP	Location	Distance to nearest turbine	Representative of	Direction of view
1	R376 West of Ireland Airport	14.38 km (T6)	MR, AH	ENE
2	L1305 at Roosky	8.52 km (T1)	CP	SE
3	L8402 Carinara Viewpoint	17.72 km (T1)	AH	SSE
4	Keshcorran Caves, Keash Hill Walk, Sligo Scenic Route 20	14.16 km (T2)	DSR, AH	SSW
5	L5705 Sligo Scenic Route 70 Derrinoghra Loop (Wynne's View)	12 km (T3)	DSR, AH	WSW
6	L4103 Sligo Scenic Route 69, Lung Lough Gara Way	6.87 km (T3)	DSR, AH	WSW
7	R294 Gurteen	5.9 km (T2)	MR, CP	SSW
8	R293 south of Gurteen	2.6 km (T3)	MR, LCV	SW
9	L8019 Carrowntemple Burial Ground	1.63 km (T2)	LCV	S
10	L1203 west of Owengarve River	1.16 km (T6)	LCV	SE
11	L1203 Lung Lough Gara Way	0.24 km (T7)	LCV, AH	N & S
12	L5507 east of Bockagh Hill (Bockagh Hill walking loop)	1 km (T6)	LCV, AH	NE - SE
13	L1203 south of Attiantaggart	0.8 km (T8)	LCV	N - SE
14	L55019 Lung Lough Gara Way	0.67 km (T10)	LCV, AH	NNW
15	Local Road, Tallaghan	2.31 km (T9)	LCV	NW
16	Local Road, Derrycashel, west of R293, Lung Lough Gara Way	1.98 km (T3)	LCV, AH	W
17	L8110 north west of Monasteraden, Lung Lough Gara Way	3.79 km (T3)	LCV, AH	WSW
18	L1703 (Island Road) Cuilbeg, Sligo Scenic Route 68	7.02 km (T9)	DSR, CP	WNW
19	Ballinlough Road	5.49 km (T9)	LCV	NW
20	L1213, north of Churchstreet	9.75 km (T9)	CP	NW
21	Ballaghaderreen and Brusna Walking loop, Pollboy	3.8 km (T6)	LCV, AH	ENE
22	L1244 Cox's Line, Doogary	2.14 km (T10)	LCV	NNE
23	R293, Kilcolman Cemetery, Ballaghaderreen, Lung Lough Gara Way	2.3 km (T10)	LCV, CP, MR, AH	N
24	Aughalustia Bridge, Lung River, Lung Lough Gara Way.	4.56 km (T10)	LCV AH	N
25	R325 north of Aghadrestan	7.57 km (T10)	MR	NNE
26	Scenic View V11 (Roscommon) Fairymount Hill	10.98 km (T10)	DSR	NNW
27	Carrowkeel Passage Tomb	17.05 km (T3)	KV AH	SW
28	Knocknashee Passage Tomb	19.66 km (T1)	KV AH	SE
29	Rathcroghan	22.7 km (T10)	KV DSR, AH	NW
*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 10.7: Outline description of selected Viewshed Reference Points

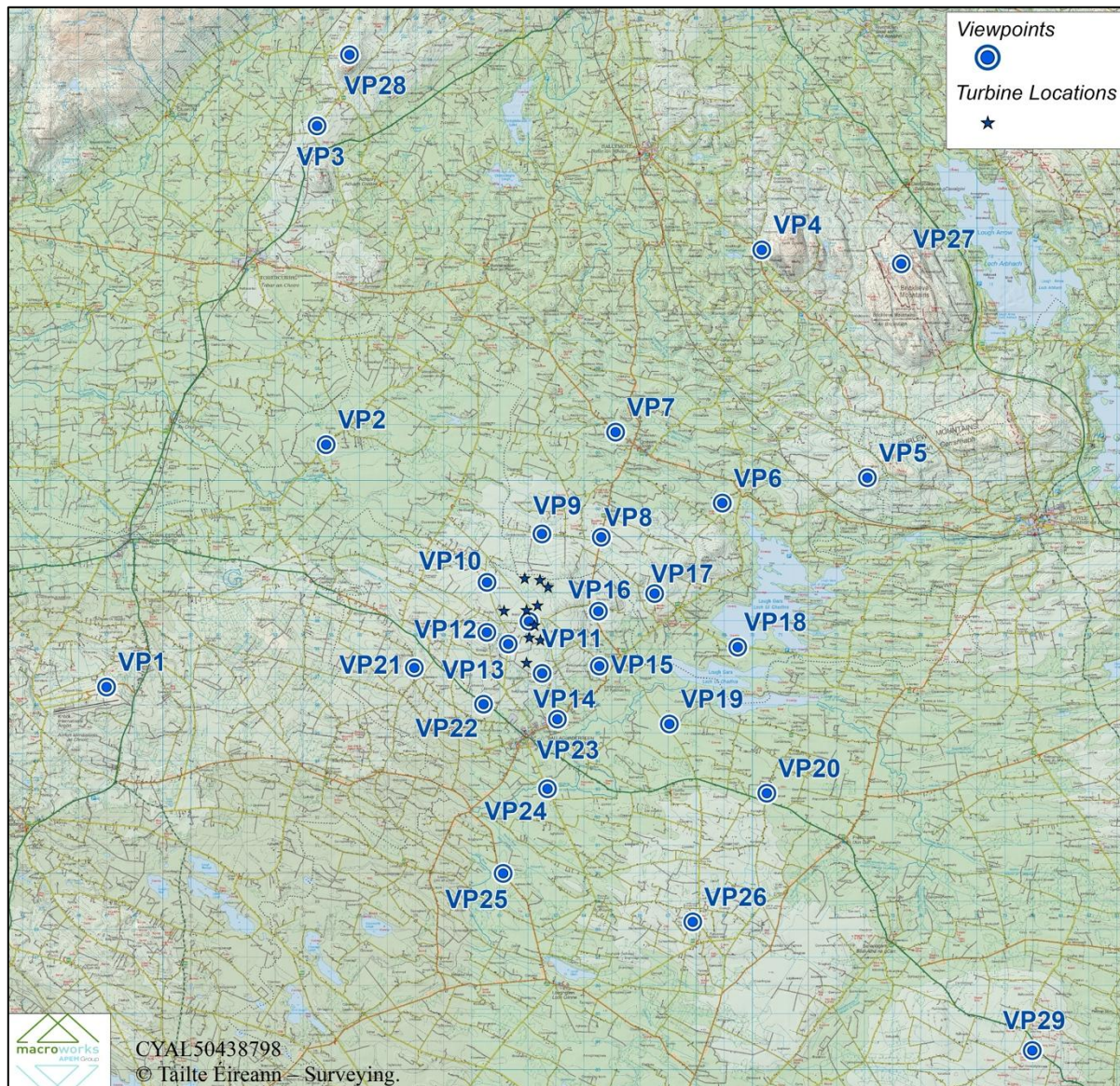


Figure 10.9: Map showing selected VRPs within the Study Area

10.3.3.4 Other Wind Energy Developments

Within the study area, existing/operational wind energy developments include the 9 no. turbine Largan Hill Wind Farm, the 2 no. turbine Roosky Wind Farm, and the single Grady Joinery Wind Turbine.

Projects that are known to be proposed, but are not present in the existing baseline, are addressed in greater detail in the cumulative section.

10.4 DESCRIPTION OF LIKELY EFFECTS

Landscape effects are assessed on the basis of landscape sensitivity weighed against the magnitude of change, both in terms of effects of the 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 as well as the wider study area.

10.4.1 DO-NOTHING SCENARIO

In advance of identifying the likely landscape and visual effects of the project, it is appropriate to assess 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.

In terms of wind energy development, the project site forms part of a wider area of landscape that is considered to be 'Most Favoured' for wind energy development. The landscape's capacity to accommodate wind energy development is also reflected in the existing turbines at Largan Hill Wind Farm and consented projects present throughout the study area. Wind turbines are therefore considered to form part of the long term character of this landscape.

The main influences on the future landscape and visual environment are considered to pertain to the impacts of climate change and the character of vegetation in the landscape.

Parts of this landscape play host to blocks of woodland, riparian vegetation and plantation forestry, as well as belts of vegetation associated with agricultural use of the landscape. In addition to the cycle of felling associated with forestry activities, change will relate to the large tracts of peatland and cutaway peatland, which will evolve over time, with pockets of natural revegetation generating a more vegetated landscape.

Climate change, together with the natural ongoing maturation of vegetation, is likely to influence vegetation cover whether as a result of biological pests and pathogens, or rainfall patterns; albeit the lack of certainty means that identifying likely changes is problematic. Changes to agricultural uses of land throughout the landscape may occur over time, subject to a variety of external factors. All change in this regard is likely to be localised in its influence and would be consistent with this type of landscape change across Ireland, rather than being specific to this locality.

Other development pressures are difficult to accurately predict and are subject to a variety of external factors. The focus of urban pressure is likely to relate to larger built-up areas; and whilst domestic scale change is likely to occur throughout the landscape, this is not likely to significantly alter the character of the wider landscape. Change of this nature is ultimately controlled through the planning process and it is assumed that it will progress with regard to sensitivities in the wider landscape and visual context.

In this instance, it is considered that the receiving landscape and visual baseline would remain in the same or similar condition as it is currently, with the exception of the additional consented turbines.

The 'do-nothing' impact refers to the non-implementation of the project. The primary effect of this would be that the impacts and effects identified would not directly occur. In this regard, the project site would continue as an area of upland peatland surrounded by blocks of conifer forestry, and the character of the immediate area of landscape would remain strongly influenced by the surrounding working landscape.

10.4.2 LANDSCAPE SENSITIVITY

Landscape value and sensitivity are considered in relation to a number of factors that accord with GLVIA3. These are discussed in relation to the central and wider study area.

10.4.2.1 Central Study Area

The site, and majority of the central study area, falls within the 'Hills and Uplands' LCT and LCA 23 'Ballaghaderreen and Bockagh Hill Uplands'. This is a marginal upland landscape surrounded by a predominantly low lying landscape, defined by a varied landcover that includes a mix of wet and dry grassland on lower elevations and raised bog and upland blanket bog at higher elevations. The landscape is informed by the existing turbines at Largan Hill Wind Farm as well as telecommunications infrastructure, urban areas and extensive road networks. These elements combine to generate a varied anthropogenic character.

The Roscommon CDP describes this area as being of 'Moderate Value' (which is the lowest landscape value within the Roscommon CDP) and it is noted that this corresponds with the categorisation of this part of the landscape within the 'Most Favoured' for wind energy development.

Whilst the landscape within the central study area is not noted for any specific scenic value, views from this marginal upland area are expansive over a planar landscape that is informed by glacial processes, with longer range views to upland landscapes to the northeast and northwest contributing to its scenic value. The recreational value of the wider landscape is recognised by the long distance recreational routes pass through the central study area.

The landscape of the central study area is considered to be a robust, modified, working landscape that is extensively influenced by typical productive rural landscape activities and land uses. Whilst this landcover and the presence of waterbodies informs a pleasant rural aesthetic, and there are parts of the study area that exhibit a greater degree of scenic value, landscape values reflect the longstanding human interaction with this landscape over time rather than being explicitly informed by naturalistic qualities and values.

On balance of these factors, the central study area is deemed to have a 'Medium' landscape sensitivity.

10.4.2.2 Wider Study Area

Many of the points raised in relation to the central study area are considered to remain relevant. The landscape is informed by a working character influenced by a blend of peatlands, conifer forestry and agriculture. Anthropogenic influences are prevalent throughout the wider study area most notably with the network of transport corridors and local roads. Settlements, together with linear clusters of residential development, contribute to a generally well settled landscape.

The wider study area contains large areas of raised bogs and blanket bogs, quiet wetland and river corridor landscapes and landscapes such as that associated with the Rathcroghan Plateau that are recognized for their habitat/recreational/scenic value and their nationally significant archaeological importance. It also contains areas of more elevated landscape and prominent topographical features such as around the Curlew Mountains, Bricklieve Mountains and in the locality of Knocknashee and Mucklety Hill where these features, together with the expansive views they afford,

contribute to comparatively high scenic value with these landforms being important and visually susceptible.

Parts of the wider landscape are considered to have a High-Medium landscape sensitivity as a result of their natural attributes and their scenic, recreational and heritage values. The mountainous landscape to the north and northwest and the cultural landscapes associated with the passage tomb landscape and Rathcroghan are considered to have a High landscape sensitivity. However, on balance of the reasons outlined above, the landscape sensitivity of the wider study area is deemed to retain an underlying Medium-Low sensitivity.

10.4.3 LANDSCAPE EFFECTS

10.4.3.1 Construction Phase

It is assessed that the project will have a modest physical impact on the landscape within the project site, with land disturbance being localised and relatively limited.

The anticipated loss of forestry plantation to facilitate the project is described at **Chapter 3**, which also draws reference to the felling plan. Whilst the extent of forestry removal is notable in scale, it is predominately located within the general footprint of the wind farm and will largely fall within existing bank of forestry such that its loss will not be readily visible. When assessed as part of its wider landscape context, and in the context of the large tracts of remaining forestry present, disturbance to existing forestry will be of little consequence to the character of the wider area, with vegetation losses not readily impacting views from publicly accessible locations beyond the immediate locality and seen in the context of existing forestry operations. As part of the felling licence application process, it will be necessary for the Developer to replace lost forestry and appropriate replacement lands will be identified for new planting.

Further hedgerow and tree removal required to enable the construction of the wind farm or enable the delivery of wind turbine components has been minimised. Any disturbed areas located adjacent to infrastructure will be reinstated and allowed to vegetate naturally, and any losses will be replaced with native species mixes appropriate to the locality, with the Ecological Clerk of Works (ECoW) identifying appropriate replacement locations.

Additionally, **Chapter 5** (Biodiversity) provides for a number of biodiversity and habitat enhancement measures which will off-set the loss of habitats during the construction phase.

Whilst there will be changes to topography through excavation, stockpiling, the creation of temporary hardstand areas stormwater drainage, and other features; these works are temporary and localised to the immediate locality of the project infrastructure. It is noted that the finalised internal access track layout has been designed to avoid environmental constraints and follow the natural contours of the land wherever possible. 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 allowed to vegetate appropriately in accordance with advice from the ECoW.

A borrow pit extending to an area of 0.9ha is proposed to the southeast of T5. It will be extracted to a depth of around 10m to supply construction material. Whilst this will represent a locally notable intrusion, it will be reinstated using surplus excavated

material generated elsewhere within the project site, and graded to match the surrounding ground profile. In the longer term, it is assessed that landscape effects will relate to localised influence on landscape character as a result of the safety fencing, but that the land will return to a condition comparable to that present.

There will be an intensity of construction phase activity associated with the access tracks and crane hardstands consisting of the movement of heavy machinery and materials; however, this will be temporary/short-term in duration.

All wind farm cabling will be located underground and will be installed within/under access tracks or adjacent to them without the need for trenching through open ground. Indeed, the land cover of the project site will only be interrupted as necessary to build the structures of the project and to provide access. Impacts from land disturbance and vegetation loss at the site are assessed to be modest in the context of this landscape setting and is influenced by an array of working rural land uses.

Whilst there will be some long-term/permanent construction phase effects on the physical landscape, these are localised in extent. Excepting some residually useful access tracks which may be retained, all other development features will be removed upon decommissioning and the land reinstated/restored. As such, the construction phase landscape effects of the project are substantially reversible.

During construction, the installation of the project turbines and the associated activity and movement associated with tall lifting plant will introduce large scale vertical features into views. Construction-related activity will be short-term in nature (in accordance with the EPA definition of impact duration) and will cease once the project becomes fully operational. Whilst these activities will generate temporarily heightened visual effects, their influence on perceived landscape character is assessed to be modest in the context of movement that occurs throughout this landscape along road networks, and that associated with an operational wind farm. As such, a greater proportional focus is placed on the long-term effects of the operation of the wind turbines on landscape character.

However, it is recognised that site activity will be at its greatest during the construction phase due to the operation of machinery on-site and the movement of vehicles to and from the site; and that the activities and works taking place at ground level are likely to impact landscape character at a localised level. Works associated with the turbine component haul route, infrastructure foundations, underground cable installation, groundworks (including the excavation, stockpiling, deposition, and reinstatement of site-won material), and landscape works will generate activity and disturbance that will influence scenic/recreational values of roads and contrast the underlying agrarian characteristics of the landscape.

These works are short term and temporary in nature lasting between 15-18 months (albeit acknowledging that reinstated landscape works will take time to fully mature) and localised in extent. The effects will cease as soon as the turbines have been installed and become operational.

The magnitude of landscape impact in relation to these activities during the construction phase is assessed to be no greater than Medium-Low which, when combined with a Medium sensitivity, results in a Moderate landscape effect.

The construction phase landscape effects are, therefore, assessed to be not significant.

10.4.3.2 Operation Phase

For most commercial wind energy developments, the greatest likelihood of landscape impacts occurring is as a result of the change in character of the immediate area due to the introduction of tall structures with moving components. Thus, in some instances, 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, although wind turbines are not a widespread feature of the study area, there is an established wind farm in the immediate locality of the project as well as a small number in the wider surrounding landscape.

The overall effect of the project is one of an intensification and extension of an established, although not noteworthy, land use and not the introduction of a new and unfamiliar one. In terms of scale and function, the project is well assimilated within the context of the central study area, which exhibits a range of working rural land uses. Although it represents a higher level of built development than what currently exists on the site, it is considered that the landscape has capacity to absorb to accommodate this project and it will therefore not detract notably from its underlying landscape characteristics.

Although the project will influence the scenic aspects of the landscape, which are experienced at close proximity from the promoted long distance walking route that passes through the site, the spacing afforded between the turbines will maintain a high degree of visual permeability that ensures that visual relationships with the wider landscape will remain available.

In summary, there will be physical impacts on the land cover of the site as a result of the project during the operation phase but these will be relatively minor in the context of this working rural landscape that includes extensive areas of agricultural land, peatland and forestry. The scale of the project will be well assimilated within its landscape context without undue conflicts of scale with underlying landform and land use patterns.

The influence of the project on landscape character will inherently be most notable at the immediate landscape level where their scale and form are likely to generate considerable change to the character of the landscape. However, the degree to which the wind turbines will influence landscape character is moderated by the scale of the landscape and the relatively modest spatial extent occupied by the project.

Within the central study area and in relation to the site and its immediate environs (within approximately 1km), the magnitude of change to landscape character is assessed to be High-Medium. When combined with a Medium sensitivity, the level of landscape effect is assessed to be Substantial-Moderate. Beyond this distance, the magnitude of change to landscape character will reduce to Medium for the remainder of the central study area. When combined with a Medium sensitivity, the resulting level of landscape effect is assessed to be Moderate, tending to Moderate-Slight. The quality of the landscape effects is assessed to be Negative and the duration of the impact is long-term.

Whilst the project is likely to influence the scenic value of parts of the landscape as a result of turbines being visible on the skyline, often seen in context with a landscape with planar properties,, with increasing distance the magnitude of change will reduce as the project becomes an increasingly small and indistinct component of a wider landscape that is influenced by a variety of land uses. The magnitude of change to landscape character beyond the central study area is assessed to be Medium-Low, reducing to Low beyond approximately 10km. When combined with a Medium-Low sensitivity, the level of landscape effect is assessed to be no greater than Moderate-

Slight reducing to Slight with increasing distance. Despite parts of the landscape having a comparatively greater sensitivity (High and High-Medium), these are at considerable distance and, as such, effects are assessed to remain Slight.

The operation phase landscape effects are, therefore, assessed to be not significant.

10.4.3.3 Decommissioning Phase

With the potential exception of access tracks that may be left in situ, the decommissioning phase will see the removal of all turbines and infrastructure from the site, with areas of hardstanding that are of no further use reinstated and allowed to vegetate to blend with the prevailing surrounding land cover.

It is expected that the decommissioning phase will be completed within 1-year and that within a relatively short period of time following decommissioning (approximately 2-3 years) there will be little evidence that the project 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 will be temporary and readily reinstated.

The decommissioning phase landscape effects are assessed to be not significant.

10.4.4 VISUAL EFFECTS

In the interests of brevity and so that this chapter remains focused on the outcome of the visual assessment (rather than a full documentation of it), the visual impact assessment at each of the selected VRPs is enclosed, separately, at **Annex 10.1**. This section should be read in conjunction with the viewpoint assessment and the associated photomontage set (**Annex 10.2**). A summary table is provided below, which collates the assessment of visual impacts (**Table 10.8** below), and a discussion of the results is provided thereafter.

10.4.4.1 Sensitivity of Visual Receptors

The landscape of the study area is heavily modified and, in many locations, there is a palpable sense of longstanding human intervention on the landscape. Much of the landscape has strong rural qualities and a pleasant agrarian aesthetic as defined by its settled, 'green', working character, with other parts of the landscape having been subject to peatland extraction with these areas in various states of regeneration. However, it is noted that views from all parts of the study area are influenced by various anthropogenic features such as road infrastructure, agricultural farmland, and urban settlements.

Although there are designated scenic routes, views and prospects in both the central and wider study area that recognise the scenic value of the landscape, the modified nature of the landscape moderates the perception of remoteness. In certain elevated locations which afford broad views, there is a sense of awe as a result of the scale of the landscape in the view, albeit this is modest when compared to a remote mountainous context.

In terms of visual receptor sensitivity, key differentials 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, or those at scenic viewpoints, are considered inherently more susceptible to changes in views given the nature of their

interest in the landscape and its importance to the experience of it. Conversely, visual receptors who experience views transiently when travelling through the landscape on major transport routes are considered less susceptible where road infrastructure and traffic volume draw from visual amenity. Similarly, receptors located in closer proximity to the project site are considered more susceptible to changes in views over those where views are experienced at a distance as a result of the relative importance of the local context on views.

Whilst visual receptor sensitivity is heightened at important scenic or heritage sites where scenic values are considered to be comparatively higher, and visual receptors are considered to be more sensitive to changes in their view of the landscape, overall, the underlying sensitivity of visual receptors within this robust working rural landscape is assessed to be Medium-Low.

Based on the site-specific factors outlined, and in accordance with the general visual receptor sensitivity considerations contained in the methodology, visual receptor sensitivity judgments are discussed below in relation to visual receptor groups.

Key Views (KV)

Within the study area, VRPs 27-29 have been selected to represent those visiting the notable Carrowkeel Passage Tomb, Knocknashee Passage Tomb and Rathcroghan. These features are of notable archaeological and cultural value and attract a significant visitor footfall. Given the importance of the landscape to views, visual receptors are assessed as having a High sensitivity.

Designated Scenic Routes and Views (DSR)

The relevant viewpoints are VRPs 4-6, 18 and 26. While many of these viewpoints also represent other receptor types, their primary relevance in this assessment lies in their scenic designation, as identified in the relevant CDPs.

VRPs 4-6 and 18 are designated scenic routes within the Sligo CDP and vary in range between 7km and 14km. VRPs 26 and 29 represent scenic views V11 and V12/13 from the Roscommon CDP and are located at 11km and 22.7km from the project site respectively.

Where the view relates to a location with a particularly valued aspect of amenity, such as a view over a lake or an elevated view over the wider landscape, visual receptors are considered to be of High-Medium sensitivity. In many other locations along designated scenic routes, views are consistent with other views that may be available over the rural working landscape and, whilst pleasant, visual receptors are assessed to be relatively robust and of no greater than Medium sensitivity.

Local Community Views (LCV)

The assessment of visual sensitivity for local community views focuses on the perspectives of individuals who live, work or travel within the study area. These people are most likely to experience changes in their visual amenity due to the proximity of the turbines, their potential visibility from various directions or the turbines becoming a familiar part of their daily views. The relevant viewpoints within the study area include VRPs 8-17, 19, and 21-24.

The majority of the local community viewpoints are from the local road network close to residential dwellings throughout the landscape from which the project will be visible. Whilst some of the viewpoint locations are also representative of other visual

receptors (such as recreational receptors), visual sensitivity is assessed to be no greater than Medium.

Centres of Population (CP)

The relevant viewpoints are VRPs 2, 7, 18, 20, and 23, representing the population centres of Roosky, Gurteen, Cuilbeg, Churchstreet, and Ballaghaderreen respectively. 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. Considering the urban/built context at these locations, visual sensitivity is assessed to be Medium-Low.

Major Routes (MR)

These include regional level roads and are relevant VRP locations due to the number of viewers likely to be affected by the project. Major routes typically provide views that are experienced transiently whilst in motion, and these may be fleeting and intermittent depending on screening by intervening vegetation or buildings. The relevant viewpoints are VRPs 1, 7, 8, 23, and 25, representing national and regional road corridors throughout the study area. Major Routes feature a high number of viewers, with some locations considered to have comparatively high amenity value. Visual sensitivity on Major Routes is assessed to be Medium-Low.

Amenity & Heritage Features (AH)

A number of heritage and amenity features are represented by the VRPs. The relevant viewpoints are VRPs 1, 3-6, 11, 12, 14, 16, 17, 21, 23, 24, and 27-29. These represent a variety of different features and visual receptors, including those arriving at the Ireland West Airport, those at viewpoint locations such as the Carinara Viewpoint, those on the Lung Lough Gara Way, and those at notable visitor destinations such as Rathcroghan.

Similar to that described for DSR visual receptors, visual receptor sensitivity will vary across various contexts within the study area. Where the view relates to specific location such as a viewpoint, visual receptors are assessed to be of High-Medium sensitivity. In relation to promoted walking routes such as the Lung Lough Gara Way, visual receptor sensitivity is naturally going to vary across the 45km of the route. Where a route passes through open, elevated and remote parts of the landscape, visual receptor sensitivity will be higher than in more developed parts of the landscape, or parts where the route runs along carriageways.

Scenic routes similarly pass through various parts of the landscape. Whilst their designation denotes a scenic value, some parts of a route will naturally hold a greater degree of importance to the visual receptor than other parts which, although pleasant, are consistent with other views that may be available over the rural working landscape.

Where the landscape plays an important part to the visual experience, such as in elevated, open, and remote parts of the landscape or where there are expansive views over the wider landscape, visual receptors are considered to be of High-Medium sensitivity. In other locations, visual receptors are considered to be of no greater than Medium sensitivity, reducing to Medium-Low where the landscape is not an important part of the visual or recreational experience.

10.4.4.2 Do-Nothing Scenario

In advance of identifying the likely visual effects of the project, it is considered relevant to assess the changes that are likely to occur in the landscape over time in its absence. The narrative included for the Do-Nothing Scenario within the landscape assessment is considered to remain relevant whereby the receiving visual baseline would remain in the same or similar condition as it is currently, with the exception of the additional consented turbines.

The 'do-nothing' impact refers to the non-implementation of the project. The primary effect of this would be that the impacts and effects identified would not directly occur. In this regard, the visual environment would continue to be strongly influenced by the large expanses of peatland, forestry and the wider agricultural use of the landscape.

10.4.4.3 Construction Phase

During construction, the most notable visual impacts will result from the installation of the wind turbines, with lifting plant introducing additional vertical features into views. As per the construction programme, construction-related activity will be short-term in nature (in accordance with the EPA definition of impact duration) and will cease once the project becomes fully operational, albeit acknowledging that reinstated landscape works will take time to fully mature.

The visual effects generated by the activity associated with the installation of the turbines are considered in the context of their temporary nature, and a greater proportional focus is placed on the long term effects of their operation. However, for visual receptors within the central study area, this activity will be very visible from locations close to the turbines and reducing with distance as topography and vegetation preclude views of ground level activities. For visual receptors within the central study area, the magnitude of visual impact at the construction phase is assessed to be no greater than High-Medium. When combined with a High-Medium sensitivity (localised recreational receptors and those in the immediate locality), the level of visual effect is assessed to be no greater than Substantial-Moderate.

For visual receptors in the wider study area, the activity associated with the installation of the turbines is unlikely to notably influence the visual amenity of any given view, given that this activity will be difficult to discern at distance. For visual receptors within the wider study area, the magnitude of visual impact during the construction phase is assessed to be no greater than Low. When combined with a High-Medium sensitivity (the most sensitive visual receptors), the level of visual effect, on balance, is assessed to be no greater than Slight.

In addition to the installation of the turbines, the construction phase will also see activities taking place at ground level associated with vegetation removal, new access tracks and other elements of the project. This short-term activity will not be visible from publicly accessible locations in the wider landscape given the successional layers of vegetation present and the influence of topography. Any visibility will be marginal in nature.

Visual effects generated as a result of works associated with upgrades to the turbine component haul route and electricity substation and electricity line, will be substantially undertaken within the existing road network and will result in only very localised effects. The temporary visual effects of these activities are assessed to be broadly consistent with typical road maintenance operations and not of an order that will give rise to any greater than a Slight level of visual effect which will be localised to the immediate vicinity of these works.

Construction phase works are temporary in nature except where connected to the long term use of the project. Any damage generated to existing landscape features will be reinstated following completion. The temporary nature of the effects acknowledge that landscape and planting works will take time to become established and vegetation to become fully mature. It is also acknowledged that these activities and the resulting effects, will be experienced in the immediate locality of these works only.

Visual effects generated during the construction phase are assessed to be not significant.

10.4.4.4 Operation Phase

The level of visual impacts is a function of visual receptor sensitivity and visual impact magnitude, determined through professional judgement, informed by the matrix in **Table 10.4**.

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 29 no. selected representative viewpoint locations. A summary table (**Table 10.8**) collates the operational effects identified within this visual assessment, and a discussion is provided thereafter in relation to visual receptor groups.

VRP No.	Distance to nearest turbine	Visual Receptor Sensitivity	Magnitude of Visual Impact	Level of Effect *
1	14.38 km (T6)	Medium-Low	Low-Negligible	Imperceptible
2	8.52 km (T1)	Medium-Low	Medium-Low	Slight
3	17.72 km (T1)	High-Medium	Low	Slight
4	14.16 km (T2)	High-Medium	Low-Negligible	Slight-Imperceptible
5	12 km (T3)	High-Medium	Medium-Low	Slight
6	6.87 km (T3)	Medium	Medium-Low	Slight
7	5.9 km (T2)	Medium-Low	Medium-Low	Slight
8	2.6 km (T3)	Medium-Low	Medium-Low	Moderate-Slight
9	1.63 km (T2)	Medium-Low	Medium-Low	Moderate-Slight
10	1.16 km (T6)	Medium-Low	Medium	Moderate
11	0.19 km (T7)	High-Medium	High-Medium	Substantial-Moderate
12	1 km (T6)	High-Medium	High-Medium	Substantial-Moderate
13	0.8 km (T8)	Medium-Low	High-Medium	Moderate
14	0.67 km (T10)	Medium	Medium	Moderate
15	2.31 km (T9)	Medium-Low	Medium-Low	Moderate-Slight
16	1.98 km (T3)	Medium	Medium-Low	Moderate-Slight
17	3.79 km (T3)	Medium	Medium-Low	Slight
18	7.02 km (T9)	High-Medium	Medium-Low	Slight
19	5.49 km (T9)	Medium	Medium-Low	Moderate-Slight
20	9.75 km (T9)	Medium-Low	Low	Slight
21	3.8 km (T6)	Medium	Low	Slight
22	2.14 km (T10)	Medium-Low	Medium-Low	Moderate-Slight
23	2.3 km (T10)	Medium-Low	Medium-Low	Moderate-Slight
24	4.56 km (T10)	Medium	Low	Slight
25	7.57 km (T10)	Medium-Low	Low	Slight
26	10.98 km (T10)	High-Medium	Low	Slight-Imperceptible
27	17.05 km (T3)	High	Low-Negligible	Slight-Imperceptible
28	19.66 km (T1)	High	Low-Negligible	Slight-Imperceptible
29	22.7 km (T10)	High	Negligible	Imperceptible

Table 10.8: Summary of Visual Impact Assessment at VRP Locations

**All effects are assessed as negative and long term.*

Visual Impact Summary by Receptor Type

Key Views

In total, of the 29 no. viewpoints assessed, 3 no. (VRPs 27-29) were selected as being relevant to the consideration of visual effects in relation to Key Views.

These viewpoints were selected to represent those visiting Carrowkeel Passage Tomb, Knocknashee Passage Tomb, and Rathcroghan, which are sites of national importance. The highest level of visual effect is assessed to be 'Slight-Imperceptible' as experienced from the elevated locations at Carrowkeel and Knocknashee, with both locations commanding long range views over the wider landscape. At over

17km distant, whilst visible (primarily under clear conditions), the turbines will occupy a small proportion of the overall view, and will not have a notable effect on the visual composition of views, appearing as distant elements alongside existing wind turbines within a landscape that is extensively modified.

Given the intervening screening and the comparative elevation of Rathcroghan, whilst a small number of the turbines will be partially visible, at over 22km, these will be difficult to discern and will have minimal bearing on views. The level of visual effect is assessed to be 'Imperceptible'.

The visual effects arising from the proposed development in relation to Key Views, are assessed as not significant.

Designated Scenic Routes and Views

In total, of the 29 no. viewpoints assessed, 6 no. (VRPs 4-6, 18, 26, and 29) were selected as being relevant to the assessment of visual effects in relation to Designated Scenic Routes and Views.

The closest of these views occurs at around 7km from the site, with others being beyond 11km. The highest level of visual effect was 'Slight', as experienced at VRPs 5, 6, and 18, with the other VRPs at greater distance being 'Slight-Imperceptible', and 'Imperceptible'.

Views from the designated scenic routes and views are highly variable throughout the study area subject to the direction of travel, the primary aspect of amenity, and elevation; which has a notable bearing on the nature of the view, whether more localized and focused on the immediate landscape context or more expansive over the wider landscape. In the majority of locations where the wind turbines are visible, these views are already influenced by the turbines at Largan Hill Wind Farm.

With distance, the turbines will become an increasingly small and distant component of the overall view, occupying a modest spatial extent. Whilst likely visible and noticeable from some locations, their influence on the overall character and composition and amenity value of the view diminishes, with other features and characteristics of the view prevailing in their influence.

The visual effects arising from the project in relation to designated scenic routes and views, are assessed as not significant.

Local Community Views

Of the 29 no. viewpoints assessed, 15 no. (VRPs 8-17, 19, and VRPs 21-24) were selected as being relevant to the assessment of visual effects in relation to Local Community Views. Local Community Views are considered to be those experienced by those people who live, work and move around the area within approximately 5km of the site (i.e. the central study area).

2 no. of the VRP locations, VRPs 11 and 12, experienced the most notable visual effects from any of the local community views (Substantial-moderate) where the project presents as a prominent feature at a distance of 1km or less. 3 no. of the VRP locations (VRPs 10, 13, and 14) experienced a 'Moderate' level of visual effect. All of these viewpoints are located within 1.16km of the wind turbines, where views are proximate and the scale of the turbines is perceived as being most prominent.

VRPs 8, 9, 15, 16, 19, 22, and 23 experienced a 'Moderate-Slight' level of visual effect, which reflects the more distant nature of views being between 1.6km and 5.4km

distant as well as the more partial and interrupted nature of views as a result of foreground topography and vegetation.

VRPs 17, 21 and 24 experienced a 'Slight' level of visual effect, primarily as a result of increased distance, but also as a result of the influence of Largan Hill Wind Farm in moderating the perceived change.

As an inevitable consequence of development of the scale proposed, the turbines will become one of the defining features in this local landscape context, although their layout ensures that they present in a manner that responds to its local landscape context and with a high degree of visual permeability so as not to generate any strong sense of enclosure or heavily obstruct views of the distant landscape where available. Overall, whilst the turbines will present at a considerable scale from some of the nearest local community receptors, they will not appear to be over-bearing from these local community views.

Owing to proximity, local community views understandably tend to have the highest likely visual impact significance of all receptors within the study area. Whilst borderline significant in relation to VRPs 11 and 12, the visual effects arising from the project in relation to Local Community Views, are assessed as not significant.

Centres of Population

In total, of the 29 no. viewpoints assessed, 5 no. (VRPs 2, 7, 18, 20, and 23) were selected as being relevant to the consideration of visual effects in relation to Centres of Population.

As previously set out, there are numerous settlements throughout the study area. These viewpoints were selected to represent the population centres of Roosky, Gurteen, Cuilbeg, Churchstreet and Ballaghaderreen, as well as other comparable receptors in the wider landscape. The highest level of visual effect was 'Moderate-Slight', as experienced from the edge of Ballaghaderreen. Given its proximity, this VRP also represented local community views but is also deemed to be representative of one of the main centres of population within the study area. Whilst the turbines will be visible and noticeable at just over 2km, they will generally be read partially as a backdrop element in the context of the wider urban environment.

Other centres of population are at greater distances (over 5.9km) with the effects of distance moderating the degree to which the turbines influence views. The level of visual effects at the other VRP locations was assessed to be no greater than 'Slight'.

The visual effects arising from the project in relation to centres of population, are assessed as not significant.

Major Routes

Of the 29 no. viewpoints assessed, 5 no. (VRPs 1, 7, 8, 23, and 25) were selected as being relevant to the consideration of visual effects in relation to Major Routes.

Visual effects when considered in relation to major routes are experienced transiently whilst in motion, often at great speed. The highest level of visual effect was 'Moderate-Slight' as experienced on the southbound section of the R293 south of Gurteen, and the northbound section of the R293 at the edge of Ballaghaderreen. Both of these locations are within 3km of the site and the level of effect is reflective of the proximity at which the turbines will be seen. From the other VRPs identified, (the R376 at Ireland West Airport, the R294 at Gurteen, and the R325 at Aghadreston), views are experienced at much greater distances and the level of visual effect is assessed to be

no greater than 'Slight'.

Collectively, the VRPs indicate the variable nature of the visual effects that will be experienced transiently from the major routes that pass through the study area. The visual effects arising from the project in relation to major routes are assessed as not significant.

Amenity and Heritage Features

In total, of the 29 no. viewpoints assessed, 16 no. (VRPs 1, 3-6, 11, 12, 14, 16, 17, 21, 23, 24, and 27-29) were selected as being relevant to the assessment of visual effects in relation to amenity and heritage features.

These represent a variety of different features and visual receptors, including those arriving at Ireland West Airport (VRP 1), those at recognized viewpoint locations (VRP 3 and 5), those on scenic routes (VRP 4, 5 and 6), those on the Lung Lough Gara Way (VRP 11, 14, 16, 17, 23, and 24), those on other promoted walking routes (VRP 12 and 21), and those at notable cultural sites (VRPs 27-29).

The highest level of visual effect was 'Substantial-Moderate' as experienced by those on the Lung Lough Gara Way at VRP 11 and those on the Bockagh Hill walking route at VRP 12. These views will be experienced at close proximity to the wind turbines (within 1km). 'Moderate' effects were also identified in relation to those on the Lung Lough Gara Way at VRP 14, within 1km, albeit given the comparatively partial nature of the views and the degree to which the wider landscape contributes to the experience of the route, the wind turbines are not considered to have as notable a visual effect.

'Moderate-Slight' effects were identified in relation to those on the Lung Lough Gara Way at VRPs 16 and 23 which are located at approximate distances of 2km and 2.3km respectively. Effects at these locations were moderated by the context of the view and the partial nature of the visibility of the project.

The level of visual effects at the other VRP locations was assessed to be no greater than 'Slight' owing to the relative distances at which the turbines will be visible. For VRPs 27-29, which represent the notable archaeological sites that occur in the wider study area, effects were 'Slight-Imperceptible' and 'Imperceptible'.

Whilst the turbines will present at a considerable scale from parts of the Lung Lough Gara Way which pass through the site and from the nearby elevated Bockagh Hill walking loop, they do not block or obstruct key views and their spacing across the landscape ensures that visual receptors maintain a strong visual connection with the wider landscape, which is of particular importance to the recreational value of these routes.

Owing to proximity, those sections of amenity routes that pass through and near the site will have the greatest visual impact significance. Whilst borderline significant in relation to VRPs 11 and 12, the visual effects arising from the project in relation to amenity and heritage features, are assessed as not significant.

10.4.4.5 Decommissioning Phase

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

It is expected that the decommissioning phase will be completed within 1-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 at this location.

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. However, such effects will be temporary in duration and decrease in scale as wind turbine components are removed from view and the landscape is substantially reinstated.

As with construction phase impacts, decommissioning phase effects are assessed to be not significant.

10.4.5 CUMULATIVE EFFECTS

The assessment of cumulative landscape and visual effects is placed principally on the cumulative wind energy developments outlined in **Chapter 1** that occur within the study area. In order to assist with the assessment, cumulative ZTV maps are enclosed at **Figure 161** and **Figure 162** of **Annex 10.2 (Volume II)**.

Whilst wind energy development is not widespread throughout the study area, the cumulative ZTVs demonstrate that views of wind turbines will be theoretically possible from the great majority of the study area and that only localised areas exist where the project (Islandmore Wind Farm) will be visible in isolation or where no turbines are theoretically visible at all. The cumulative ZTVs are based on bare-ground data and, as such, they inherently over-emphasise the degree to which the project will be visible cumulatively.

It is important to note that the landscape and visual effects of the project assessed above have been determined against a baseline that includes existing wind turbines. Whilst the wider cumulative context is noted; given its proximity, a key consideration as far as cumulative landscape and visual effects is concerned relates to the influence of the project in conjunction with the Largan Hill Wind Farm. The following section assesses the cumulative landscape and visual effects in combination with the Largan Hill Wind Farm, before assessing all other wind energy developments that are permitted, or known to be proposed, but are not yet present in the landscape.

10.4.5.1 Largan Hill Wind Farm

In terms of the cumulative impact of the project on the physical landscape, the physical effects on landcover will be limited to the immediate locality of infrastructure without notable consequence to wider landscape character. As such, cumulative landscape effects are considered primarily in relation to the additional effect of the project on landscape character.

The landscape character of the area is already influenced by the Largan Hill Wind Farm. The project occupies the same landscape character context and will extend this influence at a localised level; albeit due to the scale and open character of the landscape, the addition of the project is not assessed as generating a character defining influence or contributing to a notable sense of proliferation due to the space afforded between the turbines.

In terms of cumulative visual effects; given their scale and their physical relationship, the wind turbines will, in a great deal of instances, be viewed alongside the Largan Hill Wind Farm and present as a wider cluster of turbines, as one of only a few wind farms in the wider study area.

The project turbines are larger, and therefore more spaced out across the landscape, which generates a degree of visual tension from some locations as a result of the differing scale and the comparatively condensed layout of the Largan Hill Wind Farm turbines. However, whilst of a larger scale to those at Largan Hill Wind Farm, and perceived as different, these latter turbines are sited on an area of comparative elevation, such that the scale conflict is moderated (as illustrated by VRP 16), and the subtle differences in topography across the wider array moderates the influence of this difference in height. From some locations (such as VRP 20), their differing scale means that they will present as distinctly separate clusters, albeit this difference in scale contributes to a sense of landscape depth that is accommodated by the broad scale of the landscape. This is also demonstrated at VRPs 10-13, where the addition of the project turbines contributes to a sense of landscape depth and perspective at close proximity.

With increasing distance, the degree of visual tension decreases as the collective array becomes a smaller component in views and the visual influence of the Largan Hill Wind Farm is reduced by the comparative prominence of the project.

The comparative spacing of the Largan Hill Wind Farm turbines contributes to a degree of visual clutter and confusion in short to middle distance views due to the relative concentration of turbine activity in a small part of the wider affected view. In certain locations, such as at VRPs 8 and 17, the project turbines present as larger, but at greater distance, than the turbines at Largan Hill Wind Farm, which generates a sense of distance distortion.

The visual 'stacking' of wind turbines is an issue that occurs with almost all wind energy developments as visual receptors are located in or travel through different parts of the landscape relative to a proposed wind energy development. The effect of 'stacking' is that it has the potential to generate visual clutter and confusion, and a scheme should seek to avoid turbines appearing one-behind-another.

There will be numerous instances where the project turbines are seen in combination with the turbines at Largan Hill Wind Farm, albeit visual 'stacking' will only occur as occasional instances, rather than with frequent intensity. As illustrated at VRPs 16 and 17, the project turbines will contribute to a cumulative intensity in part of the view, with instances of clutter rather than noticeable stacking. In other proximate views such as illustrated by VRPs 10, 12, and 13, the overlapping of turbines does not present as 'stacking' that will contribute to visual confusion, rather the turbines will collectively present with a sense of landscape depth.

'Stacking' is an issue that will be most readily discernible in proximate locations within the central study area. With distance any instances of 'stacking' is less noticeable, as the turbines present collectively as an array.

The project and the Largan Hill Wind Farm are not in a confined setting. The combined spatial extent of the collective array is considered appropriate, given the scale of this landscape, the relative portion of the views affected, and the larger scale of the project turbines. Despite instances of visual tension and clutter, the cumulative visual effects are assessed to be not significant.

10.4.5.2 Other Wind Energy Developments

A baseline cumulative ZTV map (refer to **Figure 161**) illustrates cumulative theoretical visibility of the project turbines with others that exist in the landscape and those for which planning consent is in place. A colour grading has been employed to illustrate

the following types of theoretical visibility:-

- Blue wash: indicates parts of the study area where theoretical visibility of the project turbines only is possible and they will not be viewed in combination with existing (and/or permitted) turbines in the landscape;
- Pink wash: indicates parts of the study area where the project turbines have the potential to be viewed along with other existing and consented projects; and,
- Green wash: indicates parts of the study area where the project turbines will not be visible but other wind turbines will be.

A cumulative ZTV map (refer to **Figure 162**) is also provided that extends this assessment to those wind energy developments that are known to be proposed, in this case the addition of the proposed Clooncunny Wind Farm approximately 16km to the northeast.

As with other ZTV mapping presented, it is important to note that the cumulative ZTVs are based on bare-ground data and that cumulative wind farm visibility is likely to be much less than identified on the ZTV maps. The influence of topography and vegetative features that occur throughout this landscape will affect potential cumulative visibility and the ZTVs therefore inherently over-emphasise the degree to which the project will be seen cumulatively.

Given the topographical character of the landscape within the study area and the scale and location of existing/permitted wind turbines in the landscape, it is unsurprising that the baseline cumulative ZTV indicates cumulative theoretical visibility being possible from 80.01% of the study area; and, in this regard, wind energy development is acknowledged to be relatively extensive in its theoretical visual coverage within the study area.

Within this overarching coverage, the cumulative ZTV indicates that 68.81% of the study area has a theoretical potential for visibility of both the project turbines and other existing/permitted wind farm developments, with the existing/permitted wind turbine context having the potential to be viewed in isolation for 11.2% of the study area. This figure reflects the topographical character of the project site within an area of relative elevation with theoretic visibility of existing/permitted turbines only being in parts of the landscape where topography precludes views towards the project site.

The baseline cumulative ZTV highlights that the project turbines have the potential to be viewed in isolation for just 3.24% of the study area. This relates to isolated areas of landscape at the edge of the wider ZTV visibility pattern and is likely to occur as a result of partial views of the project given their scale and location.

The baseline cumulative ZTV identifies only 16.75% of the wider study area as having no theoretical potential for visibility of any wind farm development; these areas typically corresponding with lower-lying sections of the landscape associated with river corridors and pockets of landscape where views are curtailed by topography.

The implications of the inclusion of the Clooncunny Wind Farm was assessed (**Figure 162**), and the following was noted:-

- 80.97% of the study area offers theoretical visibility of existing wind turbines in the absence of the project (an increase of 0.87%);
- 15.96% of the study area has no theoretical visibility of any turbines (a decrease of 0.79%);

- 3.07% of the study area offers potential for the project turbines to be viewed in isolation (a decrease of 0.17%); and
- 69.58% of the study area has a theoretical potential for visibility of both the project turbines and the other existing turbines (an increase of 0.77%).

These results demonstrate that, in theory, the addition of the Clooncunny Wind Farm will have limited impact on the extent of the study area that will be theoretically influenced by wind energy development; albeit recognising that in parts of the study area, the influence of wind energy development on landscape character and views may be comparatively heightened.

As described in the main body of the assessment, wind energy development is present and theoretically visible from a large proportion of the study area, with turbines an infrequent, but recurring, element. Given the topography and vegetative cover throughout the landscape, the perception and influence of these other turbines tends to be more localised with limited intervisibility between developments. With elevation, the wider lowland context becomes more visible and the influence of wind energy development more discernible.

In terms of the cumulative impact of the project on landscape character, the project will contribute additional turbines to part of the landscape that is already influenced by the Largan Hill Wind Farm. Whilst the project will extend and heighten the influence of wind energy at a localised level, it will generally be viewed alongside Largan Hill Wind Farm in isolation, and form one of only a few wind farms in the wider study area.

Given the separation distances between the project (and the Largan Hill Wind Farm) and other developments, and the limited number of turbines associated with other wind energy developments; the addition of the project is not assessed as generating a wider character defining influence or contributing to a notable sense of proliferation.

Turning to the cumulative visual effects, the addition of the project turbines within a cumulative baseline scenario will generate cumulative visual effects where they are viewed in combination with other wind energy developments in the same view (combined visibility) or sequentially as part of a journey through the landscape. NatureScot guidance outlines that combined visibility can occur '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. Excluding the turbines at Largan Hill Wind Farm (on the basis that the project turbines will almost always be seen alongside these), 'In combination' views are likely to be possible from the following viewpoints:-

- VRP 3 where the single consented Riverstown turbine will be visible as a single, isolated turbine in part of the wider view, and present with a comparative degree of prominence;
- VRP 4 where the project will be visible as a backdrop element to the single consented Riverstown turbine occurring in the middle distance;
- VRP 5 where the 2 no. turbine Roosky Wind Farm turbines, the single consented Riverstown turbine and the Grady Joinery Wind turbine will be visible as sporadic, distant elements in parts of the wider view;
- VRP 11 where the 2 no. turbine Roosky Wind Farm turbines and the single Templehouse wind turbine will be visible in separate parts of mid distance views from this locally elevated location;

- VRP 25 where the project will be visible as a backdrop element to the foreground turbines at Roosky Wind Farm;
- VRP 26 where the project will be visible in the same part of the view as the turbines at both the Roosky Wind Farm and Clooncunny Wind Farm and the single consented Riverstown turbine, albeit the degree to which these other turbines are visible will be negligible and not readily discernible at this distance;
- VRP 27 where the 2 no. turbine Roosky Wind Farm and the Grady Joinery Wind turbine will be visible as distant elements in parts of the wider view, albeit from this elevation the turbines will sit below the distant landform horizon and will not be readily discernible. The single consented Riverstown turbine will be the most noticeable from this location given its proximity; and,
- VRP 28 where the project and single consented Riverstown turbine will be visible as a distant backdrop element to the foreground turbines at Clooncunny Wind Farm.

Given the landscape context and the distances between the projects, many 'in combination' views will be precluded by screening elements occurring in the landscape. The 'in combination' views most notably occur at elevated locations, where views over the wider landscape are possible.

Generally, where the project is visible 'in combination' with these other cumulative wind energy developments, it will be seen as a distant cluster in part of the landscape that is already influenced by the Largan Hill Wind Farm. Similarly, from locations near to the site, any views of the other wind turbines in the wider landscape will be distant and their limited numbers will not notably influence views.

Whilst 'in succession' views may be possible, given the relative number of turbines and their distance from each other, it is not assessed that there will be any notable sense of the project contributing to a proliferation of wind energy developments in the study area.

In terms of sequential visual effects, the landscape plays host to numerous roads and promoted recreational routes, such as the Lung Lough Gara Way, that afford sequential views over the landscape over a range of distances with the topographical character and layers of vegetation present generating varying degrees of wider visibility. Where the project is seen sequentially, given the distance between the separate projects, they will present as distinct and separate entities and not in a homogenous collective manner.

Where visible in combination or sequentially, given the spacing between the separate projects, it is not assessed that the project will generate any notable visual conflict or distance distortion, with each appearing to stand in relative isolation. Separation distances will minimise any visual tension caused as a result of clutter or scale confusion and, given the number of turbines present, there will be little sense of being surrounded by turbines.

10.4.5.3 Summary of Cumulative Effects

The magnitude of cumulative landscape impact is assessed to be Low. When considered against the Medium sensitivity of the landscape, the level of cumulative landscape effect is assessed to be Slight.

The magnitude of cumulative visual impact is assessed to be Low-Negligible. When

considered against the sensitivity of visual receptors in the wider landscape, the level of cumulative visual effect is assessed to be no greater than Slight.

The cumulative landscape and visual effects of the proposed development are assessed to be not significant.

10.4.6 INTERACTIVE EFFECTS

The project involves features and activities that are likely to generate physical changes to the landscape and visual environment (both physical and perceptual) which will also result in wider environmental effects. This includes aspects relating to vegetation loss, construction of access tracks and public road upgrades and the presence of construction and maintenance plant at the project site. Likewise, there are aspects (such as noise) that are likely to influence experiential aspects of landscape character.

Whilst these aspects will generate a degree of change to the landscape and visual environment, the main interactions relate to the construction and presence of the wind turbines due to their visibility. The main interactions are assessed as relating to Population & Human Health and Cultural Heritage.

10.4.6.1 Landscape and Population & Human Health

Landscape and visual effects arising from the construction, operation and decommissioning of the project are assessed with respect to the effect on perceived landscape character, views and on the general visual amenity experienced by people, including local residents. Proportionately, the operational effects of the project are assessed as giving rise to the most notable landscape and visual effects given the long-term nature of the change and a greater focus is placed on them. However, whilst the wind turbines are likely to be prominent, they will be seen in the context of a modified landscape in which other wind turbines are present. The quality of the effect experienced by the local population is subjective in nature and the assessment assumes a default position of negative. Although effects experienced by proximate receptors in the nearby landscape were assessed as borderline significant on account of the scale of the wind turbines at close range (typical of any wind farm at close proximity), it is noted that the findings of the assessment did not identify a likelihood of significant effects in relation visual receptors in the central or wider study area and these findings of the assessment have contributed to the Population & Human Health assessment.

10.4.6.2 Landscape and Cultural Heritage

Landscape and visual effects arising from the construction, operation and decommissioning of the project is assessed with respect to the effect on perceived landscape character, views and on the general visual amenity experienced by people, including those visiting publicly accessible heritage features and for whom views of the landscape are a contributing factor to the experience. Whilst the project will generate a change to the landscape setting of designated heritage assets, and is likely to be visible, it will form part of a modified landscape influenced by longstanding human intervention and by other wind turbines. Again, it is noted that the findings of the assessment did not identify any likelihood of significant landscape or visual effects in relation to the central or wider study area.

10.5 MITIGATION MEASURES

10.5.1 EMBEDDED MITIGATION

In relation to the 2006 Guidelines and 2019 Guidelines, it is assessed that the project accords with the siting and design criteria presented for both the 'Transitional Marginal Land' and the 'Hilly and Flat Farmland' landscape types, with the following noted:-

- Location: Whilst the site is not elevated when compared to parts of the wider landscape, the project is sited on a broad area of moorland that holds a degree of elevation over the surrounding landscape. This relative elevation means that the project will appear as part of a broad ridge from many locations in the wider landscape, a feature that is consistent with the guidance for this landscape type. Given the existing turbines at Largan Hill Wind Farm, this landscape is considered to hold a degree of visual capacity and the project responds to the scale and simplicity of this moorland context without spatially dominating it. Given the distance between the project and urban centres, and the offsets incorporated with the dispersed pattern of rural dwellings, the project is not assessed as being visually dominant;
- Spatial Extent: The project achieves a balance with the scale of the moorland landscape as part of a broad area of elevated backdrop landscape;
- Spacing: The turbines are well-spaced, allowing a high degree of visual permeability between the turbines. Their irregular spacing corresponds with the landscape type;
- Layout: The irregular and gently clustered arrangement is assessed as relating more sympathetically to the broader area of moorland and has a more successful aesthetic with its undulating, natural characteristics;
- Height: The height of the turbines is assessed to be appropriate and responsive to this open and visually extensive landscape. The differing turbine heights have been assessed carefully, and the differential is not readily discernible. The difference in height also acts to provide variety to the wider turbine array at this location which also includes the Largan Hill Wind Farm. From locations in the wider landscape (both proximate and distant), the project does not appear over-scaled in relation to the receiving landscape and is not, in any instances, assessed as dominating; and,
- Cumulative: Whilst the wind turbines within the project are of a larger scale to the turbines at Largan Hill Wind Farm and are perceived as different, the Largan Hill turbines are sited on an area of comparative elevation such that the scale conflict is moderated. In many views from the wider landscape, where visible in combination, the project turbines will be perceived as the prominent turbines to which the Largan Hill turbines present as a separate grouping. Rather than generating visual confusion, they are assessed as contributing to a sense of depth and perspective that corresponds to the large, open scale of the receiving landscape.

The 2019 Guidelines outline a mandatory minimum setback distance of "500 meters" or the distance of "4 times the tip height" of the project turbines "between the nearest point of the curtilage of any residential property".

As described at **Section 10.3.1.6**, the project has been designed to ensure that the turbines achieve the required setback distance from residential dwellings.

10.5.2 CONSTRUCTION PHASE

All construction activities will follow best practice methods to reduce effects on the

environment, as outlined in the Construction and Environmental Management Plan (CEMP) which will manage the environmental commitments of the project through the construction phase. An Environmental Manager (EM) and ECoW with appropriate experience will be appointed for the duration of the construction phase to ensure that the CEMP is effectively implemented.

Aside from mitigation measures to minimise land and vegetation disturbance and dust emissions (which may reduce visual amenity), no specific landscape or visual mitigation measures are proposed in relation to the construction phase beyond adherence to best practice methods to reduce environmental impacts upon the environment.

The appropriate management and reinstatement of excavations in a timely manner will ensure that any adverse effects caused, for example at site entrances or road upgrade locations, are minimised insofar as possible.

The construction methodology has sought to minimise landscape disturbance. All areas affected during construction will be reinstated to their original condition where appropriate to do so or allowed to vegetate naturally. Trees and hedgerow planting, to replace that which may be lost during the construction phase, will be undertaken in accordance with approved landscaping plans and best practice and under the supervision of the ECoW. Overall, there will be no net loss of hedgerow or tree lines as a result of the project. The following standards are widely adopted as representing best practice in landscape operations:-

- *BS 4428:1989 Code of practice for general landscape operations (excluding hard surfaces);*
- *BS 5837:2012 – Trees in Relation to design, demolition and construction;*
- *BS 8545 Trees: from nursery to independence in the landscape – Recommendations; and,*
- *BS 3936 – Part 1: Nursery stock specification for trees and shrubs.*

10.5.3 OPERATION PHASE

No specific landscape or visual mitigation measures are proposed in relation to the project beyond those integrated within the project design and layout.

10.5.4 DECOMMISSIONING PHASE

No specific landscape or visual mitigation measures are proposed in relation to the decommissioning phase beyond adherence to best practice reinstatement methods. Disturbed areas of landscape arising from decommissioning activities will be allowed to vegetate.

10.5.5 MONITORING MEASURES

It is reiterated that an EM and ECoW with appropriate experience will be appointed for the duration of the construction phase so that the CEMP is effectively implemented and that all landscape works will be subject to ongoing management and maintenance. As there are no specific mitigation measures proposed in relation to reducing landscape and visual effects, monitoring measures are not considered necessary.

10.6 RESIDUAL EFFECTS

Best practice requires that the 'residual' effect (with mitigation in place) is 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. These measures, together with the consideration given to the siting and design of the project, have been iteratively embedded into the project and it is assessed that there are no specific additional mitigation measures that would moderate effects further.

Given that the mitigation measures will not reduce the significance of effects further; the effects assessed in respect of the construction, operation and decommissioning phases above are unaltered by the mitigation measures and, therefore, are the residual effects assessed in respect of the project.

10.7 SUMMARY

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

