

## 11 LANDSCAPE AND VISUAL AMENITY

### 11.1 INTRODUCTION

#### 11.1.1 Background and Objectives

This chapter of the EIAR assesses the impacts of the Development on the landscape and visual amenity of the receiving environment. Although closely linked, landscape and visual impacts are assessed separately. Where negative effects are predicted, the chapter identifies appropriate mitigation strategies therein. The assessment considers the potential effects during the following phases of the Development:

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

The Development refers to all elements of the application for the construction, operation and decommissioning of the Tullaghmore Wind Farm (**Chapter 2: Project Description**).

Common acronyms used throughout this EIAR can be found in **Appendix 1.4**. This chapter of the EIAR is supported by Figures provided in **Volume III** and by the following Appendix documents provided in **Volume IV** of this EIAR:

- **Appendix 11.1:** Visual Impact Assessments at VPs

This chapter of the EIAR is also supported a portfolio of photomontages provided as a separate booklet document provided in this EIAR.

**Landscape Impact Assessment (LIA)** relates to changes in the physical landscape brought about by the Development, which may alter its character, and how this is experienced. This requires a detailed analysis of the individual elements and characteristics of a landscape that go together 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 Development without causing unacceptable adverse changes to its character.

**Visual Impact Assessment (VIA)** relates to assessing effects on specific views and on 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 Development in conjunction with other developments (associated or separate to it), or actions that occurred in the past, present or are likely to occur in the foreseeable future.

### 11.1.2 Assessment Structure

In line with the revised EIA Directive and current (2022) EPA guidelines 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 effects within the Study Area; (comprised of the 'Central Study Area' (within c. five km of the Site) and 'Wider Study Area' (5-20km from the Site))
- Assessment of the significance of landscape impacts
- Assessment of visual receptor sensitivity
- Assessment of visual impact magnitude at representative viewpoint locations (using photomontages)
- Assessment of visual impact significance
- Assessment of cumulative landscape and visual impacts

### 11.1.3 Statement of Authority

This Landscape and Visual Impact Assessment (LVIA) was prepared by Richard Barker, Principal Landscape Architect at Macro Works Ltd, a specialist LVIA company with over 20 years of experience in the appraisal of effects from a variety of energy, infrastructure and commercial developments. Relevant experience includes LVIA work on over 140 on-shore wind farm proposals throughout Ireland, including six Strategic Infrastructure Development (SID) wind farms. Macro Works and its senior staff members are affiliated with the Irish Landscape Institute.

### 11.1.4 Description of the Proposed Development

Planning Permission is being sought by the Developer for the construction of 6 wind turbines, permanent met mast, on-site 38kV substation and all ancillary works.

The Project will comprise of the following main components:

- Erection of 6 no. wind turbines with an overall ground to blade tip height of 185m. The candidate wind turbine will have a rotor diameter of 162m and a hub height of 104m
- Construction of site access roads, crane hardstand areas and turbine foundations.
- Improvement of existing site entrance with access onto the N59
- Construction of one no. temporary construction compound with associated temporary site offices, parking areas and security fencing
- Installation of 1 no. permanent meteorological mast with a height of 104m
- Construction of new internal site access tracks and upgrade of existing Site track, to include all associated drainage
- Development of a site drainage network
- Construction of one no. permanent 38kV substation
- All associated underground electrical and communications cabling connecting the wind turbines to the wind farm substation
- All works associated with the connection of the wind farm to the national electricity grid, which will be via 38kV underground cable connection approximately 18.65km in length to the existing ESB Screebe 110kV GIS Substation.
- Biodiversity enhancement measures
- Peat storage and restoration areas

A 10-year planning permission and 30-year operational life from the date of commissioning of the entire wind farm is being sought.

The EIA also assesses the Works at 4 no. locations along the proposed turbine delivery haul route from Galway Port and the proposed underground grid connection from the Site to Screebe 110kV Substation.

## **11.2 ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA**

### **11.2.1 Assessment Methodology**

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

#### **11.2.1.1 Desktop Study**

- Establishing an appropriate Study Area from which to study the landscape and visual impacts of the Development.

- Review of a Zone of Theoretical Visibility (ZTV) map, which indicates areas from which the Development is potentially visible in relation to terrain within the Study Area.
- Review of relevant County Development Plans, particularly with regard to sensitive landscape and scenic view/route designations.
- Selection of potential Viewshed Reference Points (VRPs) from key visual receptors to be investigated during fieldwork for actual visibility and sensitivity.

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#### 11.2.1.2 Fieldwork

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

#### 11.2.1.3 Appraisal

- 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 design guidance and planning policies.
- Consideration of potentially significant construction stage and operational stage effects and the mitigation measures that could be employed to reduce such effects.
- Consideration of the significance of residual landscape impacts.
- Consideration of the significance of residual visual impacts aided by photomontages prepared at all of the selected VRP locations.
- Consideration of cumulative landscape and visual effects in combination with other surrounding developments that are either existing or permitted.

#### 11.2.2 Relevant Legislation and Guidance

This LVIA uses methodology as prescribed in the following guidance documents:

- Environmental Protection Agency (EPA) publication 'Guidelines on the Information to be contained in Environmental Impact Statements (2022) and the accompanying Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (Draft 2015).

- Landscape Institute and the Institute of Environmental Management and Assessment publication entitled Guidelines for Landscape and Visual Impact Assessment – Third Addition (2013).
- Scottish Natural Heritage (SNH) Guidance Note: Cumulative Effect of Windfarms (2012).
- Department of the Environment, Heritage and Local Government Wind Energy Development Guidelines (2006/2019 revision) and Preferred Draft Approach to revising the 2006 Guidance published 2017.
- Scottish Natural Heritage (SNH) Visual representation of wind farms: Best Practice Guidelines (version 2.2 - 2017).

### 11.2.3 Definition of Study Area

The Wind Energy Development Guidelines published by the Department of the Environment, Heritage and Local Government (2006/2019 revision) specify different radii for examining the zone of theoretical visibility of proposed wind farm projects (ZTV). The extent of this search area is influenced by turbine height, as follows:

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

In the case of this project, the blade tips are up to 185m high and, thus, the minimum ZTV radius recommended is 20km from the outermost turbines of the scheme. This is considered to be appropriate in this instance on the basis that significant impacts are not predicted to occur beyond 20km. Furthermore, there are not considered to be any sites of national or international importance between 20 – 25km and thus, the radius of the study area will remain at 20km. Notwithstanding the full 20km extent of the LVIA study area, there will be a particular focus on receptors and effects within the Central Study Area where there is higher potential for significant impacts to occur. When referenced within this assessment, the 'Central Study Area' is the landscape within 5km of the Site.

### 11.2.4 Computer Generated Images, Photomontages and Wireframes

This LVIA is supported by a variety of computer generated maps and graphics as well as verifiable photomontages that depict the Development within the views from a range of represented visual receptor locations. These maps, graphics and visualisations consist of the following:

- Zone of Theoretical Visibility (ZTV) maps.
- Photomontages consisting of existing views, wireframe views and proposed views.

### 11.2.5 Assessment Criteria for Landscape Effect

The classification system used by Macro Works to determine the significance of landscape and visual impacts is based on the IEMA Guidelines for Landscape and Visual Impact Assessment (2013). When assessing the potential impacts on the landscape resulting from a wind farm development, the following criteria are considered:

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

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

**Table 11.1: Landscape Value and Sensitivity**

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

The magnitude of a predicted landscape impact is a product of the scale, extent or degree of change that is likely to be experienced as a result of the Development. 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 Site Boundary that may have an effect on the landscape character of the area.

**Table 11.2: Magnitude of Landscape Impacts**

Sensitivity	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.

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

**Table 11.3: Landscape Impact Significance Matrix**

Scale/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

Note: Judgements deemed 'substantial' and above are considered to be 'significant impacts' in EIA terms.

## 11.2.6 Assessment Criteria for Visual Effect

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

### 11.2.6.1 Visual Sensitivity

Unlike landscape sensitivity, visual sensitivity has an anthropocentric basis. 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 criterion. Susceptibility criteria is extracted directly from the IEMA Guidelines for Landscape and Visual Assessment (2013), 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 receptor group to changes in view.** This is one of the most important criteria to consider in determining overall visual sensitivity because it is the single category dealing with viewer susceptibility. In accordance with the IEMA Guidelines for Landscape and Visual Assessment (3rd edition 2013) visual receptors most susceptible to changes in views and visual amenity are:
    - *“Residents at home*
    - *People, whether residents or visitors, who are engaged in outdoor recreation, including use of public rights of way, whose attention or interest is likely to be focussed on the landscape and on particular views*
    - *Visitors to heritage assets, or to other attractions, where views of the surroundings are an important contributor to the experience*
    - *Communities where views contribute to the landscape setting enjoyed by residents in the area*
    - *Travellers on road rail or other transport routes where such travel involves recognised scenic routes and awareness of views is likely to be heightened”.*
- “Visual receptors that are less susceptible to changes in views and visual amenity include:*
- *People engaged in outdoor sport or recreation, which does not involve or depend upon appreciation of views of the landscape*

- *People at their place of work whose attention may be focussed on their work or activity, not their surroundings and where the setting is not important to the quality of working life”.*

### Values typically associated the visual amenity

- **Recognised scenic value of the view** (County Development Plan designations, guidebooks, touring maps, postcards etc). These represent a consensus in terms of which scenic views and routes within an area are strongly valued by the population because in the case of County Development Plans, at least, a public consultation process is required.
- **Views from within highly sensitive landscape areas.** Again, highly sensitive landscape designations are usually part of a county's Landscape Character Assessment, which is then incorporated with the County Development Plan and is therefore subject to the public consultation process. Viewers within such areas are likely to be highly attuned to the landscape around them.
- **Intensity of use, popularity.** Whilst not reflective of the amenity value of a view, this criterion relates to the number of viewers likely to experience a view on a regular basis and whether this is significant at 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 special sense of wholeness and harmony at the viewing location.
- **Sense of awe.** This criterion considers whether the view inspires an overwhelming sense of scale or the power of nature.

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

#### 11.2.6.2 Visual Impact Magnitude

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

Visual presence is a somewhat quantitative measure relating to how noticeable or visually dominant the proposal is within a particular view. This is based on a number of aspects beyond simply scale in relation to distance. Some of these include the extent of the view as well as its complexity and the degree of existing contextual movement experienced such as might occur where turbines are viewed as part of / beyond a busy street scene. The backdrop against which the development is presented and its relationship with other focal points or prominent features within the view is also considered. Visual presence is essentially a measure of the relative visual dominance of the proposal within the available vista and is expressed as such i.e. minimal, sub-dominant, co-dominant, dominant, highly dominant.

For wind energy developments, a strong visual presence is not necessarily synonymous with adverse impact. Instead, the 2012 Fáilte Ireland survey entitled 'Visitor Attitudes On The Environment – Windfarms' found that:

*“Compared with other types of development in the Irish landscape, windfarms elicited a positive response when compared to telecommunication masts and steel electricity pylons”*

.... and that

*“most (tourists) felt that their presence did not detract from the quality of their sightseeing, with the largest proportion (45%) saying that the presence of the windfarm had a positive impact on their enjoyment of sightseeing...”*

The purpose here is not to suggest that turbines are either inherently liked or disliked, but rather to highlight that the assessment of visual impact 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 impact 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 Development contributes positively to the existing qualities of the vista or results in distracting visual effects and disharmony.

It should be noted that as a result of this two-sided analysis, a high order visual presence can be moderated by a low level of effect on visual amenity and vice versa. Given that wind turbines do not represent significant bulk; visual impacts result almost entirely from visual ‘intrusion’ rather than visual ‘obstruction’ (the blocking of a view). The magnitude of visual impacts is classified in the following table derived from the Guidelines for Landscape and Visual Impact Assessment:

**Table 11.4: Magnitude of Visual Impacts**

Sensitivity	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

### 11.2.6.3 Visual Impact Significance

As stated above, the significance of visual impacts is a function of visual receptor sensitivity and visual impact magnitude. This relationship is expressed in the significance matrix in **Table 11.3** above.

### 11.2.6.4 Quality of Effects

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

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

In the case of commercial wind energy developments and the associated introduction of new moving structures within rural and upland areas, the quality of landscape and visual effects will almost always be negative, rather than positive or even neutral. Unless otherwise stated, the quality of landscape and visual effect judgements herein can be taken as negative.

### 11.2.6.5 Assessment Criteria for Cumulative Effects

The Scottish Natural Heritage (SNH) Guidance relating to 'Assessing the Cumulative Effects of Onshore Wind Farms (2012) identify that cumulative impacts on visual amenity consist of combined visibility and sequential effects. The same categories have also been subsequently adopted in the Landscape Institute's 2013 revision of the Landscape and Visual Impact Assessment Guidelines. The principal focus of wind energy cumulative impact assessment guidance relates to other wind farms - as opposed to other forms of development. This will also be the main focus herein, albeit with a subsequent consideration of cumulative impacts with other forms of notable development (existing, permitted or proposed), particularly within the Central Study Area.

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

*Sequential effects occur when the observer has to move to another viewpoint to see different developments. The occurrence of sequential effects may range from frequently sequential (the features appear regularly and with short time lapses*

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

Cumulative impacts of wind farms tend to be adverse rather than positive as they relate to the addition of moving manmade structures into a landscape and viewing context that already contains such development. Based on guidance contained within the SNH Guidelines relating to the Cumulative Effects of Wind Farms (2012) and the DoEHLG Wind Energy Guidelines (2006), cumulative impacts can be experienced in a variety of ways.

**Table 11.5** below provides Macro Works' criteria for assessing the magnitude of cumulative impacts, which are based on the SNH Guidelines (2012).

**Table 11.5: Magnitude of Cumulative Impacts**

Magnitude of Impact	Description
Very High	<ul style="list-style-type: none"> <li>The proposed wind farm will strongly contribute to wind energy development being the defining element of the surrounding landscape.</li> <li>It will strongly contribute to a sense of wind farm proliferation and being surrounded by wind energy development.</li> <li>Strongly adverse visual effects will be generated by the proposed turbines in relation to other turbines.</li> </ul>
High	<ul style="list-style-type: none"> <li>The proposed wind farm will contribute significantly to wind energy development being a defining element of the surrounding landscape.</li> <li>It will significantly contribute to a sense of wind farm proliferation and being surrounded by wind energy development.</li> <li>Significant adverse visual effects will be generated by the proposed turbines in relation to other turbines.</li> </ul>
Medium	<ul style="list-style-type: none"> <li>The proposed wind farm will contribute to wind energy development being a characteristic element of the surrounding landscape.</li> <li>It will contribute to a sense of wind farm accumulation and dissemination within the surrounding landscape.</li> <li>Adverse visual effects might be generated by the proposed turbines in relation to other turbines.</li> </ul>
Low	<ul style="list-style-type: none"> <li>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.</li> <li>It might contribute to wind farm development becoming a familiar feature within the surrounding landscape.</li> <li>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.</li> </ul>
Negligible	<ul style="list-style-type: none"> <li>The proposed wind farm will most often be viewed in isolation or occasionally in conjunction with other distant wind energy developments.</li> <li>Wind energy development will remain an uncommon landscape feature in the surrounding landscape.</li> <li>No adverse visual effects will be generated by the proposed turbines in relation to other turbines.</li> </ul>

## 11.3 BASELINE DESCRIPTION

### 11.3.1 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 proposal will be assessed. This also includes reference to any relevant landscape character appraisals and the current landscape policy context (both are generally contained within County Development Plans).

A description of the landscape context of the proposed wind farm site and wider Study Area is provided below under the headings of landform and drainage, vegetation and land use, centres of population, transport routes and public amenities and facilities as well as the immediate site context. Additional descriptions of the landscape, as viewed from each of the selected viewpoints, are provided under the detailed assessments later using a similar structure. Although this description forms part of the landscape baseline, many of the landscape elements identified also relate to visual receptors i.e. places and transport routes from which viewers can potentially see the proposed development. The visual resource will be described in greater detail below.

### 11.3.2 Landform and Drainage

The site is contained along a broad, but modest scale ridge which serves as a transition between the intricate coastline to the southwest and the more dramatic lake and upland areas to the north and west. These areas are punctuated with evenly distributed, frequent small loughs and connecting waterways. The landscape of the Study Area can be best described as a series of four distinct quadrants centred around the cross-roads settlement of Maam Cross. The north-eastern quadrant of the Study Area is dominated by large loughs (Lough Mask and Lough Corrib) backed by upland areas to the west and dissipating into gently undulating farmland and peat bogs to the east. The north-western quadrant is dominated by the Maumturk Mountains and Twelve Bens, which are steep, rugged and naturalistic mountain ranges interspersed with farmed valleys and narrow glacial loughs. The southwestern quarter of the Study Area is contained in coastal bog and marginal farmland with frequent small loughs that blend seamlessly with the intricate inlets and islands of the Connemara coastline. Finally, the south-eastern quadrant of the Study Area is a broad undulating area of hill country with numerous loughs and rivers that drain towards the northern coast of Galway Bay.

The broad and rugged ridge of the site and its immediate context serves as the dividing feature between Lough Corrib to the north and the hill country described as dominating the

south-eastern quadrant of the Study Area. The transition to the Lakelands quadrant is more abrupt than the subtle transition to the rugged hill country with which the site has more in common in landscape character terms (see aerial image **Figures 11.1 and 11.2**).

### 11.3.3 Vegetation and Land use

The vegetation and land use follows the varied topography of the site and again, the Study Area can be divided into quadrants for the purposes of describing it. Throughout the north-eastern Lakeland context, shoreline and peninsula farmland mixes with riparian scrub and woodland and is dotted with rural residences and holiday homes vying for lake views. The mountainous quadrant to the northwest has a generally naturalistic land cover of blanket bog or exposed rock and scree slopes with occasional blocks of commercial conifer plantation on mid slopes then giving way to valley farmland. The southwestern quadrant is predominantly contained in coastal peat bog with occasional patches of forest plantation and farmland where drainage allows. Finally, the south-eastern quadrant which shares similar land cover characteristics to the site, is contained in a combination of naturalistic moorland and large conifer plantations. Of particular note is that this area has also become synonymous with wind energy developments (Galway Wind Park) in recent decades and numerous turbines are contained within predominantly the forested areas (see **Corine Landcover Map - Figure 113.**).

### 11.3.4 Landscape Policy Context and Designations

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

The Wind Energy Development Guidelines (2006/2019 revision) provide guidance on wind farm siting and design criteria for a number of different landscapes types. The site of the proposed development is considered to be located within a relatively complex landscape setting that is most consistent with the 'Transitional Marginal Landscape' type from the Wind Energy Development Guidelines. However, the wider context does encompass characteristics from a mix of the landscape types including, 'Mountain Moorland', 'Hilly and Flat Farmland' and 'Flat Peatland'.

The most relevant recommendations for the 'Transitional Marginal' Landscape type is set out below, but with consideration of the guidance relating to other relevant landscape types considered thereafter.

**Transitional Marginal Landscapes:**

**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.”*

*“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.”*

*“4(a) Wind energy development with regular spacing and linear layout – may not be appropriate due to the undulation of the land from as well as limited field pattern.”*

*“4(b) Wind energy development with irregular spacing and random layout -is more appropriate given the relative undulation of the setting.”*

*“4© Large wind energy development straddling two landscape character types within the same visual unit can create 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.”*

**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.”*

**Height** - *“...where the upper ground is relatively open and visually extensive, taller turbines may be more appropriate.”*

*“...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** - *“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.”*

Most design options appear to be appropriate for ‘Transitional Marginal Landscapes’ and vary depending on the specific site. In respect of the above guidance, the modest spatial extent of the proposed development is in keeping with that recommended for transitional marginal (contained), as well as the recommendation for mountain moorland that ‘spatial extent of a wind energy development would need to be reduced where a suggestion of smaller scale is provided by nearby landscape features’, as there is some enclosure provided by land form and vegetation.

The layouts recommended for these landscape types are random for mountain moorland, where there are no linear features to relate to, for transitional landscapes, the assumption is that they will be located on ridges, which is not wholly the case for this proposal. Therefore, the alternative recommendation is ‘clustered’ and this is the approach that has been taken in this instance.

**11.3.5 Galway County Development Plan (2022 – 2028)**

The new landscape character assessment prepared for incorporation within the recently adopted Galway County Development Plan re-classifies and zones the landscape at three scales and then applies landscape sensitivity ratings.

**Landscape Regions** – a broad area of land with a distinctive character due to large-scale natural factors – such as mountains, plains, coasts etc.

**Landscape Character Type** – an area of land that has an appearance that is readily recognizable as being different and distinctive from other areas.

**Landscape Character Unit** – the smallest area of distinctive local features within a Landscape Type that can be practicably identified to assist in policy formulation.

The hierarchy of landscape units and those most relevant to the site and wider Study Area are identified in **Table 11.6** below.

**Table 11.6 Relevant Landscape Units and Hierarchy**

Landscape Region	Landscape Character Type	Landscape Character Unit (in 20km Study Area)
West Galway	2. Coastal	1f. Conamara Sea Lough
	3. Uplands and Bog	3a. Joyce Country
		3b. Maumturk Mountains

Landscape Region	Landscape Character Type	Landscape Character Unit (in 20km Study Area)
		3c. South Conamara
		3d. West Conamara (within 1km of site)
	4. Lake Environs	4a. Upper Corrib Environs (within 1km of site)
		4b. Lower Corrib Environs

### 11.3.5.1 Landscape Region

As above, the landscape region is the largest scale which the County has been divided into. The region which the proposal is located in the West Galway Region, defined as 'a zone that is mostly underlain by older harder geology that gives rise to large-scale rugged, complex landscapes of mountains, lakes, bogs, islands and coastal inlets in the western parts of the county.' This region is the entirety of the County located west of Headford/Galway/the eastern extent of Lough Corrib, except for an off-set along the coastline, which is the Coastal region. To the north the region is defined by the border with Co. Mayo.

### 11.3.5.2 Landscape Types

The landscape regions have been further broken down into ten separate landscape types. The Landscape Character Types for County Galway are as follows and are identified in **Figure 11.4** derived from Map 8.1 of Written Statement.

#### 2.3.3. Upland and Bog Landscape Type

*A large area of very open landscape with dispersed settlements, roads and agriculture. The extensive areas of exposed rock, uplands and blanket bog are largely unenclosed. There are large areas of coniferous forestry plantation in a number of locations away from the coast. It has two principal components that are contained between a complex coastal mosaic of sea inlets to the west and south, and the long shore of Lough Corrib to the east. The first component is the steep-sided peaks of the 12 Bens that run west-east south of Killary Harbour and the other is a large lake-studded plain of blanket bogs. The overall landscape is valued on account of the scale of the open views within this unenclosed landscape. Another perceived value is the contrast between the uninterrupted and uninhabited plains. Open areas around bogs reveal extensive sky views and the area contains expanses of dark sky. The area is extensively used for hill-walking and recreational touring by coach, cars and cycles. It also contains the Connemara National Park.*

### 2.3.4 Lake Environs Landscape Type

Lough Corrib is the second-biggest lake on the island of Ireland (after Lough Neagh). It can be divided into very two distinct parts; a shallow basin underlain by carboniferous limestone in the south, and a deeper basin to the north underlain by more acidic granite, schists and sandstones. The uplands to the west of the lake include the rolling, bog covered granite hills of south Conamara, the bare Quartzite peaks of the Maumturk mountains and the high plateau of the Maumtrasna Mountains. Sheep grazing and forestry are the main land uses in these areas. In sharp contrast, the low-lying limestone plain to the east of the Lough Corrib with its large, walled fields, is used primarily for the more intensive rearing of sheep and cattle. Drumlins of glacial origin give rise to the numerous smaller, mostly wooded islands for which the lake is famous. The lake is highly prized as recreational fishery resource and is also the focus of many viewing areas and scenic drives.

### 11.3.5.3 Landscape Units

The landscape character types are then split into landscape character units. The two that are most relevant to the site are West Conamara, and Upper Corrib Environs.

*Landscape Character Unit: 3c. West Conamara - Highly distinctive. A low-lying area between the start of the expanse of the Conamara Bogs and the Sea Lough Complex that contains pockets of development and settlement.*

*Landscape Character Unit 4a: Upper Corrib Environs - Many round-backed, mostly wooded islands throughout lake. Majority of shore is tree-fringed. The hinterlands are a mix of small farms, woodland and bog (see Figures 11.4 and 11.5 – derived from Landscape Character Types / Units Maps).*

**Section 8.13.2. Landscape Sensitivity**, of the Draft County Development Plan defines Landscape Sensitivity as:

*“A landscape’s capacity to absorb new development, without exhibiting a significant alteration of character or change of appearance is referred to as it’s ‘sensitivity’. This depends on factors such as elevation, slope, as well as the types of land-cover and soil. The area is classified as being increasingly sensitive as more of these factors are present in the same place.”*

The Landscape Character Assessment for the county has outlined four separate Landscape sensitivities as follows:

*“Class-1 - Low: Unlikely to be adversely affected by change*

*Class-2 - High: Elevated sensitivity to change*

*Class–3 - Special: High sensitivity to change*

*Class–4 - Iconic: Unique Landscape with high sensitivity to change”*

The subject site lies close to the boundary between the ‘Special’ West Connemara landscape unit and the ‘Unique’ Upper Corrib Environs unit, which are the second highest and highest categories.

Within the draft Galway County Development Plan, the following policies apply to landscape.

***Policy Objectives Landscape Conservation and Management***

***LCM 1 Preservation of Landscape Character***

*Preserve and enhance the character of the landscape where, and to the extent that, in the opinion of the Planning Authority, the proper planning and sustainable development of the area requires it, including the preservation and enhancement, where possible of views and prospects and the amenities of places and features of natural beauty or interest.*

***LCM 2 Landscape Sensitivity Classification***

*The Planning Authority shall have regard to the landscape sensitivity classification of sites in the consideration of any significant development proposals and, where necessary, require a Landscape/Visual Impact Assessment to accompany such proposals. This shall be balanced against the need to develop key strategic infrastructure to meet the strategic aims of the plan.*

***LCM 3 Landscape Sensitivity Ratings***

*Consideration of landscape sensitivity ratings shall be an important factor in determining development uses in areas of the County. In areas of high landscape sensitivity, the design and the choice of location of proposed development in the landscape will also be critical considerations.*

#### **11.3.5.4 Scenic Amenity Policies and Designations**

The Draft County Development Plan contains a welcome update to the current scenic designations map. Scenic route and scenic views are identified in separate maps. In relation to scenic routes the Draft County Development Plan states:

***Scenic Routes***

*A scenic route is not and cannot be a comprehensive protection for the entire landscape. It does provide an instrument for predicting and assessing representative measurement of what effects would be experienced. by the majority of potential public viewers in the majority of circumstances.*

Based on Figure 1.11, there are three Scenic Routes that are considered relevant to the proposed development. These include:

#### 7.2 Maritime Scenic Route

*The route parallels the coast at varying distances with almost all parts having almost continuous views of marine waters. Most of the views are from shallow-sloping lands towards the enclosed waters of sea loughs. All of the route lies within the 'Coastal' Landscape Type. The landscape along this route falls into two types;*

- *Those where natural processes are dominant and*
- *Those containing varying degrees of human use and occupation.*

*In this complex landscape transitions between areas of nature and settlement can change abruptly across short distances. The route is punctuated by a number of small settlements, many with a denser old core with facilities such as a pub, shop or post office. Most of these settlements have extensive peripheries of more recent development – consisting mostly of housing with occasional enterprises located at the edges of these settlements. Apart from settlement, the main land-uses are low-intensity agriculture and fisheries with scattered areas of turf-cutting and occasional smaller forestry plantations. Key Features: Coastal views, natural areas, settled areas, sea lough views, open sea across fields.*

#### 7.5 Lough Corrib Scenic Route

*This route runs from Maigh Cuilinn and Oughterard through Maam Cross before looping back at Cong. Near Galway City's outskirts it encounters a mixture of landscapes that include tree-lined roads at parkland edges with occasional very expansive elevated panoramas across Lower Lough Corrib. Between Maigh Cuilinn and Oughterard the route passes through increasingly enclosed and inhabited landscapes. Lakeshore access points offer opportunities to experience very distinctive landscapes –usually from wooded locations with occasional panoramic views across many islands. The woodland character of this area provides strikingly different experiences across each season. After Oughterard the land changes abruptly to unenclosed, large-scale areas with distant views of open countryside and large-scale elements such as uplands, bogs and lakes; Key Features: Lakes, Mountains, large tracts of unoccupied and unenclosed land.*

#### 7.4 Galway Clifden, Sraith Salach Letterfrack & Maum Valley Scenic Routes

*These routes are described together because they provide alternative routes through the same large area—the Upland and Blanket Bog -which is one of Ireland's most distinctive landscapes. They range from the outskirts of Oughterard to either Clifden*

or Letterfrack –with a further variation of the Maum Valley link. For the majority of each route the landscape is open and largely devoid of visible development. It offers expansive views of uplands, bogs and lakes. The landscapes are very large and expansive –drawing the eye to distant horizons and to the ever-changing sky. The turbulent Atlantic frontal weather systems cause the lighting to frequently change. Seasons bring about large-scale changes of colour –both of vegetation and grasses. Key Features: Mountains, Lakes, Bogs.

### **Protected Views**

Protected views are shown in **Figure 11.9**, where the direction and included angle for each is indicated.

Views relevant to the project, as derived from LCA Table 6.4 Schedule of Protected Views are indicated in **Table 11.7** below.

**Table 11.7: Relevant scenic views**

View number and description/ location	Angle (FOV) of view	Site within FOV, and/or visible in ZTV
20, North Lough Corrib	180	Yes, within FOV and ZTV.
21, The Quiet Man Bridge	30	This appears to be a view of the Quiet Man Bridge southwest from the N59, rather than from the bridge itself where tourists more typically take photos north-westwards to replicate the iconic scene from the movie.
22, Droichead an tSnámha	360	While the field of view does face the site, the ZTV indicates views will be shielded by landform.
23, An Charraig Thoir	150	Yes, the site will be in the periphery of the field of view, and is within the blue ZTV pattern.
24, Western Way High Road	150	The field of view in the CDP does not face the proposal, and the ZTV shows intermittent and partial visibility through the area.
25, Views of Islands on Lough Corrib	40	This is a limited and directional view which does not face the site, but there is likely visibility outside of the defined field of view, as based on the ZTV.
27, Ard na Goaithe	150	Yes – the site will be within the field of view for the site and will have full visibility across Lough Corrib.
28, Oughterard Pier	180	Yes – the site will be within the field of view for the site and will have partial visibility across the intervening landform.
31, Kilbeg Peir	180	This view is marginally outside the Study Area, but the site will be within the FOV and have partial visibility across Lough Corrib and the opposite shore.

Relevant scenic amenity policy includes:

**PVSR 1 – Protected Views and Scenic Routes**

*Preserve the protected views and scenic routes as detailed in Maps 8.3 and 8.4 from development that in the view of the Planning Authority would negatively impact on said protected views and scenic routes. This shall be balanced against the need to develop key infrastructure to meet the strategic aims of the plan.*

### **11.3.5.5 Local Authority Renewable Energy Strategy (LARES)**

A new Local Authority Renewable Energy Strategy has been prepared for County Galway using guidance from the Sustainable Energy Authority of Ireland (SEAI) and it is stated that “*The LARES replaces the Wind Energy Strategy of the Galway County Development Plan 2015 (as varied).*”

**Section 14.8.1 Local Authority Renewable Energy Strategy**

*To facilitate the sustainable growth of renewable energies a Local Authority Renewable Energy Strategy (LARES) have been prepared for the county as part the plan and is included in Appendix 1. The LARES’ outlines the renewable energy resource potential in the county and it is a strategic aim to ensure that such developments are suitably located, economical and sustainable in the long term. The Strategy has been prepared taking account of relevant European, national, regional and local planning frameworks and guidelines.*

**Policy Objective Renewable Energy (RE) 3 Wind Energy Developments**

*Promote and facilitate wind farm developments in suitable locations, having regard to areas of the County designated for this purpose in the Local Authority Renewable Energy Strategy. The Planning Authority will assess any planning application proposals for wind energy production in accordance with the Local Authority Renewable Energy Strategy, the DoEHLG Guidelines for Planning Authorities on Wind Energy Development, 2006 (or any updated/superseded documents), having due regard to the Habitats Directive and to the detailed policy objectives and Development Standards set out in the Local Authority Renewable Energy Strategy.*

In Chapter 15 ‘Development Management Standards’, the following standards apply to Wind Energy

**15.13.3 Renewable Energy Proposals, DM Standard 70: Wind Energy**

*When assessing planning applications for wind energy developments the Council will have regard to;*

- *the Wind Energy Development Guidelines for Planning Authorities, DoEHLG, (2006) and any amendments to the Guidelines which may be made; and*
- *the Local Authority Renewable Energy Strategy;*

*In addition to the above, the following local considerations (relevant to landscape) will be taken into account by the Council in relation to any planning application;*

- *Impact on the visual amenities of the area;*
- *Impact on the residential amenities of the area;*
- *Scale and layout of the project, any cumulative effects due to other projects and the extent to which the impacts are visible across the local landscape;*
- *Visual impact of the proposal with respect to protected views, scenic routes and sensitive landscapes (Class 2, 3 and 4);*

The key points from the above are the presence of sensitive landscapes and views within the immediate Study Area. There have also been revisions to wind energy zonings and generally the landscapes of West Galway have experienced a decrease of developable area, reflecting the sensitivities identified in the updated landscape character assessment. By comparison, eastern areas of the county have seen increased opportunities. In relation to the Site, the 'Acceptable in Principle' area has moved further away to the southeast along the ridge, whereas it had previously been adjacent. This still leaves the site in an area considered 'not normally permissible' for wind energy development, but no longer peripheral within that zoning.

Relevant Policy Objectives within the LARES include:

*LARES Policy Objective 13 Wind Energy Generation*

*To increase renewable energy generation levels from wind energy developments in County Galway, given the recognised wind energy potential of the County.*

*LARES Policy Objective 14 National Wind Energy Guidelines*

*All onshore wind energy developments shall comply with the National Wind Energy Development Guidelines or any subsequent version thereof.*

*LARES Policy Objective 18 Not Normally Permissible*

*Wind energy development proposals in areas that are identified as 'Not Normally Permissible' for wind energy development will be considered in accordance with the LARES and the proper planning and sustainable development of the area.*

*Wind energy development proposals should consider the constraints and challenges detailed in **Sections 5 and 9** of this LARES, and should indicate how these constraints can be addressed where they are not located in an area identified as 'Strategic Areas' or 'Acceptable in Principle'. Although wind energy developments located in areas identified as 'Strategic Areas' or 'Acceptable in Principle' will be considered favourably, they will still need to be assessed against the policies and provisions of the Wind Energy Guidelines, the County Development Plan and any other relevant policy documents.*

The constraints which require addressing because the proposal is not located in a strategic Area of Acceptable in principle area (selected from the complete list within PART 2: Renewable Energy Strategy Factors and Methods, Section 5) include:

*Natural and Cultural Factors*

- *Landscape Sensitivity*
- *Ecological and Natural Heritage Designations (As contributors to landscape character and recreational amenity)*
- *Architectural & Archaeological Heritage & Tourism (As contributors to landscape character and visual amenity)*

*Human Factors*

- *Settlement Patterns & Population Densities (as related to receptors/audiences)*

*Administrative, Legal and Planning Factors*

- *Renewable Energy in Adjoining Counties (where located within the study area)*
- *Cumulative Impacts*
- *Interactions between LARES and SEA*

### **11.3.6 Mayo County Development Plan 2022 – 2028**

As County Mayo is over 10km away from the proposed wind farm site landscape policies and wind energy related policies from the Mayo County Development Plan are not considered relevant to this assessment. However, as the proposed wind farm is potentially visible from parts of County Mayo, albeit at long distances, scenic designations within the Study Area have been considered (see **Figure 11.11**).

The only relevant scenic route is that lining the R300 just beyond the County border with southerly views across a narrow arm of Lough Mask. The remaining routes are not contained within an area where potential visibility of the development is afforded (see **Figure 11.12**).

### 11.3.7 Visual Baseline

Only those parts of the Study Area that potentially afford views of the proposed Development are of interest to this part of the assessment. Therefore, the first part of the visual baseline is establishing a 'Zone of Theoretical Visibility' and subsequently, identifying important visual receptors from which to base the visual impact assessment.

#### 11.3.7.1 Zone of Theoretical Visibility (ZTV)

A computer generated Zone of Theoretical Visibility (ZTV) map has been prepared to illustrate where the proposed development is potentially visible from. 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 complex vegetation patterns within this landscape, the main value of this form of ZTV mapping is to determine those parts of the landscape from which the proposed development will definitely not be visible, due to terrain screening within the 20km Study Area.

The following key points are illustrated by the 'bare-ground' ZTV map (Error! Reference source not found. refers):

- The visibility of the proposal varies greatly depending on the intervening landform, which as identified in the previous section, varies across the 4 quadrants of the Study Area. The dramatic upland areas result in screening of the lower valley area, except where the valley frames/ is in line with the proposal, such as to the spur of blue ZTV pattern to the northwest.
- Views across Lough Corrib and Lough Mask are varied due to the small crest of landform and associated elevation which both encloses the site and borders the southern shoreline of Lough Corrib. The distance between the partial and full visibility of the proposal unfurls from immediately below the proposal by Doon Hill around the southern shore of the lake and out towards the east. While there is consistently some degree of visibility across Lough Corrib, the majority to the south-eastern extent of the lake is limited to 1 – 2 turbines, over to top of the intervening landform/lough shoreline.
- To the northern half of Lough Corrib, the turbines increase visibility across the water and out to the surrounding drumlin landscapes. The pattern of increasing visibility around the north of Lough Corrib is halted from Lough Mask by the intervening elevated landform of Benlevy. There is visibility on either side however, to the east this open up at Cloghbrack Middle, across the small extension of Lough Mask, which flares out and is halted on the far side of the waterway at Glenbeg East. To the east of Benlevy, the visibility graduates down the eastern slopes of Benlevy Cong at the narrowest point between the two loughs.

- Within the rolling landform between the site and the coast, there is a basin-like area within the immediate west/southwestern surrounds of the site. The site is located on the crest which contains this basin from Lough Corrib, resulting in high visibility as it appears to overlook the surroundings. The area within this 'basin' has full visibility, with occasional breakthroughs where a dip in the rolling surrounds gives opportunities for visibility out into the western/southwestern surrounds. One such breakthrough allows visibility across the northern end and islands of Kilkieran Bay, as well as Camus Bay. There is one instance to the west of increasing topography giving a vantage point across the landscape to the site, atop Cnoc Mordain, but this is in conjunction with a breakthrough closer to the site.
- Finally the valley to the west of the basin landform surrounding the site opens visibility out to Connemara, where visibility is varied across the smaller undulations in the landform, the extent of visibility flares south towards Cnoc Mordain, but does not become a cohesive area due to the smaller hills at Shannavara and Knockadav.

#### 11.3.7.2 Views of Recognised Scenic Value

Views of recognised scenic value are primarily indicated within County Development Plans in the context of scenic views/routes designations, but they might also be indicated on touring maps, guidebooks, road side rest stops or on post cards that represent the area. The relevant scenic designations contained in the Galway and Mayo County Development Plans (current and draft) have been identified above in **Section 11.3.4 'Landscape Policy Context and Designations'**.

All of the scenic routes and views that fall inside the ZTV pattern (see **Figures 11.8 and 11.9**) were investigated during fieldwork to determine whether actual views of the proposed wind farm might be afforded. Where visibility may occur, a viewpoint has been selected for use in the visual impact appraisal later in this chapter.

**Table 11.8: Rational for selection of scenic designations within the relevant County Development Plans**

Scenic View or Route Reference:	Relevance to visual impact appraisal?	VRP No.
<i>Galway Scenic View 20, North Lough Corrib</i>	Site is not within identified FOV, however the scenic proximity and ZTV visibility justifies inclusion for assessment.	VRP 12
<i>Galway Scenic View 21, The Quiet Man Bridge</i>	Proximity to iconic movie location/tourism location.	VRP 24 (and 23)
<i>Galway Scenic View 23, An Charraig Thoir</i>	Public recreation location, plus scenic designation.	VRP 6

Scenic View or Route Reference:	Relevance to visual impact appraisal?	VRP No.
<i>Galway Scenic View 27, Ard na Goaithe</i>	Public recreation location, plus scenic designation.	VRP 9
<i>Galway Scenic View 28, Oughterard Pier</i>	Public recreation location, plus scenic designation.	VRP 25
<i>Galway Maritime Scenic Route</i>	Scenic designation and Wild Atlantic Way route.	VRP 28
<i>Galway Lough Corrib Scenic Route</i>	Scenic designation, mixed visibility to site. Multiple VRPs due to length across study area and framed views towards site.	VRP 1, 2, 3, 4, 6, 7, 10, 17, 19, 20, 22, 26, 29
<i>Galway Clifden Scenic Route</i>	Scenic designation, mixed visibility to site. Multiple VRPs due to length across study area and proximity to site.	VRP 15, 16, 17, 19, 20, 22, 26
<i>Galway Maam Valley Scenic Route</i>	Scenic designation, mixed visibility to site. Multiple VRPs due to length across study area.	VRP 1, 10, 27
<i>Mayo Scenic Route – R300 at Lough Mask</i>	Scenic designation, mixed visibility to site.	VRP 29

### 11.3.7.3 Centres of Population and Houses

The largest centre of population in the Study Area is Oughterard, located 8.5km to the southwest along the shores of Lough Corrib. Cong is the second-most notable, if not highly populated, and is located on the opposite side of Lough Corrib 13.5km northeast.

There is a selection of smaller settlements and service centres in the wider Study Area. These are Maam Cross (4km to the west), Recess (14km to the west), Maam (7.5km to the northwest), Cornamona (5km to the north), Clonbur (10km north), Knockavally (16km southwest), and Rosscahill (18km southeast). These are a mix of typologies. Maam Cross, Recess and Maam, have little residential development surrounding them, instead service a wider, distributed rural population, while others do this while sustaining small areas of residential development in the immediate surrounds and have a stronger sense of a consolidated village (Clonbur, Cornamona).

There are clusters of residential development throughout the Study Area, which are focused around transport or landscape features with no services associated with them, these can be seen on the map below, as ribbons of residential addresses along roads and valleys or lough shorelines. Those which directly relate to the site are Tullaghboy (750m south of the site), Pound Road (4km southeast of the site), Ardmore Hill and residences on the opposite side of Lough Bofin (2.5km southeast of the site). Along the shoreline of Lough Corrib to the north of the site there are occasional residences, increasing in density towards the north.

#### 11.3.7.4 Transport Routes

The principal transport route passing through the Study Area is the N59, which runs in a general east/west direction and is 1.5km to the south at its nearest point. There are regional roads connecting the community around the perimeter of the lake, to the main centres beyond the Study Area. To the west of the site, the R336 crosses the N59 at right angles, running north/south at Maam Cross. This (the R336) connects with the R345 at the north-western extent of Lough Corrib, where the R345 follows the northern perimeter of the lake to Clonbur where it meets the R300 which diverges northwest along the southern shores of Lough Mask. The R345 continues to Cong, where it intersects with the R346 before veering north out to terminate at the R334, which runs north/south into the Study Area before veering out again at a southeast direction. The R346 connects to the R334 to continue south around the lake towards the N84 which is located just outside of the Study Area. South of the site, roads are limited, with the R340 originating at Screebe (10km South) and continuing around the north of Kilkieran Bay. There is one other local road which runs at a northeast/southwest orientation from Oughterard to Rossaveel.

#### 11.3.7.5 Tourism, Recreational and Heritage Features

There are a range of tourism, recreational and heritage features throughout the Study Area and this is a popular area for both international and domestic visitors. It is an area that has become somewhat synonymous with a nostalgic view of 'old Ireland' and much of the tourist draw relates to this perception. One such location is the 'Quiet Man Bridge' between Lough Boffin and Lough Agraftard, which is associated with the 1952 movie 'The Quiet Man' starring John Wayne and Maureen O'Hara. This is located 4.5km southeast of the nearest turbine and is a popular photo location for people posing in the same manner as the movie, with the landscape behind them.

Continuing south of the site, the Screebe Fisherman's Hut is another, more local scenic location and visitor attraction. To the southwest, at Lough Aroolagh is the Ionad Cultúrtha an Phiarsaigh, Conamara (Pearses Cultural Centre), which is a tourism information and heritage site – and Stop 13 of the Galway section of the Wild Atlantic Way, a major tourism feature. The Wild Atlantic Way crosses the Study Area around the coast between Kilkeiran, Screebe, and Costello on the R340 and R336. The closest point is at Screebe, the intersection of the R340 and R336, 10.5km southwest of the site.

To the North of the site is the Hill of Doon Viewing Point, the closest feature to the site, which looks across Lough Corrib to the small peninsula of the Hill of Doon on the opposite shore. While this specific view faces away from the site, the viewpoint is also the labelled

viewpoint for wider Lough Corrib, and on the Western Way, which passes below the site along the shoreline before crossing through the adjacent forestry to the R336. Up the western side of Lough Corrib from the site is Castlekirk/Henn's Castle, a ruined castle on an island near the northern section of the Lough.

Continuing around the southern shore of Lough Corrib towards Oughterard, there are multiple walks within the conifer plantations, and smaller settlements clustered around bays with stone wharfs, used recreationally for boating and swimming. There are two Cillín in the immediate surrounds of the site, one to the south on the far side of the Owenree river (1.5km southwest), and one near Carraghduff (3km east). Oughterard, being the nearest settlement features a variety of attractions, including Aughnanure Castle, located to the southeast of the town, towards the Lough shoreline.

On the far (north/northeast) shore of Lough Corrib, Cong features a variety of attractions, tourism, recreational and heritage. These are two caves and a variety of walking trails, as well as historical features such as the Guinness Tower and Cong Abbey. Ashford Castle is located at the mouth of the River Cong, as is the Ard Na Gaoithe, Forest Recreational Park. The Glebe Stone Circle is the northern most feature of the cluster of features around Cong, which range from 12km away from the site (Ard Na Gaoithe, Forest Recreational Park) to 15km (Glebe Stone Circle).

In the dramatic, elevated topography of the Twelve Bens and Maumturk Mountains to the north and northwest of the site, there are a variety of recreational walkways and historic structures/viewpoints. One of these is the Máméan Chapel, located 12.5km to the west of the site.

#### **11.3.7.6 Identification of Viewshed Reference Points as a Basis for Assessment**

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

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

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

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

### **Key Views**

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

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

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

### **Local Community Views**

This type of VRP represents those people who live and/or work in the locality of the proposed EIA Development, usually within a 5km radius of the site. Although the VRPs are generally located on local level roads, they also represent similar views that may be available from adjacent houses. The precise location of this VRP type is not critical; however, clear elevated views are preferred, particularly when closely associated with a cluster of houses and representing their primary views. Coverage of a range of viewing angles using several VRPs is necessary in order 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 or its proximity to the site. The VRP may be selected from any location within the public domain that provides a clear view either within the settlement or in close proximity to it.

### **Major Routes**

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

### **Tourism, Recreational and Heritage Features**

These views are often one and the same given that heritage locations can be important tourist and visitor destinations and amenity areas or walking routes are commonly designed to incorporate heritage features. Such locations or routes tend to be sensitive to development within the landscape as viewers are likely to be in a receptive frame of mind with respect to the landscape around them. The sensitivity of this type of visual receptor is strongly related to the number of visitors they might attract and, in the case of heritage features, whether these are discerning experts or lay tourists. Sensitivity is also heavily influenced by the experience of the viewer at a heritage site as distinct from simply the view of it. This is a complex phenomenon that is likely to be different for every site. Experiential considerations might relate to the sequential approach to a castle from the car park or the view from a hilltop monument reached after a demanding climb. It might also relate to the influence of contemporary features within a key view and whether these detract from a sense of past times. It must also be noted that the sensitivity rating attributed to a heritage feature for the purposes of a landscape and visual assessment is not synonymous with its importance to the Archaeological or Architectural Heritage record.

The Viewshed Reference Points selected in this instance are set out in **Table 11.9** below and shown on the VP selection Map in the Photomontage Booklet.

**Table 11.9: Outline description of selected Viewshed Reference Points (see also VRP map at Volume III Figure 11.2)**

VRP No.	Location	Distance to Site (km)	Direction of view
VP1	R336 at Breenaun, Maam Valley	11km	SE
VP2	R345 at Carrowgariff	5.1km	S/SE
VP3	R345 at Claggan	3.8km	S
VP4	Local road at Teeranea	6km	S
VP5	Local road at Dooros	4.8km	SW
VP6	R345 Picnic Area at Carrick East	4.1km	S
VP7	R345 at Tumneenaun	7.8km	SW
VP8	Local road near R345 at Dooroy	9.7km	SW
VP9	Ard Na Gaoithe, Forest Recreational Park	11.8km	W/SW
VP10	Western Way on R336 at Maunwee Lough	4.9km	E
VP11	Local Road at Drumsnauv and Lough Corrib	1.8km	S/SW
VP12	Hill of Doon Viewpoint	1.8km	SW
VP13	Glann Road/The Western Way at Gortnashingaun	4.3km	W
VP14	Shanbally Marina	15.7km	W
VP15	N59 at Buncanniff and Lough Oorid	8.7km	E
VP16	N59 between Ardderry Lough and Lough Shindilla	5.3km	E
VP17	N59 between Lorgan Lough and Ardderry Lough	3km	NE
VP18	Local road L35266 at Tawnaghbeg/Tullaghmore	850m	NE
VP19	N59 at Bunnakill	1.5km	NE
VP20	N59 at Letterfore	2km	N
VP21	Leam W Road at Leam West	6.7km	N
VP22	N59 at Derryerglinna	3.3km	N
VP23	Quiet Man Bridge	4.5km	N/NW
VP24	Local road near Quiet Man Bridge at Derryerglinna	4.5km	N/NW
VP25	Oughterard Pier	10.5km	NW
VP26	Oughterard Graveyard on N59	11km	NW

VRP No.	Location	Distance to Site (km)	Direction of view
VP27	R336 south of Lough Aughawoolia	6.4km	NE
VP28	Wild Atlantic Way/R340 at Lough Ahalia South	11.3km	NE
VP29	R300 at Kilbride, Lough Mask	11.1km	N

### 11.3.8 Cumulative Baseline

The SNH Guidelines relating to the Cumulative Effects of Wind Farms (2005) and GLVIA - 2013 identify that cumulative impacts on visual amenity consist of combined visibility and sequential effects. The same categories have also been subsequently adopted in the Landscape Institute's 2013 revision of the Landscape and Visual Impact Assessment Guidelines:

*“Combined visibility occurs where the observer is able to see two or more developments from one viewpoint. Combined visibility may either be in combination (where several windfarms 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 windfarms).*

*Sequential effects occur when the observer has to move to another viewpoint to see different developments. The occurrence of sequential effects may range from frequently sequential (the features appear regularly and with short time lapses between, depending on speed of travel and distance between the viewpoints) to occasionally sequential (long time lapses between appearances, because the observer is moving very slowly and / or there are large distances between the viewpoints.)”*

Cumulative impacts of wind farms tend to be adverse rather than positive, as they relate to the addition of moving manmade structures into a landscape and viewing context that already contains such development. Based on guidance contained within the SNH Guidelines relating to the Cumulative Effects of Wind Farms (2005) and the DoEHLG Wind Energy Guidelines (2006/2019 revision), cumulative impacts can be experienced in a variety of ways.

In terms of landscape character, additional wind energy developments might contribute to an increasing sense of proliferation. A new wind farm might also contribute to a sense of being surrounded by turbines with little relief from the view of them. The term 'skylining' is used in the SNH Guidelines to describe the effect:

*“Where an existing windfarm is already prominent on a skyline the introduction of additional structures along the horizon may result in development that is proportionally dominant. The proportion of developed to non-developed skyline is therefore an important landscape consideration.”*

In terms of visual amenity, there is a range of ways in which an additional wind farm might generate visual conflict and disharmony in relation to other wind energy developments. Some of the most common include visual tension caused by disparate extent, scale or layout of neighbouring developments. A sense of visual ambivalence might also be caused by adjacent developments traversing different landscape types. Turbines from a proposed wind farm that are seen stacked in perspective against the turbines of nearer or further developments tend to cause visual clutter and confusion. Such effects are exacerbated when, for example, the more distant turbines are larger than the nearer ones and the sense of distance is distorted. **Table 11.10** below provides criteria for assessing the magnitude of cumulative impacts.

**Table 11.10: Outline Magnitude of Cumulative Impact**

Magnitude of Impact	Description
Very High	<ul style="list-style-type: none"> <li>- The proposed wind farm will strongly contribute to wind energy development being the defining element of the surrounding landscape.</li> <li>- It will strongly contribute to a sense of wind farm proliferation and being surrounded by wind energy development.</li> <li>- Strongly adverse visual effects will be generated by the proposed turbines in relation to other turbines.</li> </ul>
High	<ul style="list-style-type: none"> <li>- The proposed wind farm will contribute significantly to wind energy development being a defining element of the surrounding landscape.</li> <li>- It will significantly contribute to a sense of wind farm proliferation and being surrounded by wind energy development.</li> <li>- Significant adverse visual effects will be generated by the proposed turbines in relation to other turbines.</li> </ul>
Medium	<ul style="list-style-type: none"> <li>- The proposed wind farm will contribute to wind energy development being a characteristic element of the surrounding landscape.</li> <li>- It will contribute to a sense of wind farm accumulation and dissemination within the surrounding landscape.</li> <li>- Adverse visual effects might be generated by the proposed turbines in relation to other turbines.</li> </ul>
Low	<ul style="list-style-type: none"> <li>- 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.</li> <li>- It might contribute to wind farm development becoming a familiar feature within the surrounding landscape.</li> <li>- 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.</li> </ul>
Negligible	<ul style="list-style-type: none"> <li>- The proposed wind farm will most often be viewed in isolation or occasionally in conjunction with other distant wind energy developments.</li> <li>- Wind energy development will remain an uncommon landscape feature in the surrounding landscape.</li> <li>- No adverse visual effects will be generated by the proposed turbines in relation to other turbines.</li> </ul>

Within the Study Area there is essentially one large operational wind farm (Galway Wind Park), which is the agglomeration of several earlier permitted wind farms. There are also two other permitted developments in the same area which is within the southwestern quadrant of the Study Area. The cumulative developments are set out below.

**Table 11.11: Cumulative Wind Farms within the Study Area (as of November 2021)**

Wind Farm Name	Number of Turbines	Distance and Direction from the Development Site	Status
Galway Wind Park – made up of Seecon, Coosh and Lettercraffroe Wind Farms	67	Southeast	Existing / permitted
Knockranny Wind Farm	10	Southeast	Permitted
Arderoo Wind Farm	25	Southeast	Permitted

## 11.4 ASSESSMENT OF POTENTIAL EFFECTS

### 11.4.1 Do Nothing Effects

In this instance the do-nothing effect would be that the receiving landscape stays in the same or similar condition as it currently is, managed for a combination of low intensity rough grazing and/ or forestry or left as semi-naturalistic moorland.

### 11.4.2 Landscape Impacts

Landscape impacts are assessed on the basis landscape sensitivity weighed against the magnitude of physical landscape effects within the Site and effects on landscape character within the wider landscape setting. This wider setting is considered in respect of the immediately surrounding landscape (<5km) as well as the broader scale of the Study Area (5-20km).

#### 11.4.2.1 Landscape Character, Value and Sensitivity

##### **Central Study Area (<5km)**

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

The dramatic qualities of the surrounding landscapes are highly varied, and result in four areas within the Study Area with somewhat discrete defining characteristics and corresponding sensitivities. Therefore, the following outlines the sensitivity of the Study Area according to these landscapes and the attributes which were identified in the baseline section. These are generally defined by the key landscape features (and following the

landscape character types of the Galway Landscape Assessment). There are the dramatic upland areas to the north and west, defined by the Maumturks and Twelve Bens, which transition relatively abruptly into the Lakeland areas which cover the north/northeast of the Study Area through to the southeast. There is a small section of open farmland on the far (eastern) side of the lakes, which provides contrast between the central and very eastern extents of the Study Area, and between the opposite lakeshores. The remainder of the Study Area to the west and south is defined by open bog and forestry areas of varied, rolling topography. The differentiating factor between the southern and western aspects of this landscape is that the western areas are relatively intact and feature a series of intricate coastal bays and islands, which continues around the base of the Connemara Mountains, while the southern extent is more highly developed and features both an increase of conifer forestry, and a dense area of existing wind energy development 'The Galway Wind Park'

The upland areas to the north and west of the Study Area feature low levels of development, consistent, low upland vegetation and contribute iconic skylines to the surrounding landscape. As defined by the landscape character assessment description, the site is 'Highly distinctive and iconic, valued for amenity and activity. Unenclosed, unoccupied, elevated, visually prominent peaks'. These features, in addition to the lack of enclosure and extensive areas of elevation, resultant extensive views and lack of screening vegetation combine to make this landscape very vulnerable to change. For the reasons outlined above, the mountain/upland areas of the Study Area are generally considered to be of a **High/Very High** landscape sensitivity.

The majority of the part of the Study Area covered by lakes is dominated by the body of the lakes themselves, however, there are a myriad of islands and peninsulas throughout, which feature varying degrees of current and historic occupation. The steeper shorelines of the lakes, which relate to the mountains and hills to the west of the Study Area feature higher degrees of vegetation and lower degrees of built form, aside from the relatively consistent presence of roads skirting the perimeter. Generally, this gives a high number of opportunities for scenic views and high amenity areas, with views and experiences along the water edge framed by the dramatic topography in the background. To the east, however, the density and level of development intensifies with a higher number of small roads and farm access roads networking the surrounding, flatter landscape. The vegetation cover is more intensely managed for agriculture, while pasture and hedgerows are dominant in the level areas, with more numerous and varied tree species and wild areas on the steeper section of rolling land closer to the water's edge. Given the relatively low proportion of both the Study Area, and the north/west extent of the Study Area which this

landscape type covers, the sensitivity of this area will be based on the larger, more defined lakes and shoreline, with the consideration that there will be locally varied areas in the wider extent. The lakes and waterways of the surrounding landscape are the focal points of the majority of the settlements within the Study Area, which results in clustering of historic and recreational features in their immediate surrounds. Cong is one such example, with Ashford Castle and Cong Abbey clustered at the landform between Lough Mask and Lough Corrib. The landform between the lakes transitions from uplands to small enclosed fields defined by traditional stone walls as well as areas of vegetation on the steep areas and wet areas through to the rolling farmland in the east. The lake-facing slopes of the surrounding landscape are the most developed, with the ridgelines defining the views from one shore to the opposite. The same use of the ridgeline to define the landscape type occurs in the Galway County Development Plan, which is further described as: "The uplands to the west of the lake include the rolling, bog covered granite hills of south Conamara, the bare Quartzite peaks of the Maumturk mountains and the high plateau of the Maumtrasna Mountains. Sheep grazing and forestry are the main land uses in these areas. In sharp contrast, the low-lying limestone plain to the east of the Lough Corrib with its large, walled fields, is used primarily for the more intensive rearing of sheep and cattle. Drumlins of glacial origin give rise to the numerous smaller, mostly wooded islands for which the lake is famous. The lake is highly prized as recreational fishery resource and is also the focus of many viewing areas and scenic drives". The whole of the lake and surrounds are classified as the highest sensitivity in the CDP, a classification which is appropriate given the qualities outlined above, therefore the rating of the Lakeland component of the Study Area is rated **High**, with areas of **Medium** in the more developed, pastoral areas.

The western extent of the Study Area extends the base of the Connemara Mountains, which define the more northerly sections of the Study Area. The transition between these landscapes has generally followed the path of the N59 from Maam Cross westwards out of the Study Area as it avoided peatland Lakeland areas of the coastal bog and the steep slopes of the Connemara mountains. The inland extent of the western quadrant is dominated by open, low vegetation and myriad of lakes scattered between rolling topography with a high proportion of exposed rock. The eastern border of this area is defined visually and physically by the area of relatively steep/elevated topography which runs approximately north/south between the R336 and the L1311 (Knocknasilloge Peak 400m). The faces of these rolling landforms are generally unmodified, creating a cohesive unit within the wider, western boglands. This landscape encompasses the sea lough complex that contains pockets of development and settlement to the southwest of the Study Area. While these loughs are generally similar to the surrounds in terms of vegetation cover

and landform, the water bodies are saline and there is a slightly higher proportion of water to land as well as more legible bands of development around the shore and roads. The key element of this section of the Study Area is that it is the western extent of the iconic Connemara landscape, and the absence of structures and development is a key feature which contributes to its isolated and windswept character. As such, the sensitivity is deemed **High**, with the southern, coastal sections rated **Very High**.

The final quadrant of the Study Area is the eastern extension of the bog landscape identified above. This section differs from the above through the absence of the backing mountain ranges, instead being defined (as identified above), by the steep, hilly topography which runs approximately north/south between the R336 and the L1311 (Knocknasilloge Peak 400m), and the rolling periphery of Lough Corrib. The ground cover is extensive rolling plateaux of blanket bog, small lakes and extensive forestry, largely un-enclosed by additional vegetation and relatively unpopulated. The final defining feature of this section of the Study Area is the presence of the substantial Galway Wind Park located halfway between the site and the southern border of the Study Area, which represents the manifestation of Galway County Council wind energy policy to date. That is, to concentrate such development within particular areas of robust landscape. As the defining land uses of this sparsely populated 'in-between' landscape are wind energy development and forestry, its sensitivity is deemed to be **Medium-low**.

The site and central Study Area is near the confluence of each of the distinct quadrants of landscape described above and is influenced by them all, albeit the nearest / intersecting portions are peripheral to the core areas of these landscape units with less defining character and therefore sensitivity. The central Study Area, has most in common with the southwestern moorland hill country that hosts large tracts of commercial conifer plantation and the Galway Wind Park. On balance therefore, the central Study Area is deemed to be of **Medium** Landscape Sensitivity. The sensitivity rationale is illustrated in **Figure 11.14**)

#### 11.4.2.2 Magnitude of Landscape Effect

The physical landscape as well as the character of the proposed development and its central Study Area (<5km) is affected by the proposed wind turbines as well as ancillary development such as access and circulation roads, areas of hard standing for the turbines, borrow pits, grid connection and the substation compounds. By contrast, for the wider landscape of the Study Area, landscape impacts relate exclusively to the influence of the proposed turbines on landscape character. The aspects of the proposed development that are likely to have an impact on the physical landscape and landscape character are

described in Chapter 3 (Description of Proposed Development) with construction processes described in the Construction and Environmental Management Plan (CEMP) at **Appendix 2.1**.

### **Construction Stage**

It is considered that the proposed wind farm development will have a modest physical impact on the landscape within the site as none of the proposed development features have a large 'footprint' and land disturbance/vegetation clearing will be relatively limited. The topography and land cover of the proposed site will remain largely unaltered with construction being limited to Access Tracks, Turbine Hardstands, the On-site Substation and Control Building compound, Temporary Construction Compound and proposed Met Mast. Excavations will tie into existing ground levels and will be the minimum required for efficient working. Any temporary excavations or stockpiles of material will be re-graded to marry into existing site levels and reseeded appropriately in conjunction with advice from the project ecologist.

The finalised internal Access Track layout has been designed to avoid environmental constraints, and every effort has been made to minimise the length of necessary roadway by utilising and upgrading the existing site access track from the N59 into the Site. Furthermore, the road layout has been designed to follow the natural contours of the land wherever possible reducing potential for areas of excessive 'cut and fill'. There will be an intensity of construction stage activity associated with the Access Tracks and Turbine Hardstands consisting of the movement of heavy machinery and materials, but this will be temporary/short term in duration and transient in location. The construction stage effects on landscape character from these activities will be minor.

There will be one 38kV on-site substation constructed to collect the generated power from the proposed Development before connecting to the national grid at the ESB 110kV Screebe substation. The on-site substation will be located to the west of turbine T5 in open, but plateaued ground and will have dimensions of 50m x 25m. The proposed substation compound, which will be enclosed by a 2.5 metre high steel palisade fence, will be heavily screened by the surrounding terrain and will only be noticeably visible within relatively close proximity. The most notable construction stage landscape impacts resulting from the proposed on-site substation relate to the minor levelling of the site to form a level platform.

All internal site cabling will be underground and will follow site Access Tracks without the need for trenching through open ground. Indeed, the land cover of the site will only be

interrupted as necessary to build the structures of the proposed wind farm and to provide access. Impacts from land disturbance and vegetation loss at the site are considered to be modest in the context of this moorland landscape setting.

A permanent meteorological (Met) mast will be erected on site slightly further to the west of the proposed substation and will comprise of a 100m high lattice steel mast with a shallow concrete foundation, fixed to ground by anchors by 3 no. guy-wires. The most notable construction stage effects will relate to the minor amount of ground excavation required to facilitate the shallow foundations for the steel mast structure. The proposed project also includes the upgrade of approximately 1.4km of existing track from the N59 that will be used for construction and ongoing operational and maintenance activities.

The grid connection cabling will run from the Onsite 38kV Substation across a combination of private lands and public roads generating land disturbance and associated movement of machinery and stockpiling of materials. The proposed grid connection route will include for directional drilling at up to 5 no. locations to cross existing watercourses and local roads. No overhead lines are required for the connection. Connection works will involve the installation of ducting, joint bays, drainage and ancillary infrastructure. This will require delivery of plant and construction materials, followed by ground excavation laying of cables and subsequent reinstatement of trenches, and will result in minor and very localised construction stage landscape effects.

Site activity will be at its greatest during the construction phase due to the operation of machinery on site and movement of heavy vehicles to and from site. This phase will have a more significant impact on the character of the site and cable routes than the operational phase, but it is a 'short-term' impact that will cease as soon as the proposed development is constructed and becomes operational (approximately 14-15 months from the commencement of construction).

There will be some long term/permanent construction stage effects on the physical landscape in the form of turbine foundations and hardstands, access tracks and a substation, but only the substation is likely to remain in perpetuity as part of the national grid network. It is likely that with the exception of some residually useful access tracks, all other development features will be removed from the Site and it will be reinstated / restored to the prevailing land cover. Thus, the construction stage landscape effects of the proposed Development are largely reversible.

There will be some construction stage effects on landscape character generated by the intensity of construction activities (workers and heavy machinery) as well as areas of bare-ground and stockpiling of materials as identified in the Construction and Environmental Management Plan (CEMP). Such effects will be temporary/short term in duration and are, therefore, not considered to be significant. Overall, construction stage landscape effects are considered to be of a Medium magnitude.

### **Operational Stage Effects on Landscape Character**

For most commercial wind energy developments, the greatest potential for landscape impacts to occur is as a result of the change in character of the immediate area due to the introduction of tall structures with moving components. Thus, wind turbines that may not have been a characteristic feature of the area become a new defining element of that landscape character. In this instance, wind turbines are not a characteristic feature of the immediate context, but they are within wider Study Area, most notably to the south of the site where 67 turbines from the expansive Galway Wind Park occupy sparsely populated moorland / conifer forest covered hill country not dissimilar to the proposed Site. The effect, therefore, is one of intensification and extension of an established land use in this landscape and not the introduction of a new and unfamiliar feature.

In terms of scale and function, the proposed wind farm is well assimilated within the context of the Central Study Area. This is due to the broad scale of the landform, landscape elements and land use patterns. These attributes prevent the height and extent of the proposed wind farm causing the type of scale conflict that can occur in more intricate landscape areas. The rugged hills and ridges in the immediate surrounds of the wind farm site have a notable utilitarian character due to the presence of low intensity farming and tracts of commercial conifer plantation. Although the proposed development represents a stronger human presence and level of built development than currently exists on the site, it will not detract significantly from its productive upland rural character, within which wind turbines are a common background feature looking south.

It is important to note that in terms of duration, this development proposal represents a long term, but not permanent impact on the landscape and is reversible. The lifespan of the project is 30 years, after which time it will be dismantled and the landscape reinstated to prevailing conditions. Within 2-3 years of decommissioning there will be little evidence that a wind farm ever existed on the site.

The decommissioning phase will have similar temporary impacts as the construction phase with the movement of large turbine components away from the site. There may be a minor loss of roadside and trackside vegetation that has grown during the operational phase of the project, but this can be reinstated upon completion of decommissioning. Areas of hard standing that are of no further use will be reinstated and reseeded to blend with the prevailing surrounding land cover of the time. It is expected that the decommissioning phase would be completed within a period of approximately 3 months.

In summary, there will be physical impacts on the land cover of the site and cable route as result of the proposed Development during the operational phase, but these will be relatively minor in the context of this productive rural landscape that comprises of existing wind energy developments and extensive areas of commercial conifer forest. The scale of the proposed development will be well assimilated within its landscape context without undue conflicts of scale with underlying land form and land use patterns. For these reasons the magnitude of the landscape impact is deemed to be High-medium within the site and its immediate environs (c.1km) reducing to Medium for the remainder of the central Study Area. Beyond 5km from the site, the magnitude of landscape impact is deemed to reduce to Low and Negligible at increasing distances as the wind farm becomes a proportionately smaller and integrated component of the overall landscape fabric.

#### 11.4.2.3 Significance of Potential Landscape Effects

The significance of landscape impacts is a function of landscape sensitivity weighed against the magnitude of landscape impact. This is derived from the significance matrix (Table 11.3) used in combination with professional judgement. The combinations of sensitivity and magnitude are summarised for the Site and Study Area in Table 11.12 below and addresses the highest levels of anticipated impact for each of the identified landscape units i.e. the closest and most impacted portions.

**Table 11.12 Significance of Potential Landscape Effects**

Landscape Unit	Sensitivity	Magnitude	Significance (highest)
<i>NW Connemara Mountains</i>	High / Very High	Low	<b>Moderate-slight</b>
<i>SW Coastal Bog</i>	High / Very High	Low	<b>Moderate-slight</b>
<i>NE Lakelands</i>	High / Medium	Low	<b>Moderate-slight</b>
<i>SW Forested Hills &amp; Turbines</i>	Medium-low	Low	<b>Slight</b>
<i>Central Study Area</i>	Medium	High-medium / Medium	<b>Moderate</b>

### 11.4.3 Visual Effects

In the interests of brevity and so that this chapter remains focussed on the outcome of the visual assessment (rather than a full documentation of it), the visual impact assessment at each of the 29 selected representative viewpoint locations has been placed into **Appendix 11.1**. This section should be read in conjunction with both **Appendix 11.0** and the associated photomontage set contained in a separate booklet accompanying the EIA. A summary table is provided below, which collates the assessment of visual impacts (**Table 11.13** below). A discussion of the results is provided thereafter.

**Table 11.13 Summary of Visual Impact Assessment at Representative Viewpoint Locations (Appendix 11.1)**

Visual Impact				
VP No.	Distance to nearest turbine	Visual Receptor Sensitivity	Magnitude of Visual Impact	Visual Impact Significance
VP1	11km (T4)	High	Low	Moderate-slight
VP2	5.1km (T4)	High	Medium-low	Moderate
VP3	3.8km (T4)	High-medium	Low	Slight
VP4	6km (T3)	High-medium	Medium-low	Moderate-slight
VP5	4.8km (T3)	High-medium	Medium-low	Moderate-slight
VP6	6.4km (T3)	High	Low	Moderate-slight
VP7	7.9km (T2)	High	Low	Moderate-slight
VP8	9.6km (T2)	High	Low	Moderate-slight
VP9	11.8km (T2)	High	Low	Moderate-slight
VP10	4.7km (T4)	High	Medium	Substantial-moderate
VP11	1.9km (T4)	High-medium	Medium	Moderate
VP12	1.8km (T3)	High-medium	Medium-low	Moderate
VP13	4.5km (T2)	Medium	Negligible	Imperceptible
VP14	15.7km (T2)	High-medium	Low-negligible	Slight-imperceptible
VP15	8.6km (T4)	Medium	Low	Slight
VP16	5.3km (T4)	Medium	Medium - Low	Moderate - Slight
VP17	2.8km (T4)	High-medium	Medium	Moderate
VP18	850m (T6)	Medium-low	High-medium	Moderate

<b>Visual Impact</b>				
<b>VP No.</b>	<b>Distance to nearest turbine</b>	<b>Visual Receptor Sensitivity</b>	<b>Magnitude of Visual Impact</b>	<b>Visual Impact Significance</b>
<b>VP19</b>	1.4km (T6)	<b>Medium</b>	Medium	<b>Moderate</b>
<b>VP20</b>	1.9km (T6)	<b>High-medium</b>	Medium	<b>Moderate</b>
<b>VP21</b>	2.7km (T6)	<b>High-medium</b>	Medium	<b>Moderate</b>
<b>VP22</b>	3.2km (T1)	<b>High-medium</b>	Medium - low	<b>Moderate</b>
<b>VP23</b>	4.4km (T1)	<b>High</b>	Medium	<b>Substantial-moderate</b>
<b>VP24</b>	4.4km (T1)	<b>High-medium</b>	Medium-low	<b>Moderate</b>
<b>VP25</b>	10.4 (T1)	<b>High-medium</b>	Negligible	<b>Imperceptible</b>
<b>VP26</b>	10.9km (T1)	<b>Medium</b>	Negligible	<b>Imperceptible</b>
<b>VP27</b>	7.6km (T6)	<b>High-medium</b>	Low	<b>Slight</b>
<b>VP28</b>	11.2km (T6)	<b>High-medium</b>	Low	<b>Slight</b>
<b>VP29</b>	11.1 (T3)	<b>High</b>	Low	<b>Moderate-slight</b>

#### 11.4.4 Visual Impact summary

Whilst most often visual impacts are summarised by receptor type, in this instance the quadrant division in the receiving landscape (as described throughout the landscape impact section) also relates strongly to receptor sensitivity and the nature / context of visual impacts. For this reason, the summary of visual impacts will be organised by quadrant.

##### 11.4.4.1 Visual impacts from the Connemara Mountains (north-western) quadrant

Six viewpoints were selected within the highly scenic and iconic Connemara mountains that occupy the northwest quadrant of the Study Area with several others skirting the fringes of both the Lakelands context to the northeast and the Connemara coastal bog to the southwest. Four of the six were assigned high sensitivity (VP1, VP2, VP10 and VP29) with the other two judged to be of High-medium sensitivity (VP3 and VP4). All of these are associated with scenic designations within the Galway and Mayo County Development Plans.

For viewpoints VP1 to VP4 the viewing context of the proposed wind farm is similar with most of the turbines visible above the undulating skyline ridge to the east of the site, albeit to varying degrees. The most elevated turbine (T3) tends to be substantially revealed above the ridge and the westernmost turbine T4 similarly revealed around the end of that same

ridge as it descends to the west. Only the partial blade sets and blade tips of the remaining turbines tends to be revealed. The proposed turbines are distinctive and sometimes prominent features within these views, but without being visually or spatially dominant in the broad upland viewing contexts. Aesthetically, the variation in exposure of the turbines causes some ambiguity, but this is balanced by the degree of screening and the fact that the undulating profile of the development is more justifiable along the intervening rolling ridge. The visual impact magnitude ranges between Medium-low and Low for all of these viewpoints resulting in significance that ranges between Moderate and Slight depending on the corresponding sensitivity judgement. The highest significance (Moderate) was assigned to VP2 where the turbines appear in the context of broad panoramic views across the north-western arm of Lough Corrib in a slightly disjointed and cluttered fashion. It should be noted, however, that they occupy a section of landscape characterised by rugged hills and commercial forestry with turbines from the Galway Wind Park visible on the same alignment in the far distance. The landscape of the site is perceptually discrete from the closer mountains and lakes that are the main aspect of this vista.

VP10 is from a saddle in the Maum Turk Mountains traversed by the R336 as it heads north Maam Cross and unlike the other views from the Connemara Mountains quadrant of the Study Area, it affords clearer views along the western side of the ridge that hosts the site. Consequently, there is a clearer view of the proposed turbines from within a substantially naturalistic context where there are few other man-made features in sight. Nonetheless, it is a more legible view of the turbines with a better sense of how the layout responds to the topography of the site than for the other Connemara Mountain views. On balance, the significance of effect was deemed to be Substantial-moderate at VP10.

VP29 represents the only relevant scenic designation from County Mayo and the proposed turbines are seen in a similar manner to VP1 – VP4 i.e. to varying degree above the skyline ridge, but through a low saddle on the southern side of Lough Mask and at a distance of over 11km. The turbines are a small-scale background feature in this viewing context and the significance of effect is deemed to be Moderate-slight.

#### **11.4.4.2 Visual impacts from the Lough Corrib (north-eastern) quadrant**

This section of the Study Area contains 10 representative viewpoints, which include close and mid distance views from the north of the site and tend to increase in distance as they wrap around Lough Corrib to the east. Due to the scenic nature of these Lakeland views which often corresponds with scenic designations in the Galway County Development Plan, all but VP13 were deemed to be of either High or High-medium sensitivity. VP13 was judged

to be of Medium sensitivity related to contained uphill views away from the lough across a less remarkable farmed and forested context.

VP11 and VP12 are the closest of this set of views, representing receptors on the near and far side of the north-western arm of Lough Corrib in the vicinity of Doon Hill. Only the blade set of one turbine (T3) and the blade tips of two others will be visible from VP11, whilst one turbine (T3) will be substantially revealed on its own from VP12. Whilst the proposed turbines intrude on the overall visual setting of both semi-naturalistic views, they do not unduly draw from the main aspect of visual amenity being lough views. Consequently, the significance of effect is deemed Moderate in both instances. From VP13 slightly further to the east and on the nearside of the lough, the turbines are fully screened by a combination of terrain and vegetation and the significance is Imperceptible.

Viewpoints VP5 to VP9 are a sequence of views that wrap around the northern edge of Lough Corrib at increasingly greater distance from the site, but at varying heights above the lough. A clear view of one turbine and just the blade tips of four others is seen across a low peninsula and the north-western corner of the lough from VP5. Whilst there is a potential view of a greater proportion of turbines from the slightly further distant VP6, it is a view that is partly obscured by foreground vegetation and peripheral to the southerly view across the lough from this picnic area. The significance of effect is deemed to be Moderate-slight from both VP5 and VP6.

VP7 and VP8 have a similar viewing elevated context above lough shore farmland at distance approaching 10km and 12km from the site respectively. The proposed turbines will be noticeable features above the skyline ridge beyond the lough, but discrete from the immediate lough setting and the backdrop of the Connemara Mountains further to the northwest. Consequently, the significance of visual effect is deemed to be Moderate-slight in both instances. Although the viewing context is slightly different (lakeside woodland) for the more distant VP9 the same set of visual impact judgments apply.

VP14 is a distant view across Lough Corrib from a water's edge location and whilst one turbine blade is potentially visible rotating slightly ambiguously against the westerly skyline ridge the significance is only deemed to be Slight-imperceptible. A similar viewing scenario is potentially afforded from VP25, albeit with greater screening of the blade tip provided by a conifer plantation on the skyline ridge resulting in an Imperceptible significance.

#### 11.4.4.3 Visual impacts from the Connemara Coastal Bog (south-western) quadrant

Five viewpoints have been selected within this part of the Study Area, covering two distinct viewing scenarios. VP15, VP16 and VP17 are all from the N59 getting progressively closer to the site for east bound road users. Whereas the N59 hugs the base of the Connemara mountains at the northern edge of the coastal boglands, VP27 and VP28 are from within the heart of the latter landscape unit further to the southwest.

VP15, VP16 and VP17 can be considered in sequence as they represent the same receptor and have a similar viewing angle which reveals all of the proposed turbines descending the gentle west facing slopes from a modest skyline ridge to the east. The turbines tend to be seen in a clear and legible manner spaced in distinct pairs, which although not deliberate, generates a sense of order for the development. Furthermore, they are seen in the direct alignment / context of the more robust hill country landscape of conifer plantations, marginal farmland and wind turbines from the Galway Wind Park that occupies the south-eastern portions of the Study Area. Consequently, the significance of visual effects increases from Slight (VP15) to Moderate-slight (VP16) to Moderate (VP17) with closing distance to the site and as the turbines become more prominent within the given view.

VP27 and VP28 also have very similar landscape context and viewing angles with distance being the main variable. The turbines are actually more visually exposed from the furthest of these (VP28), but they are reasonably legible in both views in a context of open bog, traversed by high-voltage electricity lines and little other development. The significance of effect is Slight in both instances.

#### 11.4.4.4 Visual impacts from the Forested Hills and Turbines (south-eastern) quadrant

This quadrant of the Study Area includes seven closely spaced viewpoints (VP18 to VP24) that hug the base of the valley within which the N59 runs between Maam Cross and Oughterard and includes local community views from local roads in the immediate vicinity of the site. VP18 is the closest such view to the site and affords close clear views of the proposed turbines on the slopes above a local road that provides access to around a dozen residences. There is a clear distinction in the farmed land use of the lower slopes and the broad moorland cover of the upper slopes and many of the dwellings enjoy elevated views across/ down the valley i.e. away from the wind farm site. Given the strong visual influence of the turbines, but not an inappropriate one in this setting, the significance of visual impact is deemed to be Moderate. VP19 has a similar, but broader viewing context to VP18, being set-back further on the N59 near a small cluster of dwellings. The broader context makes for a highly legible view of well-spaced turbines and the significance is deemed to be Moderate despite the close proximity.

VP20 and VP22 are both from the N59 approaching the site from the southeast, whereas VP21 lies between them on a local road that runs along the far side of Lough Bofin that serves a modest number of local residences. All afford clear and legible views of the proposed turbines rising up the gentle eastern slopes of the valley in the near distance. Importantly, the turbines are seen as part of a robust hill country setting, discrete from the Connemara Mountains, which can also be seen further to the northwest beyond a distinct gap in upland terrain where the northern arm of Lough Corrib occurs, but is not visible. The significance of impact is deemed to be Moderate in all cases, which accounts for the High-medium sensitivity judgements of these receptors.

VP23 and VP24 both represent views from the iconic 'Quiet Man Bridge' around 4.5km to the southeast of the site – one from the bridge itself with the movie-scene backdrop (VP23, High sensitivity) and the other from the car park at the side of the local road approaching the bridge (VP24, High-medium sensitivity). The partial blade sets of three of the proposed turbines will be peripherally visible in the context of the view from the bridge and whilst they will not intersect with or obstruct the key backdrop of the Connemara Mountains, they will be an intrusion of modern structures on this nostalgic view generally. They are also clearly contained in the middle ground valley context as opposed to the distant mountain context. For these reasons, the significance of impact is deemed to be Substantial-moderate at VP23, albeit the judgement relates more to the sensitivity of the receptor than the magnitude of the visual impact. The significance is deemed to be Moderate at VP24 because it does not have the same sensitivity or specific context of VP23.

The only remaining viewpoint and sole representative of a centre of population is VP26 from Oughterard Cemetery, where there is no visibility of turbines.

#### 11.4.5 Cumulative Impacts

The cumulative scenario with regard to other existing and permitted wind farms in the Study Area is a very simple one. That is, all of the other wind farms, which consist of 78 turbines, are clustered together to form the Galway Wind Park in the outer southeastern quarter of the Study Area at distances in excess of 10km from the Tullaghmore Wind Farm site. Whilst they are contained within a similar landscape context to the Site, intervisibility is limited to 36.8% of the overall Study Area (see Cumulative ZTV Map – **Figure 11.16**). However, this is still considerably greater than the areas afforded visibility of just the proposed turbines (10% of Study Area). Exclusive visibility of the proposed turbines tends to be in patches to the northeast and southwest of the Site and also trailing along particular valleys to the northwest. By contrast, combined views of the proposed turbines with Galway Wind Park

turbines occurs throughout the Lough Corrib context in the east of the Study Area and along the valley continuing the N59 that runs between the proposed and cumulative sites. There is also considerable combined visibility from the outer area of coastal bog in the southwestern quadrant of the Study Area.

In terms of combined visibility within the photomontage set, cumulative turbines appear in the broader 90° wireframes for 9 out of the 29 views. Whilst cumulative turbines may in some instances be present at widely disparate viewing angles or even to the rear of the viewer from some of those locations, given the separation distances involved, this is not likely to result in a material cumulative impact consideration i.e. a sense of being surrounded by turbines. The proposed turbines tend to be seen in the context of the cumulative Galway Wind Park turbines within broad views across / along Lough Corrib looking west or southwest. Alternatively, they are seen in closer alignment, albeit much further away, in southerly views from the Connemara mountains. When visible together, the proposed and cumulative turbines are often seen above the same ridgeline that defines the western side of Lough Corrib, but with a substantial gap between them.

In the context of the proposed Development cumulative impacts with the Galway Wind Park turbines are considered to be Low in relation to the cumulative assessment criteria set out in **Table 11.5**. Instead, it can be considered that views of the proposed Development in conjunction with other distant turbines are favourable. This is on the basis that such views reinforce that wind energy development is a characteristic feature of the Study Area, albeit the outer southeastern portion. Also, that the proposed Development occupies a landscape that has similar topography and land cover characteristics to that southeastern landscape and less in common with the more sensitive landscapes in all other quarters of the Study Area.

Overall, cumulative impacts are not considered to be significant for the proposed Development.

## 11.5 MITIGATION MEASURES

Outside of those landscape and visual mitigation measures that formed part of the iterative design process of this Development over a number of years, and which are embedded in the assessed project, other specific landscape and visual mitigation measures are not considered necessary / likely to be effective. Thus, the impacts assessed in **Section 11.4** are the equivalent of residual impacts in this instance.

### 11.5.1 Decommissioning Phase

The decommissioning phase will see a similar nature of effects to the construction stage due to the movement of heavy machinery within the site and to and from the site removing turbine components. However, such effects will be temporary in duration and decreasing in scale as turbines are removed from view and the landscape is substantially reinstated to former uses. As with construction stage impacts, decommissioning stage effects are not considered to be significant.

## 11.6 SUMMARY OF SIGNIFICANT EFFECTS

It is not considered that there will be any significant effects arising from the proposed Tullaghmore Wind Farm.

## 11.7 STATEMENT OF SIGNIFICANCE

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

## 11.8 REFERENCES

1. Environmental Protection Agency (EPA) publication 'Guidelines on the Information to be contained in Environmental Impact Statements (2018) and the accompanying Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (2018).
2. Department of Environment Heritage and Local Government (DoEHLG) Wind Energy Planning Guidelines (2006/2019 revision) and Preferred Draft Approach to revising the 2006 Guidance published 2017.
3. Landscape Institute and the Institute of Environmental Management and Assessment publication entitled Guidelines for Landscape and Visual Impact Assessment (2013).
4. Scottish Natural Heritage (SNH) Guidance Note: 'Assessing the cumulative impact of onshore wind energy developments' (2012).
5. Scottish Natural Heritage (SNH) Siting and Designing Wind Farms in the Landscape Version 3 (2017).