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## 15.0 LANDSCAPE AND VISUAL IMPACT ASSESSMENT

### 15.1 INTRODUCTION

This chapter describes the landscape context of the proposed Oweninny Wind Farm Phase 3 project and assesses the likely landscape and visual effects of the scheme on the receiving environment. Although closely linked, landscape and visual effects are assessed separately.

**Landscape Impact Assessment (LIA)** relates to assessing effects on the landscape as a resource in its own right and is concerned with how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive 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 effects may occur from; Visual Obstruction (blocking of a view, be it full, partial or intermittent) or; Visual Intrusion (interruption of a view without blocking).

**Cumulative landscape and visual impact assessment** is concerned with additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments, or actions that occurred in the past, present or are likely to occur in the foreseeable future.

This landscape and visual impact assessment is based on:

- Landscape Institute and the Institute of Environmental Management and Assessment publication entitled Guidelines for Landscape and Visual Impact Assessment – Third Edition (2013).
- Department of the Environment, Heritage and Local Government Wind Energy Development Guidelines (2006).
- Scottish Natural Heritage (SNH) Assessing the Cumulative Impact of Onshore Wind Energy Developments (2012).

Visualisations and mapping supporting the Landscape and Visual Impact Assessment are prepared in accordance with:

- Scottish Natural Heritage (SNH) Visual representation of wind farms: Best Practice Guidelines (2014).

### ***15.1.1 Statement of Authority***

This Landscape and Visual Impact Assessment report was prepared by Richard Barker (BA Env. PGDip Forestry. MLA. MILI) – Principal Landscape Architect at Macro Works who has personally completed the visual impact assessment of over 120 on-shore wind farms in Ireland, including more than 10 Strategic Infrastructure Development (SID) projects.

### ***15.1.2 Description of the Proposed Development***

The proposed development consists of 18 no. wind turbines with a hub height of 121m, a rotor diameter of 158m and an overall tip height of 200m. It includes a 110kV substation along with ancillary access tracks and hard standings. The site is located at the northern end of the Bellacorrick Basin.

A full description of the proposed development is provided in Chapter 1 – *Introduction* and a detailed description of the project elements is provided in Chapter 3 – *Description of the Proposed Development*. Alternatives considered can be found in Chapter 4.

### ***15.1.3 Definition of Study Area***

The Wind Energy Development Guidelines published by the Department of the Environment, Heritage and Local Government (2006) specify different radii for examining the Zone of Theoretical Visibility of proposed wind farm projects (“ZTV”). The extent of this study 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 in order to incorporate features of national or international renown.

In the case of this project, the proposed blade tips are 200m-tip height and, thus, the minimum ZTV radius required is 20km from the outermost turbines of the scheme. In this instance, the full extent of the study area is contained within County Mayo. It should also be noted that when referenced, the ‘central study area’ pertains to an area within approx. 5km of the site.

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## 15.2 METHODOLOGY

Production of this Landscape and Visual Impact Assessment involved desktop studies and fieldwork comprising professional evaluation by qualified and experienced Landscape Architects. It was informed by the following relevant guidelines;

- Wind Energy Development Guidelines for Planning Authorities (Department of the Environment, Heritage and Local Government, 2006) (and Draft Guidelines 2019)
- Guidelines for Landscape and Visual Impact Assessment (The Landscape Institute/Institute of Environmental Management and Assessment, UK, 2013)
- Visual Assessment of Wind Farms: Best Practice (Scottish Natural Heritage, 2002).
- Visual Representation of Wind Farms: Version 2.2 (Scottish Natural Heritage, 2017).
- Assessing the Cumulative Impact of Onshore Wind Energy Developments. Scottish Natural Heritage, 2012)
- Photography and photomontage in landscape and visual impact assessment Landscape Institute Advice Note 01/11, 2011)
- EPA Guidelines on the information to be contained on Environmental Impact Statements (EPA 2022)
- EPA Advice Notes on Current Practice in the preparation of Environmental Impact Statements (EPA, 2003).

### *15.2.1 Desktop Study*

The desktop study comprised the following:

- Establishing an appropriate Study Area from which to study the landscape and visual effects of the proposed wind farm;
- Review of a Zone of Theoretical Visibility (ZTV) map, which indicates areas from which the development is potentially visible in relation to terrain within the Study Area;
- Review of relevant County Development Plans, particularly with regard to 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;
- Preparation of an initial VRP selection map for consultation purposes (Planning Authority).

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### *15.2.2 Fieldwork*

Site visits were carried out at various times in 2020 (06/11 and 09/09), 2021 (26/3) and 2022 (23/03) in order to:

- Select a refined set of VRP's for assessment.
- Record a description of the landscape elements and characteristics within the Study Area generally and also within view from each VRP.
- Capture high quality base photography from which to prepare photomontages of the proposal.

### *15.2.3 Assessment*

The assessment of landscape and visual effects involves a description of the geographic location and landscape context of the proposed wind farm site as well as a general landscape description concerning essential landscape character and salient features of the wider Study Area. This is discussed with respect to: landform and drainage; vegetation and land use; centres of population and houses; transport routes and; public amenities and facilities. Consideration of design guidance, the planning policy context and relevant landscape designations are also considered.

Once the baseline environment was established, an assessment of the likely potential significant effects associated with the proposed development was carried out. This included the following:

- Appraisal of salient landscape character.
- Appraisal of predicted landscape effects.
- Appraisal of predicted visual effects using standard ZTV maps as well as photomontages prepared from selected VRP locations.
- Appraisal of predicted cumulative effects using cumulative ZTV maps and cumulative photomontages.
- Discussion of mitigation measures.
- Assessment of residual effects following mitigation.

For some wind farms, Route Screening Analysis (RSA) is undertaken, and this generally covers visibility from roads (and to some degree the houses that line them) within 5km of the site. It is particularly useful for understanding the degree of visual screening provided by intervening vegetation that is not accounted for in the ZTV maps. Route Screening Analysis has not been undertaken in this instance because there are few public roads within 5km of the site and a sparsity of tall screening vegetation in that same area.

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#### *15.2.4 Assessment Criteria for Landscape Effects*

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

- Landscape character, value and sensitivity;
- Magnitude of likely effects; and
- 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 15.1: 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 effect is a product of the scale, extent or degree of change that is likely to be experienced as a result of the proposed development. The magnitude takes into account whether there is a direct physical effect resulting from the loss of landscape components and/or a change that extends beyond the proposal site boundary that may have an effect on the landscape character of the area.

*Table 15.2: Magnitude of Landscape Effects*

Magnitude of Effect	Description
Very High	Change that would be large in extent and scale with the loss of critically important landscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that contribute to an overall 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 an overall 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 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.
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.

The significance of a landscape effect is based on a balance between the sensitivity of the landscape receptor and the magnitude of the effect. The significance of landscape effects is arrived at using the Significance Matrix (Table 13.3).

*Table 15.3: Landscape / Visual Effect Significance Graph*

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

*\* In accordance with Section 3.34 of the Guidelines for Landscape and Visual Impact Assessment<sup>1</sup>, effects of 'Substantial' and above are considered to equate with 'significant' effects in EIA terms.*

### ***15.2.5 Assessment Criteria for Visual Effects***

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

#### ***15.2.5.1 Visual Sensitivity***

Unlike landscape sensitivity, visual sensitivity is population based. 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.

#### ***15.2.5.2 Susceptibility of Receptors***

In accordance with the Guidelines for Landscape and Visual Impact Assessment (2013), visual receptors most susceptible to changes in views and visual amenity are:

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<sup>1</sup> Landscape Institute and Institute of Environmental Management & Assessment (2013). Guidelines for Landscape and Visual Impact Assessment (GLVIA). 3rd Edition. Routledge.



- Residents at home;
- People, whether residents or visitors, who are engaged in outdoor recreation, including use of public rights of way, whose attention or interest is likely to be focussed on the landscape and on particular views;
- Visitors to heritage assets, or to other attractions, where views of the surroundings are an important contributor to the experience;
- Communities where views contribute to the landscape setting enjoyed by residents in the area; and
- Travellers on road, rail or other transport routes where such travel involves recognised scenic routes and awareness of views is likely to be heightened.

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

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

### ***15.2.5.3 Value of Views***

To assess the amenity value of views, Macro Works use a range of criteria that might typically be related to high amenity value including, but not limited to, scenic designations. These are set out below:

**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;

- **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; and
- **Sense of awe.** This criterion considers whether the view inspires an overwhelming sense of scale or the power of nature.

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

#### ***15.2.5.4 Visual Effect 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 be obtained 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 often expressed as such i.e. minimal, sub-dominant, co-dominant, dominant and highly dominant.

For wind energy developments, a strong visual presence is not necessarily synonymous with adverse effect. Instead, the 2012 Fáilte Ireland survey entitled ‘Visitor Attitudes On The Environment – Wind Farms’ found that *“Compared with other types of development in the Irish landscape, wind farms 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 wind farm had a positive impact on their enjoyment of sightseeing...”*. Furthermore, a clear and comprehensive view of a wind farm might be preferable in many instances to a partial or cluttered view of turbine components that are not so prominent within a view. On the basis of these reasons, the visual amenity aspect of assessing effect 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 effects result almost entirely from visual ‘intrusion’ rather than visual ‘obstruction’ (the blocking of a view). The magnitude of visual effects is classified in Table 13.4, below:

*Table 15.4: Magnitude of Visual Effect*

Criteria	Description
Very High	The proposal obstructs or intrudes into a large proportion or critical part of the available vista and is without question the most noticeable element. An

	extensive degree of visual change will occur within the scene completely altering its character, composition and associated visual amenity
High	The proposal obstructs or intrudes into a significant proportion or important part of the available vista and is one of the most noticeable elements. A considerable degree of visual change will occur within the scene substantially altering its character, composition and associated visual amenity
Medium	The proposal represents a moderate intrusion into the available vista and is a readily noticeable element. A noticeable degree of visual change will occur within the scene perceptibly altering its character, composition and associated visual amenity
Low	The proposal intrudes to a minor extent into the available vista and may not be noticed by a casual observer and/or the proposal would not have a marked effect on the visual amenity of the scene
Negligible	The proposal would be barely discernible within the available vista and/or it would not influence the visual amenity of the scene

**15.2.5.5 Visual Effect Significance**

As stated above, the significance of visual effects is a function of visual receptor sensitivity and visual effect magnitude. This relationship is expressed in the same significance matrix as for Landscape Effects provided at Table 15.4 above.

**15.2.5.6 Quality and Timescale of Effects**

In addition to assessing the significance of landscape effects and visual effects, EPA Guidance for EIAs requires that the quality of the effects is also determined. This could be negative/adverse, neutral, or positive/beneficial. In the case of new energy / infrastructure developments within rural and semi-rural settings, the landscape and visual change brought about by an increased scale and intensity of built form is seldom considered to be positive / beneficial.

Landscape and Visual effects are also categorised according to their duration:

- Temporary – Lasting for one year or less;

- Short Term – Lasting one to seven years;
- Medium Term – Lasting seven to fifteen years;
- Long Term – Lasting fifteen years to sixty years; and
- Permanent – Lasting over sixty years.

### ***15.2.6 Assessment Criteria for Cumulative Effects***

The Scottish Natural Heritage (SNH) Guidelines 'Assessing the Cumulative Impact of Onshore Wind Energy Developments' (2012) identify that cumulative effects on visual amenity relate to 'combined' or 'sequential' visibility. 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 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 effects 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 effects 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 15.5 below provides criteria for assessing the magnitude of cumulative effects.

*Table 15.5: Magnitude of Cumulative Effect Criteria*

Magnitude of Effect	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>

<p>Low</p>	<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 or perceived as an extension to another development.</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>
<p>Negligible</p>	<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>

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## 15.3 EXISTING ENVIRONMENT

### *15.3.1 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 general description of the landscape context of the proposed wind farm site and wider study area is provided below. Additional descriptions of the landscape as viewed from each of the selected viewpoints are provided within Appendix 15.1

### *15.3.2 Landform and Drainage*

The proposed site is located within the central portion of the Bellacorick Basin, which is a vast, predominantly flat, peatland area. The study area encompasses the entirety of the natural extents of the Basin, which are defined by the upland spine known as the Nephin Beg range to the north, west and south. The range wraps around the site throughout the northern, western and southern quarters and divides the inland bog context from coastal context of the study area in these directions.

To the northwest, west and southwest, the landscape transitions down the western faces of the Nephin range towards gently sloping coastal bogs, with frequent small waterways and smooth, sloping topography. This area is defined by the relationship between the upland areas and the complex coastline (outside of the study area), with topography and waterways leading away from the site. The same is true to the south, however the upland areas through this section of the Nephin range are more dramatic and feature steeper topography with a high frequency of Loughs.

To the north and northeast, the Nephin range creates a relatively short and steep descent to the coastline at the northern extent of the study area, in the form of a brief coastal plateau that culminates as sea cliffs for much of this coastline. To the east of the Bellacorick basin a rolling landscape of drumlin hills emerges, focusing around the coastline of Killala Bay and the path of the River Moy from Lough Conn, which is located at the south-eastern extent of the study area, outside of the main basin landscape, but a key feature of the wider inland area.



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The principal watercourses within the study area are the Owenmore and Ballinglen Rivers (and the River Moy) which drain via steeply incised valleys from the Bellacorick basin through the upland spine to the western and northern coasts respectively. Other smaller watercourses within the immediate context of the site include the Cloonaghmore River, the River Muing and the River Shanvolahan. Carrowmore Lake is an extensive water body just to the northwest of the Owenmore River Valley on the periphery of the study area. There is also a series of small lakes which are contained within the Knockmoyle Nature Reserve to the north and the larger and more distinctive Lough Dahybaun, which is overlooked by the N59, occurs near the south-eastern periphery of the site.

### *15.3.3 Land Use and Land Cover*

The predominant land cover within the central portions of the study area is peat bog, the vast majority of which was harvested commercially for power generation at the former Bellacorick peat fired power station. The Oweninny Bog also hosts the oldest and smallest (turbine height) wind farms in the Country (Bellacorick Wind Farm) as well as one of the newest and largest, being the Oweninny Wind Farm Phase 1 soon to be followed by Oweninny Phase 2 (under construction). Thus, wind energy development has become one of the defining features of the central study area in recent decades.

There are also large tracts of commercial conifer plantation within and around the bog particularly within the lower slopes of the Nephin range to the west. This represents the majority of tree cover in this otherwise open landscape. There are pockets of agricultural farmland on transitional elevated ground and also around lakes and rivers. This is a relatively sparsely populated area with occasional farmsteads and rural dwellings dotted throughout the periphery of the bog, but no area of continuous urban landcover.

### *15.3.4 Landscape Policy Context and Designations*

#### *15.3.4.1 Wind Energy Development Guidelines (2006 & 2019 Draft Revised) - Department of Environment Heritage and Local Government*

The Wind Energy Development Guidelines (2006) are the relevant guidance to consider in respect of the proposed development. However, in December 2019 the Department of Housing, Planning and Local Government issued the Draft Revised Wind Energy Development Guidelines. Following consultation and review, these draft revised guidelines intend to supersede the current 2006 Wind Energy Development Guidelines, once fully adopted. With

regards to LVIA, the most notable difference between the Draft Revised Wind Energy Development Guidelines (2019) and the current 2006 Wind Energy Development Guidelines pertains to that of 'setback,' as the 'setback' established in the current 2006 Wind Energy Development Guidelines is 500m. In nearly all other respects the landscape and visual related sections of the draft revised guidelines remain unaltered from the current guidelines.

### 'Setback'

Section 6.18 of the 2019 Draft Revised Guidelines refers to "siting in relation to individual properties," which is colloquially known as "setback." The only SPPR (Specific Planning Policy Requirement) that applies to "setback" in the revised Guidelines is:

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

The layout of the proposed development is in compliance with the setback requirements of the 2006 Guidelines and the 2019 Draft Revised Guidelines, as there are no residential dwellings located within 500m or 4 x tip height (800 m) of the proposed turbines.

The Wind Energy Development Guidelines (2006) provide guidance on wind farm siting and design criteria for a number of different landscape types. These are currently replicated in the Draft Revised Guidelines 2019. The site of the proposed development is considered to be located within a landscape that is wholly consistent with the 'Flat Peatland' landscape type and the associated guidance is applicable.

In terms of the 'Location' guidance for this landscape type, the guidelines state:

*“Wind energy developments can be placed almost anywhere in these landscapes from an aesthetic point of view. They are probably best located away from roadsides allowing a reasonable sense of separation. However, the possibility of driving through a wind energy development closely straddling a road could prove an exciting experience.”*

In terms of ‘Spatial Extent,’ the Guidelines state:

*“The vast scale of this landscape type allows for a correspondingly large spatial extent for wind energy developments.”*

In terms of ‘Spacing,’ the Guidelines state:

*“Regular spacing is generally preferred, especially in areas of mechanically harvested peat ridges”*

In terms of ‘layout,’ the Guidelines state:

*“In open expanses, a wind energy development layout with depth, preferably comprising a grid, is more appropriate than a simple linear layout. However, where a wind energy development is located close to feature such as a river, road or escarpment, a linear or staggered linear layout would also be appropriate”*

In terms of ‘height,’ the Guidelines state:

*“Aesthetically, tall turbines would be most appropriate. In any case, in terms of viability they are likely to be necessary given the relatively low wind speeds available. An even profile would be preferred.”*

Lastly, for ‘Cumulative effect’ for this landscape type, the Guidelines state:

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

It is considered that the proposed development design is in general accordance with the guidance for the relevant landscape type and does not conflict with it. In relation to cumulative

impacts, the proposed development is closely associated with both the Oweninny Phase I and Phase II developments and together they are likely to be perceived as a single large development once constructed. Thus, the statement - “more than one wind energy development might be acceptable in the distant background provided it was only faintly visible under normal atmospheric conditions”, is not strictly applicable.

#### 15.3.4.2 Mayo County Development Plan (CDP) 2022 – 2028

The recently adopted Mayo County Development Plan features a Landscape Appraisal that has been carried through unaltered from previous development plan iterations.

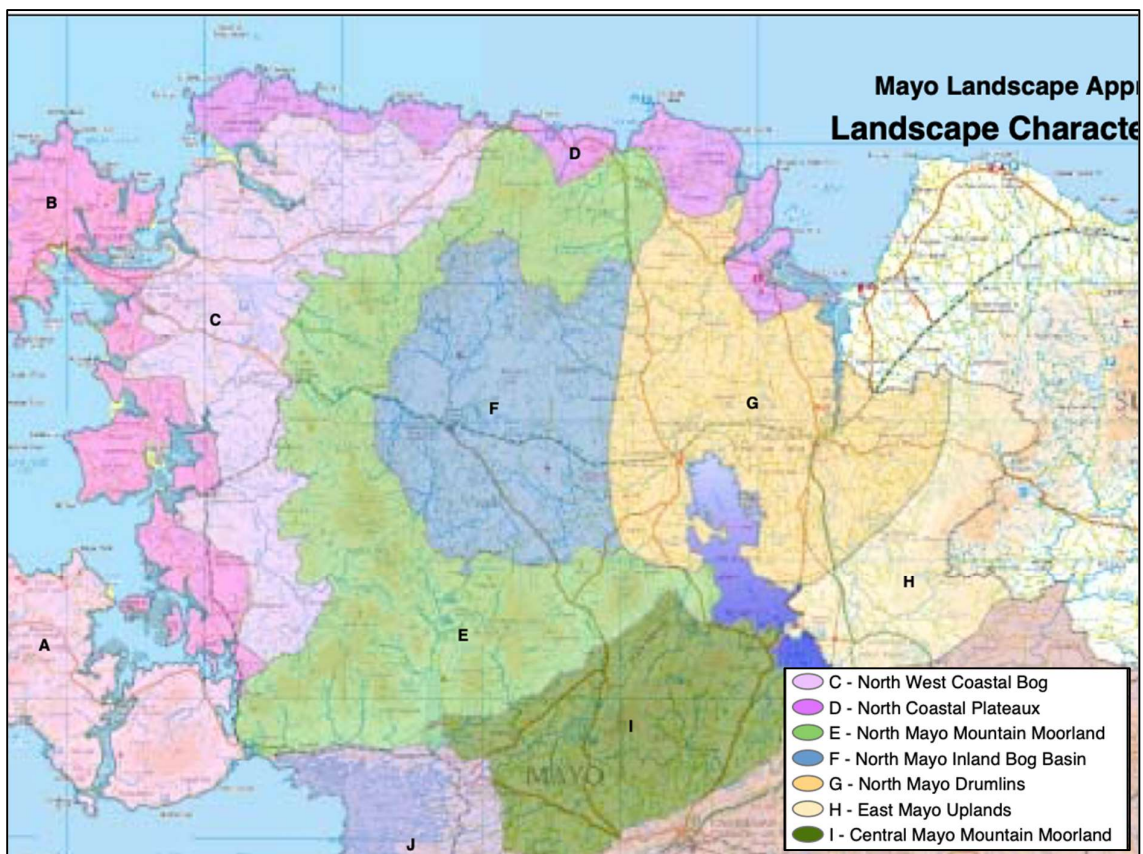
The landscape appraisal identifies that the site is located within Area F: North Mayo Inland Bog Basin and described as a “*large bog area of some 300 square kilometres surrounded to the north, west and south by mountains giving it the appearance of a lowland basin.....It is an exposed plain with little settled agriculture or other human activity, covered predominantly by bog grass types. It does, however, include intermittent areas of production forestry, and north of the N59 much of the bog has been cut away to fuel the visually prominent Bellacorrick power station. Wind farms also occupy the northern vista*”

Critical landscape factors of this character unit are smooth terrain and low vegetation, with the development considerations associated with these being “*In such terrain, distances can appear shorter and development closer or larger. As a result, development can have a disproportionate visual impact in such terrain, due to an inherent inability to be absorbed, physically or visually.*” and “*Grassland vegetation is generally uniform in appearance, failing to break up vistas, and allowing long distance visibility. It is this inability to absorb development that identifies low vegetation as a critical landscape factor.*”

Within the study area, there are multiple other character units, layering outwards from the site and Area F, which acts as something as a hub for the others.

- Unit E: North Mayo Mountain Moorland forms a crescent around the north, west and south of area F and the site, with the critical landscape factors of steep slopes, prominent ridgelines, smooth terrain and low vegetation.
- Area C: North-West Coastal Bog layers over the outside of Area E and the eastern border of the study area, with the critical landscape factors of smooth terrain and low vegetation.

- To the north, Area C and the very northern extent of the landform around the coast are defined by Area D: North Coast Plateaux, with the critical landscape factors of elevated coastal vistas, smooth terrain and low vegetation.
- The inland, eastern edge of the study area overlays Area G: North Mayo Drumlins, with the critical landscape factors of undulating topography, shelter vegetation, prominent ridgelines, and localised lake vistas
- To the far south of the study area, there is a small section of Area I: Central Mayo Mountain Moorland, separated from the site by the Nephin Beg Range and defined by the critical landscape factors of steep slopes, prominent ridgelines, smooth terrain, and low vegetation.



*Figure 15.6: Landscape Character Units Relative to the Site (derived from Mayo Landscape Appraisal)*

The following sections of the landscape appraisal are used to define landscape protection policy areas and a sensitivity matrix. This is integral to Chapter 4 of the CDP, which outlines the Environment, Heritage & Amenity Strategy. The below 'Landscape Protection Policy Areas' map

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is used to assess the development impact of different development types in conjunction with the Landscape Sensitivity Matrix.

***Landscape Policy:***

**NEP 14** - To protect, enhance and contribute to the physical, visual and scenic character of County Mayo and to preserve its unique landscape character.

***Landscape Objectives***

**NEO 25** - To consider applications for development, along Mayo's Scenic routes, that can demonstrate a clear need to locate in the area concerned, whilst ensuring that it:

- Does not impinge in any significant way on the character, integrity and distinctiveness of the area.
- Meets high standards in siting and design.
- Contributes to and enhances local landscape character.
- Satisfies all other criteria, with regard to, inter alia, servicing, public safety and environmental considerations.

Rural housing applications along Scenic Routes must comply with the requirements set out in Objective RHO 3 (Mayo County Development Plan; Chapter 3 - Housing).

**EO 26** - To consider applications for development, within Mayo's Coastal Areas and Lakeshores and within areas along scenic routes with designated scenic views, that can demonstrate a long-standing social link to the area concerned, whilst ensuring that it:

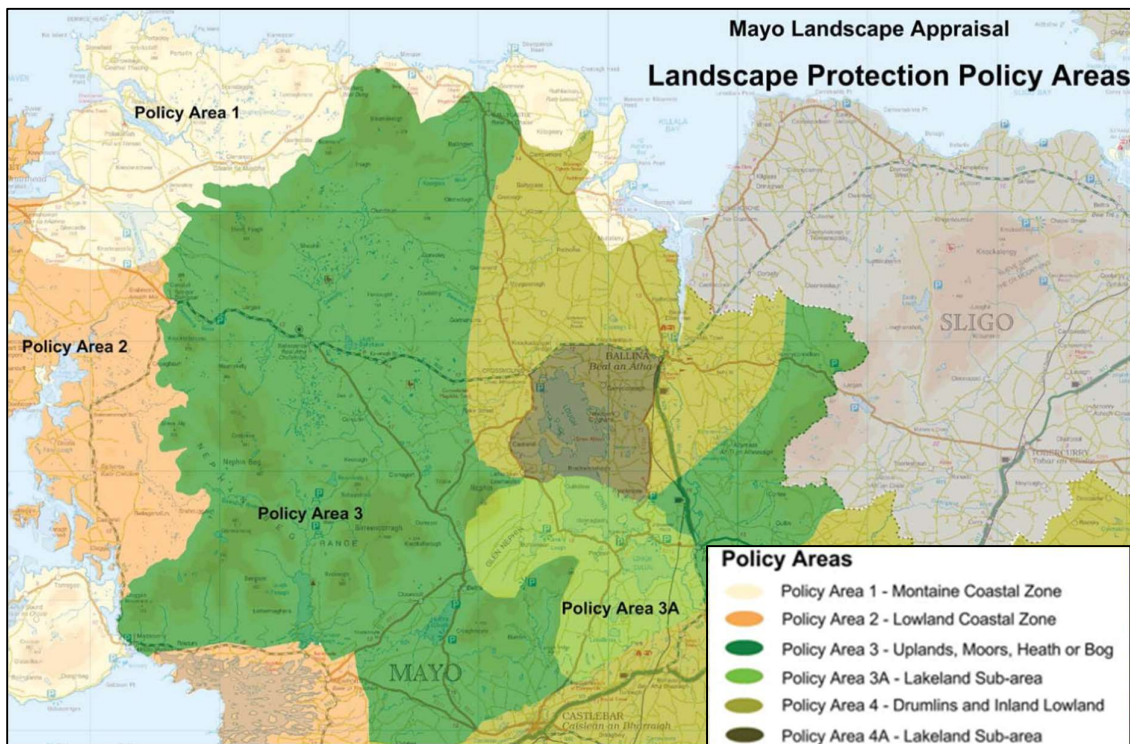
- Does not impinge in any significant way on the character, integrity and distinctiveness of the area.
- Cannot be considered at an alternative location.
- Meets high standards in siting and design.
- Contributes to and enhances local landscape character.
- Satisfies all other criteria, with regard to, inter alia, servicing, public safety and environmental considerations.

Rural housing applications along Coastal Areas and Lakeshores must comply with the requirements set out in Objective RHO 4 (Mayo County Development Plan; Chapter 3 - Housing).

**NEO 27** - To ensure all development proposals are consistent with the Landscape Appraisal of County Mayo and the associated Landscape Sensitivity Matrix and future editions thereof.

**NEO 28** - To review the Landscape Appraisal for Mayo and update this plan, as appropriate, following publication of the statutory guidelines for Planning Authorities on Local Landscape Character Assessments, as detailed in the National Landscape Strategy 2015-2025 and ensure consistency with the provisions of RPO 4.16 and RPO 5.2(b) of the RSES, 2020-2032.

**NEO 29** - Require a Landscape/Visual Impact Assessment to accompany significant proposals, located within or adjacent to sensitive landscapes, where appropriate.



*Figure 15.1: Map 3A Landscape Protection Policy Areas relative to the site derived from Mayo Landscape Appraisal*

Development Impact - Landscape Sensitivity Matrix								
	Wind farms	Power lines	Quarrying/ Extraction	Forestry	Commun- -ication Masts	Industrial/ Commercial	Rural Dwellings	Road Projects
Policy Area 1	Red	Red	Yellow	Yellow	Red	Green	Green	Green
Policy Area 2	Red	Red	Yellow	Yellow	Red	Green	Green	Green
Policy Area 3	Red	Red	Red	Red	Yellow	Yellow	Green	Green
Policy Area 4	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green

**Key**

- = High potential to create adverse impacts on the existing landscape character. Having regard to the intrinsic physical and visual characteristics of the landscape area, it is unlikely that such impacts can be reduced to a widely acceptable level.
- = Medium potential to create adverse impacts on the existing landscape character. Such developments are likely to be clearly discernible and distinctive, however with careful siting and good design, the significance and extent of impacts can be minimised to an acceptable level.
- = Low potential to create adverse impacts on the existing landscape character. Such development is likely to be widely conceived as normal and appropriate unless siting and design are poor.

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Figure 15.2: Landscape Sensitivity Matrix (derived from Mayo Landscape Appraisal)

The site is located within Landscape Policy Area 3 – Uplands, moors, heath or bogs, with the description of “*distinctive and vast areas of the County form a single policy unit due to the similar visual characteristics of smooth topography, limited shelter vegetation, often steep slopes and prominent ridge lines, rendering this policy unit similar suitability to absorb development*”

The wider study area also overlays parts of other landscape protection policy areas:

- Policy Area 1: Montaine Coastal Zone
- Policy Area 2: Lowland Coastal Zone
- Policy Area 3A – Lakeland Sub-policy Area
- Policy Area 4: Drumlins and Inland Lowlands
- Policy Area 4A – Lakeland Sub-policy Area

As can be seen above, Policy Areas 1, 2 and 3 experience a ‘high potential to create adverse impacts on the existing landscape character’ where ‘it is unlikely that such impacts can be reduced to a widely acceptable level’. Policy area 4 is located between high/medium and

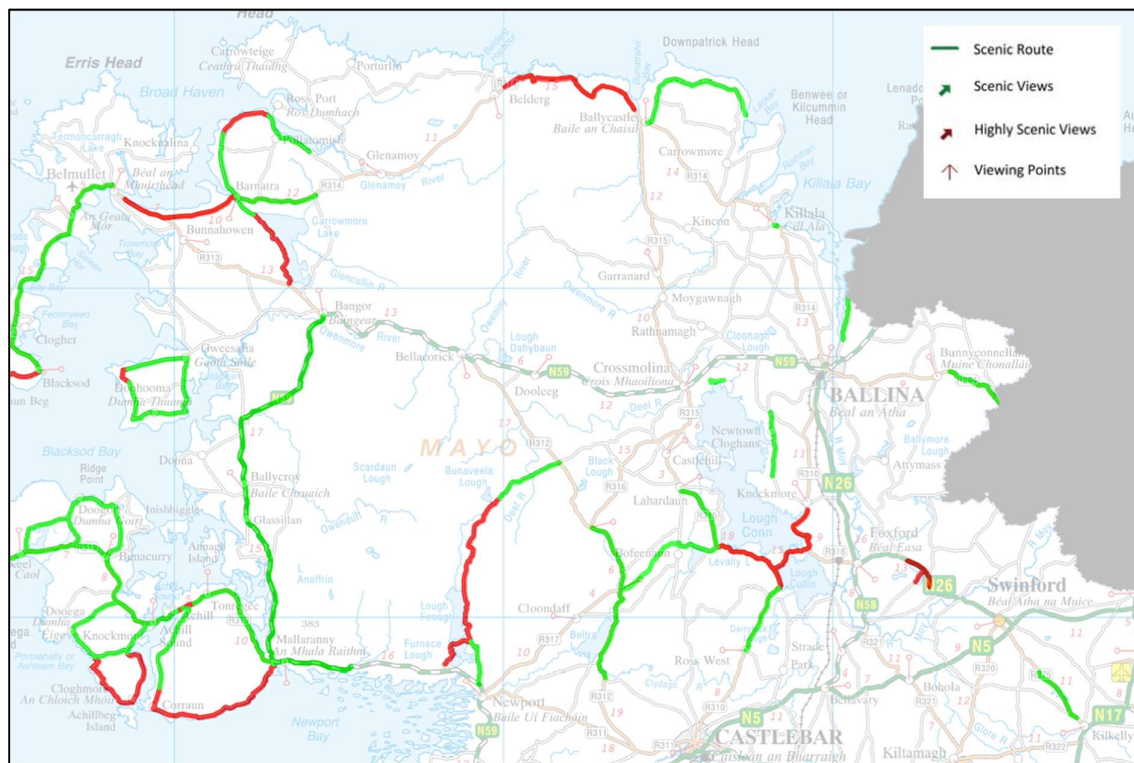


medium. The site is not located within this character area, however, this is representative of the wider landscape context.

**Scenic Designations**

Views and Prospects are identified on the following map, and the below policy applies as listed in Chapter 4. Environment, Heritage & Amenity Strategy of the Written Statement:

**VP-01** *It is an objective of the Council to ensure that development does not adversely interfere with views and prospects worthy of preservation and protection as outlined on Map 4, or on the views to and from places and features of natural beauty or interest (e.g. coastline, lakeshores, protected structures, important historic sites) when viewed from the public realm.*



*Figure 15.3: Map 10.2 Scenic Routes and Scenic Routes with Designated Views (derived from Mayo County Development Plan 2022 – 2028, Volume 1 Written Statement)*

As can be seen from Figure 15.4, there are a number of designated scenic views and routes within the study area, but only one scenic route within the context of the Bellacorrick basin to the south of the site. It should be noted that a section of scenic route that followed the R312 from the Keenagh Road up to its intersection with the N59 in previous County Development Plans has been removed in the latest County Development Plan.

***Wind Energy Policy – Mayo Renewable Energy Strategy 2011 - 2020***

Within this study area, the site is generally zoned Tier 1 – Preferred (Large Wind Farms), or Tier 2 – Open for Consideration in the County Mayo Wind Energy Strategy. Areas which are marked as higher sensitivity (and therefore not zoned for windfarm development) are the shorelines of the lakes, coastline, and skylines in upland areas. The different classifications of the wind energy strategy are defined below, as per Section 6.4.1 of the wind energy strategy:

***“6.4.1 Wind Energy - On-shore wind energy Map 1 Wind Energy classifies potential areas for on-shore wind energy development. There are 4 classifications identified:***

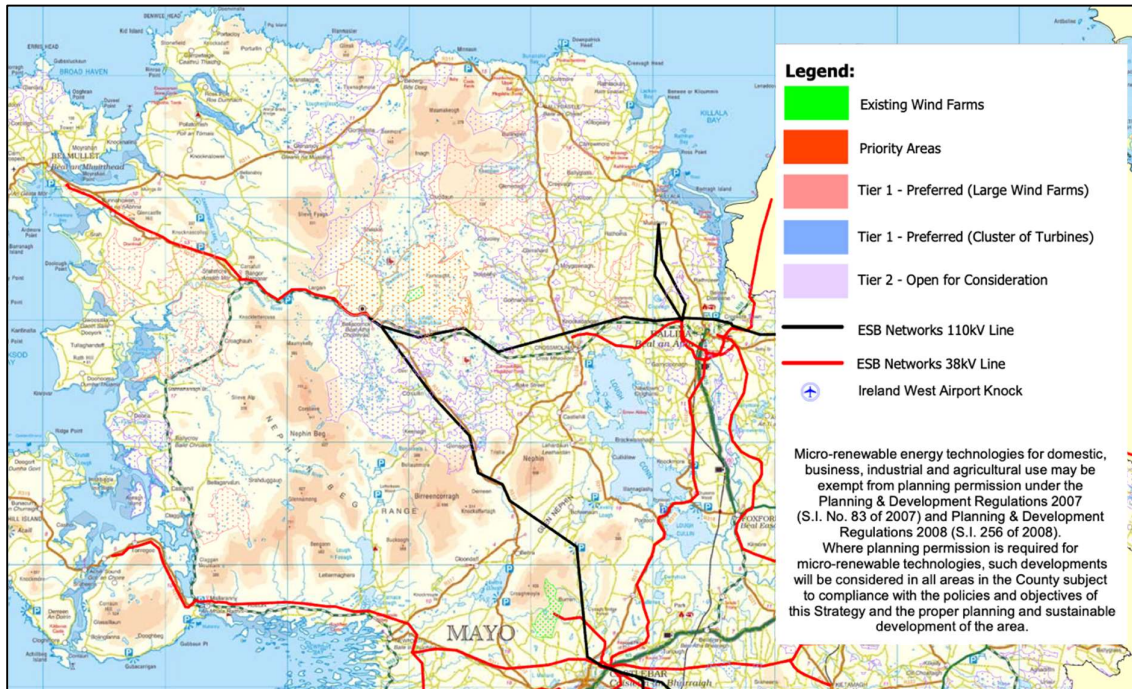
- *Priority Areas are areas which have secured planning permission and where on shore wind farms can be developed immediately.*
- *Tier 1 - Preferred (Large Wind Farms) are areas in which the potential for large wind farms is greatest.*
- *Tier 1 - Preferred (Cluster of Turbines) are areas identified as being most suitable for smaller clusters of wind turbines (clusters of up to three to five turbines depending on site conditions and visual amenity).*
- *Tier2 - Open for Consideration identifies areas which may be considered for windfarms or small clusters of wind turbines but where the visual impact on sensitive or vulnerable landscapes, listed highly scenic routes, scenic routes, scenic viewing points and scenic routes will be the principal consideration. The Tier 2 classification will be reviewed by the Council following a determination by EirGrid of grid infrastructure for the County.*

*Any proposals for on-shore wind farm developments will be determined in accordance with the Wind Energy Development Guidelines (DoEHLG) 2006 or any subsequent guidelines and the requirements set out in Section 6.5*

Section 6.5 of the WES ‘Environmental Considerations and SEA Mitigation Measures’ outlines considerations relating to the receiving landscape of Mayo:

***“6.5.14 Landscape*** *Renewable energy developments shall avoid sensitive and vulnerable landscapes, listed highly scenic views, scenic views, scenic viewing points and scenic routes where detailed visual analysis demonstrates that the development will have an adverse effect on those landscapes.*

*Renewable energy developments shall be sited and designed to minimise the visual amenity of the surrounding area.”*



*Figure 15.5: Map 1 – Wind Energy relative to the Site (derived from Renewable Energy Strategy for Co. Mayo 2011–2020)*

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### ***15.3.4.3 National Parks & Wildlife Service (NPWS)***

Ecological designations such as Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs) are relevant to the landscape and visual assessment as they can identify areas that are likely to exhibit naturalistic character and low levels of built development. They also highlight areas to which landscape conservation values are attached and they are commonly associated with outdoor amenity facilities where people go to enjoy the landscape setting.

There are multiple NPWS designations listed within the overall study area. However, within the central study area, the prevalent designations (in size and proximity) are as follows: the Bellacorick Bog Complex SAC (Site code 001922). This is located the closest to the site of the proposed development, within 500m east from a number of proposed turbines. More than 5.5km west/south of the nearest proposed turbine, the Owenduff/Nephin Complex SAC (Site code 000534) is located. To the north of this is the Carrowmore Lake Complex SAC (site code: 000476). The study area also overlay the Slieve Fyagh Bog SAC to the northwest (Site code 000542), the Glenamoy Bog Complex SAC which covers much of the wider northern study area (Site code 000500), the Killala Bay/Moy Estuary SAC (site code: 000458) is located to the east, and runs south to meet the River Moy SAC (site code 002298) which is distributed across much of the east and southeast of the study area, following waterways connected to the river and Lough Conn. Smaller SACs, throughout the study area are the Lough Dahybaun SAC, located to the immediate south of the site, Bellacorick Iron Flush SAC, located to the north of the site.

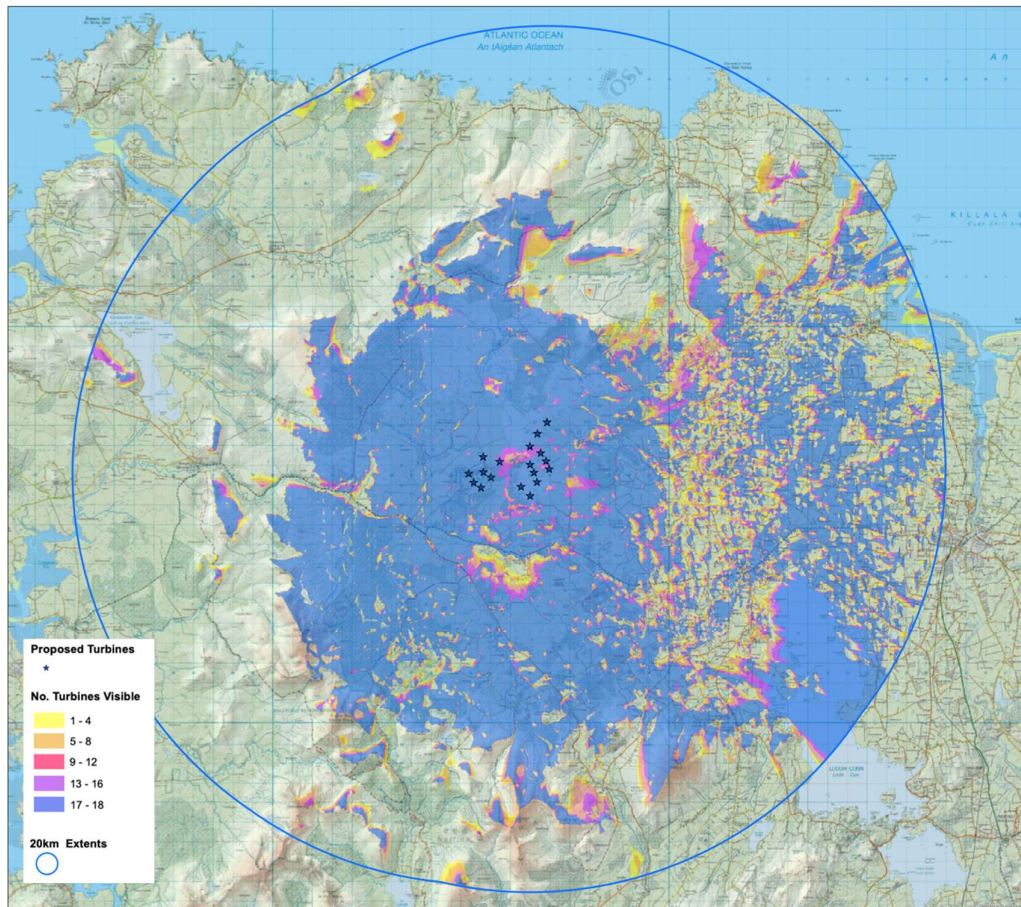
## **15.4 VISUAL BASELINE**

The visual baseline for this wind farm proposal establishes both the nature of visibility within the study area and the important receptor locations from which the development might be viewed.

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

Only those parts of the study area that potentially afford views of the proposed wind farm are of interest to this part of the assessment. Therefore, the first part of the visual baseline is establishing a 'Zone of Theoretical Visibility' (ZTV). A 'Zone of Theoretical Visibility' ZTV map is a computer-generated resource used to identify the 'theoretical' extent and degree of visibility of turbines. This is a theoretical exercise because it is based on topography alone and does not allow for intermittent screening provided by, for example, hedgerows, forests or buildings. Thus,

the ZTV map represents a ‘worst-case-scenario’ with respect to visual exposure. For the purposes of this project, a radius of 20km (i.e. the study area) was used for the ZTV.



*Fig. 15.6: Extract ZTV map for Oweninny Wind Farm Phase 3 (See Appendix 15.3 for full scale annotated ZTV maps generated from hub height and blade tip)*

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

- There are two main zones of visibility characteristics over the study area, each relating to a contrasting landscape type. The first is through the central study area, which features a high degree of full (17-18 turbines) visibility. The extent of this generally correlates with the upland areas surrounding the open, level basin, and results in a semi-circular area extending 10km out from the centre of study area to the north, west, and south.
- The second large visibility zone is to the east of the study area, where there is a large area of rippled, variable visibility over the rolling drumlin landscapes as described in the landform section. This extends across to the far eastern periphery of the study area, in radial patterns aligned to the east from the site. This includes the River Moy and Lough Conn, which represents a large area of full visibility due to its level surface.

- More nuanced areas through the study area which are not consistent with the above areas are confined to the periphery of the study area, in response to the specifics of topography. To the west, there is one area of breakthrough visibility over the upland areas of Carrafull and Knocklettercuss, either side of Bangor Erris. Each of these peaks feature visibility, however the valley between them featuring the N59 and Owenmore River from within the Bellacorick Basin does not afford views.
- Further to the west, the western shores of Carrowmore Lough as defined by Carrowmore Hill and Knocknascollop create a patch of visibility at the periphery of the study area. Visibility along the lough shore is limited, increasing upslope to full visibility along the ridgeline surrounding Carrowmore Hill.
- To the far south of the study area, the upland areas feature patches of visibility which increase towards the peaks of the many upland areas, before dropping off the leeward side. In general, the northern faces of the highest points through this area feature partial to full visibility, while the southern sections are abruptly screened and feature little to no visibility.
- As the upland area curves around the south of the study area towards Lough Conn, Nephin Peak features full visibility across the northwest, while the southeast slopes are screened along the southwest/northeast aligned ridgeline. This results in the Glen of Nephin being generally screened.
- To the northeast, the coastline around Killala Bay and Killala, visibility follows the larger undulations along the shoreline. Killala itself does not have visibility, however the peninsula east of Lacken Bay does. Continuing around the coast in a northwest direction towards Downpatrick Head, the coastline features little to no visibility, which continues around to the northwest section of the study area. To the northwest there is another small breakthrough of visibility over the upland areas of Tawnaghmore and Glinsk.
- Within the centre of the study area, there are small areas within the wide open basin landscape where localised elevation changes result in screening the site. One of these areas is directly to the south of the site, on the southern side of the N59. The N59 has three zones of visibility across the study area as it runs east/west. To the east there is rapid, frequent transitions between full and low visibility through the rolling drumlins. Across the central study area the proximity and level topography allows high degrees of visibility with only occasional instances of screening by localised high/low points. When the road reaches the western periphery of the Bellacorick Basin, visibility is restricted by the Owenmore River Valley and is not regained.

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## ***15.4.2 Visual Receptors***

### ***15.4.2.1 Centres of Population and Houses***

Within the central study area, there is a very low density of population, however there are numerous smaller clusters of residences (1-10 dwellings). Within the central study area (10km radius), there are the following small clusters of residences and rural farmsteads, such as Corvaderry, located 2.2km southeast of the nearest turbine. Directly south of the site, along the N59 is Dooleeg, 3km from the nearest turbine. East along the N59 is Eskeragh, 3.5km to the southeast of the nearest turbine. There are a number of shallow valleys leading into the bog which have been developed for pasture and feature a low rural population in linear bands up these valleys into the Basin. Doobeha is 1.8km to the east of the nearest turbine, and the same local road continues northwest into the basin to service residences at Crocknacolly (4.4km north). To the north, there is Barroskey (9.3km northwest), and Glencullen Upper (9.15km west/northwest). Where the Owenmore/Oweninny River crosses into the Nephin Beg Range, there is a cluster of residences at Ballymunnelly (6km west). To the south, surrounding Deel Bridge, there is a cluster of residences (Derry Upper 5.5km south), and in the wider surrounds, multiple farmyards with associated residences. Where the landscape transitions from Bog to the more developed areas to the east, there is a corresponding increase in population density, with a number of small villages located along the R315. The largest of these is Moygownagh and is located 8.2km to the east of the site.

The larger population centres within the study area are located within the 10-20km distance. These are Ballycastle (14km to the north), Killala (17km to the northeast), the outskirts of Ballina (20km west), Crossmolina (11km southeast), Lahardane (15.5km southwest) and Bangor Erris (15.5km west), and the small coastal cluster of Belderrig, 15km to the northwest.

### ***15.4.2.2 Transport Routes***

The most notable transport route in relation to the Oweninny Bog is the N59 national secondary road, which runs immediately to the south of the site on its journey between Crossmolina to the east and Bangor Erris to the west. The R312 branches from the N59 to the southeast near Bellacorrick and runs across the southern end of the Bellacorrick Basin. At the far west and eastern ends of the basin there is also the R315, and R313 regional roads, while the R314 loops around the north of the study area from Ballina to Glenamoy.

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The surrounding landscape is serviced by multiple local roads, often these are purely to service residences and as access into the forestry, bog, or rural land use and therefore are often dead-ends. To the northwest and eastern extents of the study area, where the land use is more agricultural, there is a greater degree of connectivity and local roads.

#### ***15.4.2.3 Amenity and Heritage Locations***

A key tourist offering across the entirety of the study area, with varied distances and visibility to the site is the Western Way, which is one of the network of national long distance way-marked walking routes. Within the study area it follows the forested foothills of the Nephin range on its approach from the south before linking to a similar forest track west of the site via the R312 and N59. It eventually wraps around the slopes at the northern end of the Bellacorrick Basin on its course to Ballycastle. Within the bog, there is also a new visitor centre, which was built to offer exhibition space, café, toilets and a retail area. There are also some walking trails within the bog and surrounds.

The other linear feature through the study area is the Wild Atlantic Way, which passes through the north of the study area, showcasing the Atlantic coast of Ireland. Locations of note within the study area along this (as per the north to south route) are Ballina Quay, Rosserk Friary, Moyne Friary, Killala, Lacken Strand, Downpatrick Head (same location as a number historic feature, including the EIRE 64 sign), Bunatrahir Bay, Muingelly (cliff formation), Ceide Fields – which is of particular historic international importance.

In the southern half of the study area, the attractions remain focused on natural features, with the periphery of the Wild Nephin/Ballycroy National Park located to the southwest of the site. Of this, within the study area there is the Wild Nephin Observation deck and Letterkeen track to the direct south, and well as other, smaller trails to the southwest.

The only other feature of note, which may attract occasional visitors or at least encourage them to stop, is the ‘Musical Bridge’ at Bellacorrick, so-named for the musical sounds it makes when stones are skipped along it.

There are numerous loughs in the area offering both scenic and recreational amenity. The largest is Lough Conn, which features Errew Abbey and the nearest to the site is Lough Dahybaun. Carrowmorw Lough is contained just to the west of the Nephin range in the western extents of the study area.



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#### *15.4.2.4 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, websites, guidebooks, and roadside rest stops, or on post cards that represent the area. Those relevant to the site with relation to the sourced identified above are the Mayo County Development Plan 'Scenic Routes' and 'Scenic Routes with Designated Views' and Wild Atlantic Way Discovery sites or those of similar significance. Those designated scenic views and/or routes are collated and summarised as follows:

*Table 15.6: Rational for selection of scenic designations within the relevant County  
 Development Plans*

Highly Scenic Vista (HSV) or Scenic Route (HSR) Reference (only those within study area):	Relevance to visual impact appraisal?	VP No. herein
HSV R314 at Ceide Fields (looking towards the Atlantic Ocean)	Within northern section of study area, with theoretical visibility not shown on ZTV.	Not relevant
HSV R315 from Cuilkillew to Pontoon (looking towards Lough Conn)	Northern section is marginally within study area, facing away from the site, with limited partial ZTV visibility.	Not relevant
HSV Local road west of Carrowmore Lake, from Barnatra to the R313 junction (looking towards Carrowmore Lake)	Western periphery of study area, towards site over lough. Within ZTV partial visibility.	VP 4
HSV Local road from the R312 junction north of Keenagh, running to the west of Furnace Lough, to Newport (looking towards the Beg Range, Lough Feeagh and Furnace Lough)	Southern periphery of study area, looking towards the Beg range (away from the proposal)	VP21
HSR Local road to the west shores of Carrowmore Lake, from Barnatra to the R313 junction	Same as HSV in across same road – located at western periphery of study area, views towards site over lough. Within ZTV partial visibility.	VP4
HSR Local road from Killala to Moyne Abbey	Partial visibility at eastern periphery of study area.	VP22
HSR Local road east of Lough Conn, from Garrycloonagh to Brackwanshagh	Within study south-eastern section of study area, some visibility across to site	VP23

Highly Scenic Vista (HSV) or Scenic Route (HSR) Reference (only those within study area):	Relevance to visual impact appraisal?	VP No. herein
HSR Local road west of Lough Conn, from the R312 junction north of Keenagh to Newport	Same as HSV in across same road – located at southern periphery of study area, looking towards the Beg range (away from the proposal)	VP21

*Table 15.7: Rational for selection of non-designated scenic locations within the relevant study area*

Non-designated scenic locations	Relevance to visual impact appraisal?	VRP No.
Wild Nephin Observation Deck	Southern extent of study area, within upland areas. No visibility in ZTV.	Not relevant
Downpatrick head (Wild Atlantic Way discovery point)	Northern extent of study area, not within ZTV.	Not relevant
Céide Fields (Wild Atlantic Way point)	Northern extent of study area, not within ZTV.	Not relevant

### ***15.4.3 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 were 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;

- Amenity and heritage features.

Where a VRP might have been initially selected for more than one reason it will be assessed according to the primary 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 VRP's 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 that live and/or work in the locality of the wind farm, usually within a 5km radius of the site. Although the VRP's are generally located on local roads, they also represent similar views that may be available from adjacent houses. The precise location of this VRP type is not as critical. However, clear views are preferred, particularly when closely associated with a cluster of houses and representing their primary views. Coverage of a range of viewing angles, using several VRP's, is necessary in order to sample the spectrum of views that would be available from within the local landscape. It should be reiterated that in this instance the open views represented in the local community category are not necessarily typical views from the central study area and have been selected as worst-case scenario views, in terms of visual exposure.

### ***Centres of Population***

VRP's are selected at centres of population, primarily due to the number of viewers that are likely to experience that view. The relevance of the settlement is based on the significance of its size, in

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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 motorways, national and regional level roads, as well as rail lines and even ferry routes. They 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 of the proposed development, but with a preference towards close and/or elevated views. Major routes typically provide views experienced whilst in motion, which may be fleeting and intermittent depending on screening by intervening vegetation or buildings.

### ***Amenity and Heritage Features***

These views are often one and the same, given that heritage locations can be important tourist and visitor destinations, while 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 people and/or 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 even 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” associated with the heritage feature being visited. 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.

*Table 15.8: Selected Viewshed Reference Points (VRPs)*

VRP No.	Location	Direction of View
VP1	Western way at Altderg	S
VP2	Western way at Sheskin	SE
VP3	Local Road at Srahmeen	S
VP4	Local Road at Carrowmore Lake	SE
VP5	Local road at Doobehy	W
VP6	Western way at Tawnaghmore	E
VP7	R315 at Ballycloy	W
VP8	Western way at Ballmonnelly	E
VP9	Local road at Formoyle	NW
VP10	N59 at Knockagarravaun	W
VP11	Local road at Shanvolahan	NW
VP12	Local Road at Eskaragh	NW
VP13	N59 at Bellacorrack Bridge	NE
VP14	Junction of N59 / and R312 (Western Way)	NE
VP15	N59 at Lough Dahybaun	N
VP16	N59 at Dooleeg More	N
VP17	N59 at Crossmolina	NW
VP18	N59 at Coolturk	NW
VP19	R312 (Western Way) at Derry Lower	NE
VP20	Local road (Western Way) at Derry Upper	NE
VP21	Local road at Keenagh	N
VP22	Local road (Western Way) at Moyne	SW
VP23	Local road east of Lough Conn	NW
VP24	Summit of Nephin	N

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## 15.5 POTENTIAL IMPACTS

Based on the assessment criteria employed herein, potential significant impacts (i.e. those impacts of significance which may arise prior to consideration of mitigation measures and which, therefore, can be distinguished from residual impacts), are considered most likely to occur in instances where highly sensitive landscape and visual receptors coincide with high order landscape and visual effects (see descriptions in Tables 15.1, 15.2 and 15.4). Potentially significant landscape and visual impacts have the potential to occur in the following ways.

### **Landscape Impacts:**

- Irreversible physical effects on sensitive landscape features.
- Disruption of existing land use patterns and/or ecological networks.
- Incongruous change to areas of sensitive landscape character.

### **Visual Impacts:**

- A combination of visual and spatial dominance, as seen from sensitive receptor locations. This is most likely to occur within 2-3km of the proposed wind farm.
- Visual clutter and ambiguity, as seen from highly sensitive receptor locations. This can occur at any distance, but tends to occur beyond 2-3km, where turbines can become stacked in perspective and a more two-dimensional layout is perceived.
- A combination of both of the above effects.

As the proposed Oweninny Wind Farm Phase 3 is contained within a Strategic Wind Energy Zoning in an area already characterised by wind energy development, the main potential for significant effects to occur is in relation to cumulative effects.

## 15.6 MITIGATION MEASURES

Given the highly visible nature of commercial wind energy developments, it is not generally feasible to screen them from view using on-site measures, as would be the primary form of mitigation for many other types of development. Instead, landscape and visual mitigation for wind farms must be incorporated into the early-stage site selection and design phases.

In this instance the main form of landscape and visual mitigation employed was:

- Siting the development in a vast cutaway peatland area where wind turbines are already a strongly characteristic landscape feature;
- The buffering of residential receptors;

### *15.6.1 Siting of the development*

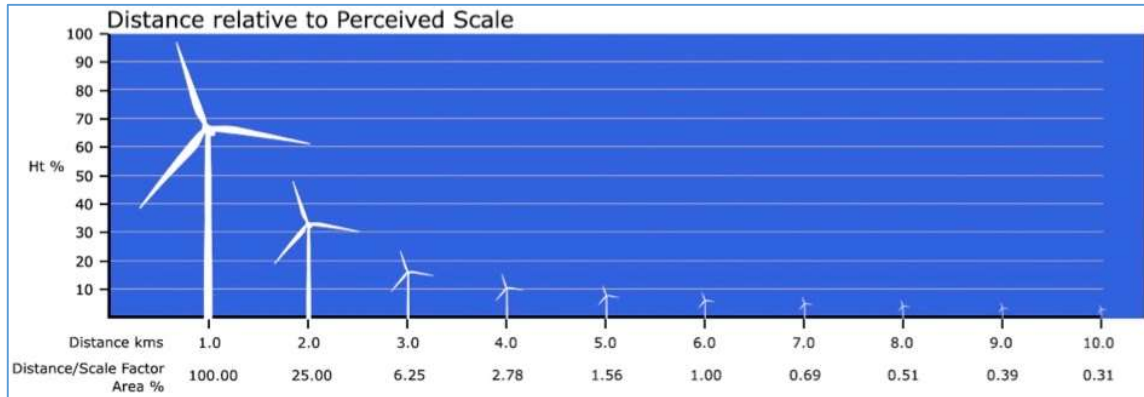
The proposed Oweninny Wind Farm Phase 3 is contained within an area that has been determined to be a 'strategic' one for large scale wind energy development, and for good reason. It is a vast inland bog basin that is sheltered from some highly sensitive landscape and heritage features that occur within the coastal context of northwest Mayo. The site and wider surrounds have a legacy and landscape character defined by industrial scale peat extraction and power generation and although this has ceased, much of the electrical infrastructure remains in place. Of key importance is the adjacent presence of the Oweninny Phase I and Phase II wind energy developments, with which, the proposed Phase III development will form a cohesive whole. It is considered that the concentration of these developments in this robust and largely unsettled part of the Bellacorrick basin is preferable to a greater degree of dispersal for developments of this scale.

### *15.6.2 Buffering of Residential Receptors*

For the proposed Oweninny Wind Farm Phase 3, the minimum setback distance from local residences is greater than 1km, which is well in excess of the established 500m minimum setback stipulated in the current 2006 Wind Energy Development Guidelines, and also in excess of the minimum 4 times blade tip height setback requirement (from the nearest point of the curtilage of any residential property to any of the proposed turbines) under the Draft Revised Wind Energy Development Guidelines (2019). By default, this has resulted in the proposed turbines being placed into a robust receiving landscape of forestry and farmland. This degree of buffering from residential dwellings is of benefit to several aspects of residential amenity, including noise, shadow flicker and visual impact. In relation to visual impact, it is worth noting



that, according to the laws of perspective, the doubling of viewing distance equates to a halving of perceived height. Increasing set back distances has exponential benefit in terms of reducing the potential for overbearing within the first few kilometres, as illustrated in Figure 15.7 below.



*Figure 15.7: Turbine Scale in Relation to Distance Relationship*

## 15.7 RESIDUAL LANDSCAPE EFFECTS

### *15.7.1 Landscape Character, Value and Sensitivity*

Effects on landscape character will be considered at both the localised scale of the site and its immediately surrounding landscape (<5km), as well as the broader scale of the study area (5-20km). Landscape sensitivity in this project level LVIA context needs to go beyond the generic measures of sensitivity employed in the county Landscape Character Assessment and focus on the attributes of the receiving landscape and proposed development. In terms of sensitivity to this proposed wind farm development, the most sensitive landscapes and landscape features are likely to be those that exhibit enclosed, intricate landform and land use patterns, and/or a strong sense of heritage or past times not strongly influenced by modern development. Areas with a strong sense of the naturalistic, or with low levels of built development, are also likely to be sensitive to this wind farm proposal.

#### *Central Study Area (< c. 5km from nearest turbines)*

The site is located within wide, open areas of peat bog, both exploited and intact. The landcover is generally low, however over time, there is increasing coverage by areas of conifer plantations. These generally overlay the areas of rolling topography, either localised within the bog, or lining the sides of the basin as it transitions to the upland character areas. The terrain around approximately 5km from the site indicates the boundary of the vast flat Bellacorick basin, which

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has been subject to decades of commercial scale peat harvesting and also contains the first wind farm constructed in the country; the 21 turbine Bellacorrick Wind Farm as well as the more recent Oweninny Phase 1 (29 Turbines) and Oweninny Phase 2 (31 turbines constructed / 32 consented). The interplay of these three elements (wind farms, conifer plantations, bog) is the defining feature of the landscape surrounding the site within the central study area.

Despite the presence of vertical elements such as the conifers and wind turbines, the overall impression of the landscape retains the wide open character of the Bellacorrick Basin. This is one of the more sparsely populated areas of the country and there is a strong sense of isolation and some tranquillity. Despite the anthropogenic land uses that are apparent in this area there is also some sense of wilderness due largely to the scarcity of buildings and intensive forms of development. The extent of the tundra-like Bellacorrick basin and its containment to the north and west by the distinctive peaks of the Nephin Beg range makes this a unique landscape with a strong sense of place.

According to the Landscape Appraisal of County Mayo, discussed above, the site and its immediate surrounds are contained in landscape 'Unit' F – North Mayo Inland Bog Basin. While the 'critical landscape factors' of this unit are smooth terrain and low vegetation. This has remained constant through the use of the landscape appraisal since at least 2014, and the extent of the conifer planting has been similar throughout that time period, albeit younger (smaller trees). Therefore, the presence of the trees is accommodated in the scale of this landscape and that the site, despite its proximity to this contrasting landcover (to the open, low bog grassland scrub), the site is overall consistent with the criteria of the wider landscape character unit. The other notable features of the central study area is the slightly more rolling topography to the immediate south of the site, surrounding Lough Dahybaun, which creates a scenic feature of the drive along the N59.

The N59 and Lough Dahybaun are two variations to the uniform land use pattern of conifers, cut bog, and infrastructure across the central study area. There are subtle transitions in this pattern nearer to the upland areas or eastern drumlins (further from the site), where the density of turbines decreases and the density of forestry increases with occasional incisions of pasture – containing the areas defined by energy production to the relatively level centre of the basin.

For these reasons the sensitivity of the central study area is generally considered to be **Medium-low**.

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*Wider Study Area (c. 5km - 20km from nearest turbines)*

The wider study area to the north, west, and south is consistent in terms of character, with the upland areas which contain the Bellacorrick basin transitioning into a variety of landscapes, each influenced by the coast and separated from the central study area by the bog covered Nephin Beg Range upland areas. The northeast also experiences this transition from upland to coastal, however across a greater distance of intervening farmland. This rolling, drumlin area defines the eastern aspect of the wider study area. Through the west, south and east of the study area, loughs create areas of increased sensitivity with the associated natural amenity values they hold and scenic opportunities they provide. To the west is Carrowmore Lake, which is bordered equally by bog and pasture/private residences. To the south, there are a variety of smaller loughs across the northern face of the Nephin Beg Range and Wild Nephin National Park. In the vicinity of these, the northern section of Lough Feeagh is just beyond the edge of the study area, and combined with the upland areas, creates a dramatic, natural landscape. This area is valued for these reasons, and there are various recreational features to facilitate access and use. To the east, the defining feature is the northern half of Lough Conn, with its complex shoreline covered in a mix of vegetation, farmland and residences.

As could be expected by the above descriptions, the north, west and south of the study area is covered by one landscape character unit (Unit E - North Mountain Moorland), and the east by another (Unit G - North Mayo Drumlins). The other contrast between these areas is the relative visibility and population density. Within the upland areas, there is a very low density of population, while the visibility is generally dictated by landform and can rapidly contrast over a short distance given the upland topography allowing extensive views or enclosing the field of view into a valley. In contrast to this, the Drumlin landscape features an even coverage of rural residences, with smaller villages scattered throughout. The visibility of this area (as shown in the ZTV), features fine scale changes due to the smaller scale landform changes, however the degree of enclosure is much more reliant on the degree of vegetation across the immediate landscape. Where there are smaller fields with established hedgerows or areas of woodland/forestry, the view is contained by these. Where the landscape is generally open pasture, visibility more directly correlates with the ZTV.

On balance of these numerous factors, the wider study area is generally considered to be of a **Medium** landscape sensitivity, albeit containing some discrete areas of high or even very high sensitivity particularly on the coastal side of the Nephin range.

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### *15.7.2 Magnitude of Landscape Impact*

The proposed turbines, as well as the ancillary development such as access and circulation roads and areas for the substation and hard standing for the turbines will impact the physical landscape of the proposed development site, as well as its character. However, the only likely landscape impact upon the wider central study (i.e. outside the proposed development site) will be the impact upon landscape character.

#### Impact upon Physical Landscape

It is considered that the proposed development will have a proportionately modest physical impact on the landscape within the proposed development site, because none of the proposed features have an extensive physical 'footprint'.

The topography and land cover of the proposed development site will remain largely unaltered. Aside from the 18 no. proposed turbines, construction will be limited to an onsite 110kV substation, tracks, areas of hard standing for the turbines, one on-site met mast and 5 no. temporary site construction compounds.

Excavations will tie into existing ground levels and will be the minimum required for efficient working. Any temporary excavations or stockpiles of material will be re-graded to marry into existing site levels and reseeded appropriately in conjunction with advice from the project ecologist. The finalised internal road layout, of which there will be approx. 13km of upgraded access tracks and approx. 16km of new access tracks, has been designed to try and avoid environmental constraints, and every effort has been made to minimise the length of necessary roadway by upgrading existing access roads. Furthermore, the road layout has been designed to follow the natural contours of the land, wherever possible.

The 110kV substation will be approximately 135m in length and 75m in width and will be located in the south-west corner of the proposed development approximately 600m north of Lough Dahybaun, but with areas of plantation forestry between, which will also limit views from the nearest receptors within the public realm (the N59 approximately 2km south). As an Air Insulated Switchgear (AIS) design all of the electrical componentry is external, but relatively dispersed. Due to the generally light construction and narrow form of structures within the substation compound, they tend to be visually absorbed when viewed against terrain backdrop within relatively short distances. The control buildings are single storey structure of modest dimensions (25m x 18m and 19m x 12m). There will be a notable degree of excavation required

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to facilitate the substation compound, but this will be relatively shallow and within the context of already modified / cutaway ground).

There will be two Borrow Pits, which will be used to excavate material for use as road materials. Passing bays, hardstands, upfill to foundations and temporary compounds. These are sited in the north-east and north-west corners of the proposed development in order to limit the extent of travel to construction sites. These represent modest areas of excavated ground in the context of a vast and cutaway bog context and they will be difficult to discern from areas of the public realm.

All internal cabling between the turbines and the 110kV site substation will be underground as will the external Cabling from the site substation to the existing Bellacorrick Substation. Such cabling will mainly be installed using a trench and cover system within the existing and proposed road network. This will be a very minor construction stage impact, but with no material operational stage impacts on the physical landscape or landscape character.

There will be one permanent anemometry mast installed as part of the proposed development. This will be 120m tall and of a fine lattice construction. It will require very modest excavation for its foundations and hard standing and will visually recede against a terrain backdrop within short distances. If noticed at all amongst the much larger turbines, it will be perceived as a very modest piece of ancillary infrastructure to support the proposed wind farm.

#### Impact upon 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 just a familiar feature of the wider study area, but there are extensive, existing wind farms located throughout the central study area. In tandem with the aforementioned commercial conifer plantations across the hill range, existing wind turbines contribute in a substantial way to the prevalent landscape character of this broad scale, peatland basin landscape.

The aforementioned, existing wind farms are distributed across the basin to the north and west of the proposal site. The nearest of which (Oweninny I) is within 1km (turbine to turbine) of the proposed development site. These existing features ensure that the proposed development will

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not be a new or unfamiliar feature of its wider landscape setting. The effect, therefore, is one of intensification of an established land use type in this landscape and for wind energy development to continue as a characteristic feature of this landscape, which has been zoned in the Mayo County Development Plan as a 'Strategic' area for large scale wind energy development.

In terms of scale and function, the proposed development is well assimilated within the context of the central study area, which consists of a matrix of bog (both cut and intact), conifer forestry, and wind farm infrastructure. The site is located well within the perceived extent of the 'main' basin area and therefore is in keeping with the current land use patterns. Although it represents a higher level of built development than currently exists on the site, it will not detract significantly from its productive and utilitarian character.

Site activity will be at its greatest during the construction phase, due to the operation of machinery on site, as well as movement of heavy vehicles to and from site. Generally, the movement of components will occur overnight, limiting daytime impacts to those which occur on site for the instillation of these. This phase will have a more significant impact on the character of the site, but it is a temporary impact that will cease as soon as the proposed development is constructed and becomes operational.

It is important to note that in terms of duration, with the exception of the proposed substation and access roads, the proposed development represents a long term, but not permanent, impact on the landscape and it is reversible. The lifespan of the project is 30 years, after which time it is likely to be dismantled and the landscape reinstated to prevailing conditions. However, the proposed substation will remain in-situ after decommissioning. Within 2-3 years of decommissioning, there would 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 proposed development. There may be a minor loss of roadside and trackside vegetation that has grown during the operation phase of the development, but this will 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 land cover in the direct vicinity at that time.

In summary, there will be physical impacts on the land cover of the site as a result of the proposed development, but these will be relatively minor in the context of this much-modified, evolving landscape. While 18 turbines are being proposed for this development, they will be

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positioned across a site that is up to approx. 5km long and 5km wide. It is a 'Strategic Infrastructure Development' scale of development, but it is also a strategic scale site with a broad / consistent land form and land cover and an appropriate underlying strategic zoning for wind energy development. Thus, it can be considered to be fulfilling land use zoning objectives.

On balance of the reasons outlined above the magnitude of landscape impact is deemed to be High-medium within the site itself because of the combined physical impacts and distinct increase in the level of built development resulting in marked change to the immediate landscape character. Beyond the site boundary the impact on landscape character is deemed to be Medium in the central study area (< c. 5 km), reducing at increasing distances beyond this threshold as the wind farm becomes a proportionally smaller feature of a wider landscape context and is read as part of a larger group of turbines within the heart of the basin landscape. In essence the site and its immediate surrounds will be more strongly defined by wind energy development, whilst the landscape character beyond will principally remain that of a broad scale peatland basin that also incorporates substantial scale energy development. The landscape units beyond the basin / central study area will be marginally more influenced by wind energy development, but only where there is some sense of physical and visual connection and even then it will be as a familiar background feature – just a more intensive one.

#### Significance of Landscape Impacts

As outlined in Section 15.2.4 above, the significance of landscape impacts is a function of landscape sensitivity weighed against the magnitude of the landscape impact. This is established on the basis of the significance graph (Table 15.3) in conjunction with professional judgement.

For the site itself the significance of landscape impact is deemed to be **Substantial - moderate** whilst for the remainder of the central study area the significance of landscape impact is judged to be **Moderate**. Landscape Impact significance will reduce to Slight and Imperceptible at increasing distances thereafter, even at higher sensitivity landscape features contained within the outer study area.

## 15.8 RESIDUAL VISUAL EFFECTS

### 15.8.1 Summary of visual impacts

Table 15.9 (below) summarises the full textual assessment of visual effects for each View Point (VP) contained in **Appendix 15.1**. Whilst the ‘receptor sensitivity analysis table’ and full textual assessment for each VP is normally contained within the landscape and visual chapter, in this instance, given the considerable number of VPs, it is considered more prudent to place this material in a separate appendix and focus herein on the significance of the findings.

The left hand side of the table incorporates statistical data associated with the view of turbines, whilst the right hand side contains professional judgements in respect of the view. It is important to note that the professional judgements are based on the effects experienced in relation to the view and are not directly influenced by the statistical data. These aspects are only combined within Table 15.9 in order to identify patterns of effect to better inform the conclusions of this assessment.

*Table 15.9: Summary of Visual Effects at Viewshed Reference Points (VRPs)*

VRP No.	Distance to nearest turbine (km)	Visual receptor Sensitivity	Visual Impact Magnitude	Significance of Visual effect
VP1	7.2	Medium	Low	Slight / negative / long term
VP2	8	Medium	Medium-low	Moderate-slight / negative / long term
VP3	4.5	Medium	Medium-low	Moderate-slight / negative / long term
VP4	N/A	High	Negligible	Imperceptible / negative / long term
VP5	1.9	Medium	High-medium	Substantial-moderate / negative / long term
VP6	5.9	Medium	Low	Slight / negative / long term



VRP No.	Distance to nearest turbine (km)	Visual receptor Sensitivity	Visual Impact Magnitude	Significance of Visual effect
VP7	7.7	Medium-low	Negligible	Imperceptible / neutral / long term
VP8	5.7	Medium	Low	Slight / negative / long term
VP9	1.9	Medium-low	Medium	Moderate / negative / long term
VP10	N/A	Low	Negligible	Imperceptible / neutral / long term
VP11	2.4	Medium-low	Medium	Moderate / negative / long term
VP12	2.6	Medium-low	High	Substantial-moderate / negative / long term
VP13	3.9	Medium-low	Medium-low	Moderate-slight / negative / long term
VP14	3.6	Medium-low	Medium	Moderate-slight / negative / long term
VP15	2.8	Medium	High-medium	Substantial-moderate / negative / long term
VP16	2.9	Medium	High-medium	Substantial-moderate / negative / long term
VP17	10.7	Medium-low	Medium-low	Moderate-slight / negative / long term
VP18	5.8	Medium-low	Medium-low	Moderate-slight / negative / long term
VP19	4.1	Medium	Medium-low	Moderate-slight / negative / long term
VP20	5.1	Medium	Medium-low	Moderate-slight / negative / long term

VRP No.	Distance to nearest turbine (km)	Visual receptor Sensitivity	Visual Impact Magnitude	Significance of Visual effect
VP21	9.9	High-medium	Low	Slight / negative / long term
VP22	N/A	Medium	Negligible	Imperceptible / neutral / Long Term
VP23	18.1	High-medium	Low-negligible	Slight-imperceptible / negative \ long term
VP24	15.4	High	Low-negligible	Slight / negative \ long term

### *15.8.2 Local Community Views in the Central Study Area*

There are only two notable settled areas within the central study area (<5km from the site). These occur to the east of the site and the southeast of the site within slightly elevated undulating areas of better drainage that facilitates farmland over the surrounding bog areas. These areas tend to be relatively well contained by both terrain and forestry / hedgerow vegetation, which can limit long distance visibility. The viewpoints used to represent these areas include VP5, VP9, VP11, VP12. Though not within the same enclosed / local road context as these views, VP16 from the N59 also represents a small cluster of local dwellings less than 3km to the south of the site. VP15 is not adjacent to any dwellings but is a short distance west of VP16 along the N59 and represents locally enjoyed vistas across Lough Dahybaun. To the southwest and also on the N59, VP13 represents the small village of Bellacorrick.

Viewpoint VP5 is one of the closest and clearest views of the proposed development in the context of both the Oweninny phase I and Phase II and is around 1.5 km to the east of the site. The nearest turbines are relatively equidistant with 6 of them contained between 1.5km and 3km away wrapping around the western quarters of the view. There is only one dwelling located adjacent to this location and it is more enclosed by vegetation than the representative viewpoint. Although there is a clear and extensive view of wind turbines to the west, which are now closer due to the proposed development, the view of them spread throughout the vast Bellacorrick basin is a legible one. On balance, the significance of effect is deemed to be Substantial-moderate at this location.

The view for VP9 and VP11 is similar in terms of distance and context with most of the proposed turbines rising at a reasonable but not overbearing scale above intervening terrain and forestry just beyond the agricultural foreground setting. The proposed turbines are closer than other existing visible turbines and in both instances the significance of impact is deemed to be Moderate. By comparison, the significance at VP12 is marginally higher (Substantial-moderate) because there is a clearer view of turbines and they generate some sense of scale conflict with the rural dwellings that can also be seen in the middle ground. An even more open and expansive view of the proposed and existing turbines, albeit with a slightly greater setback, occurs at VP16 and hence the significance at this receptor is also deemed to be Substantial-moderate. VP15 enjoys a more expansive and contextual view than VP16 where the layout of both the existing and proposed turbines is more legible across the basin beyond Lough Dahybaun. Although the proposed turbines increase the scale and intensity of wind energy development beyond the lough, this is similar in nature to the existing context. Nonetheless, the quantum of additional wind energy development and its broader extent across the view is considered to result in a significance of Substantial-moderate.

The view from VP13 at Bellacorrick is relatively close to both the proposed turbines and Oweninny Phase I, such that they present at a prominent scale, however the proposed turbines are much more obscured beyond an intervening stand of forestry and the significance of impact is Moderate-slight.

Although there are some impacts in the higher order from local receptor locations, these tend to be very localised impacts and none are considered to be significant in EIA terms.

### *15.8.3 Views from Settlements and Settled areas in the Wider Study Area*

Most of the settled areas in the wider study area occur to the east of the site and include Crossmolina to the southeast (VP17) and Moygowna and its dispersedly settled environs to the east (VP7). There is also a small, dispersed settlement near the quarry at Coolturk on the N59 to the southeast (VP18). The very sparsely populated area of the northern Bellacorrick Basin is represented by VP3 in the townland of Srahmeen.

The largest settlement in the wider region, Ballina, is just outside of the study area to the east, whilst the settlement of Ballycastle is in the outer north-eastern study area but shown not to have potential for visibility in the ZTV map.

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From both VP17 and VP18, the proposed turbines will be visible in the middle distance as noticeable features that are closer than their existing visible counterparts from predominantly the Oweninny Phase I development. However, they are not considered to have an undue effect on visual amenity and the significance is deemed to be Moderate-slight in both instances. From VP7, which is typical of the nature of views in the Moygowna area, being somewhat enclosed by undulating terrain and plentiful hedgerow vegetation, the view is much more restricted. Indeed, only the tips of a couple of blades will present above foreground vegetation from a distance of more than 8km, hence an Imperceptible significance was attributed. From VP3, partial mid-distance visibility of most of the proposed turbines is afforded amongst the turbines from the Oweninny Phase I development and the extent of turbines will be increased to the east. This is considered to result in a Moderate-slight significance.

#### *15.8.4 Views from Scenic Designations*

Interestingly, the extent of scenic designations has receded to the south away from the Bellacorrick Basin under the current Mayo County Development Plan 2022-2028, relative to the former one. Viewpoints that relate to scenic designations include VP4, VP21, VP22 and VP23. Those from the southern end of the Bellacorrick basin (VP21 and VP22) are the only ones with clear views of the turbines.

VP4 is from the western shores of Carrowmore lake beyond the Nephin range and there is no visibility of turbines from here (Imperceptible significance). Similarly, VP22 from the outskirts of Killala has no discernible views of the proposed turbines. There is slightly more visual exposure from VP23 on the western side of Lough Conn, but this still represents distant turbine blades above and between intervening vegetation giving Slight-imperceptible significance.

With an expansive and naturalistic foreground of bog grassland, both VP19 and VP20 are very similar in terms of context. The proposed turbines will be openly visible with the turbines from Oweninny Phase I and Phase II where they will increase the intensity and extent of wind energy development, but in a contextual and strategic manner. The significance of effect is deemed to be Moderate-slight at both. Further south again (c.10km), VP21 from Keenagh is a more elevated and expansive view and therefore, more contextual. That is, the proposed turbines and those from the Oweninny Phase I and Phase II developments are all clearly visible but with a more legible understanding of how they are arranged within the heart of the basin.

Though the view from the summit of Nephin (VP24) is not a designated scenic view in the County Development Plan, it undoubtedly affords vast, naturalistic and scenic vistas and therefore has

all of the characteristics of this set of viewpoints for the hardy hillwalkers that get to experience them. Within the vast 360° views afforded from the summit, the proposed turbines will be noticeable features rising just to the fore of the existing Phase 1 and Phase 2 Oweninny developments, but forming part of what appears as a broad singular development. This represents a modest and distant addition with contextual legibility and the significance is deemed to be Slight.

#### *15.8.5 Views from Major Routes and Western Way Walking Route (road sections)*

VP14, VP19 and VP20 are all clustered relatively closely together on or near the northern end of the R312 regional road and they also represent road sections of the Western Way walking route. VP14 is from a relatively busy junction with the N59 national secondary route where existing turbines, forestry and electrical infrastructure are already a strong influence. Whilst the turbines will notably increase the extent and intensity of wind energy development in view, this is in context the scale and nature of the existing view and the significance is deemed to be Moderate-slight in all instances.

#### *15.8.6 Views from the Western Way Walking Route (non-road sections)*

This subset of views has a strong degree of similarity as they are all contained within the forested foothill fringes at the western and northern extents of the vast peatland area of the Bellacorrick Basin. From north to south these include VP1, VP2, VP6 and VP8. It should be noted that VP13, VP14, VP19 and VP20 are also from road sections of the Western Way and have already been discussed above, in the context of other receptor types.

In all of these instances, because the proposed Oweninny Wind Farm Phase 3 development is the southeasternmost of the three Oweninny projects, it tends to be seen within and beyond the other two existing developments. The views are all extensive and the collective turbines can be seen in the heart of the Bellacorrick basin. The contribution of the proposed turbines is one of consolidation and intensification of this substantial concentration of turbines, but without materially changing the nature or context of the views. The viewpoints and their immediate surrounds are remote, semi-natural and tranquil, but despite the addition of 18 further turbines to the central basin, these qualities of the visual setting and viewer experience remain intact. Thus, the significance of impact is deemed by Moderate-slight at VP2 and Slight at VP1, VP6 and VP8.

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## 15.9 CUMULATIVE IMPACTS

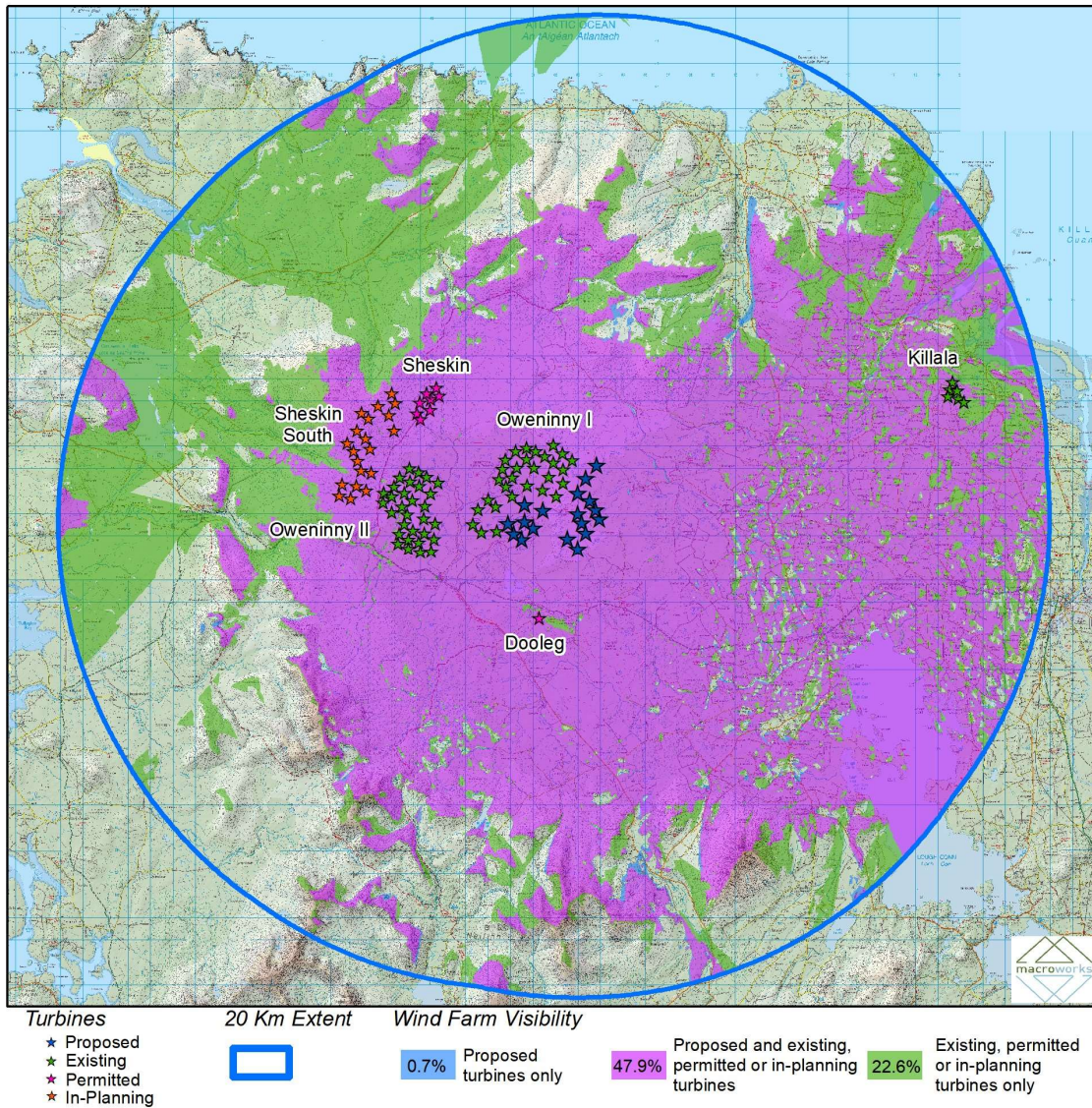
In this instance cumulative impact is a key consideration of the proposed development because it will be placed amongst the existing Oweninny phase 1 turbines and Oweninny Phase 2 turbines and together these will form the largest cluster of tall, modern-generation, turbines in the country. However, because the Phase 1 and Phase 2 schemes form part of the baseline, they have been considered throughout the assessment contained in preceding sections – it has essentially been a cumulative impact assessment.

In terms of other wind energy developments in the study area, the existing Bellacorrick turbines will be removed as part of the proposed development leaving just the permitted (currently under construction) Sheskin Wind Farm (8 turbines) c. 8km northwest and the existing 6 turbine Killala Wind Farm 16km to the northeast as relevant projects. The other developments that were considered as part of the cumulative assessment are outlined in Chapter 2 in shown on Figure 15.11. These include the permitted Dooleg single turbine c. 4km to the south of the site and the ‘in-planning’ Sheskin South Wind Farm application for 20 turbines c. 7km to the northwest of the site. It is important to note that although this cumulative impact assessment will assume a worst-case-scenario of all cumulative developments eventually being present, there is no certainty in respect of permitted developments and even less in relation to ‘in-planning’ developments that may be refused.

Bord na Móna made an application to An Bord Pleanála for leave to apply for Substitute Consent in respect of the historical peat extraction on the Oweninny Bog, which ceased in 2003 and this application is expected to be submitted in 2023. Given the fact that there is no potential overlap between the historical peat extraction and this proposed development, there is no potential for a negative cumulative effect in respect of the subject matter of that application for substitute consent.

**15.9.1 Cumulative Zone of Theoretical Visibility**

A cumulative Zone of Theoretical Visibility (ZTV) map has been prepared for the wind energy developments contained within the study area and a small-scale version of this is included in Appendix 15.3.



*Figure 15.8: ZTV indicating the cumulative theoretical visibility of the proposed Oweniny Phase 3 Wind Farm in combination with all other wind farms in the study area.*

The cumulative ZTV map indicates the following key points:

- There is almost nowhere in the study area (1% - blue pattern) that has exclusive visibility of just turbines from the proposed Oweniny Phase 3 development.
- The majority of the study area that does have visibility of some turbines will have combined visibility of the proposed development with other existing, permitted and in-planning developments (purple pattern).
- In terms of visibility from the sensitive northern and western coastal areas beyond the Nephin range, it is predominantly other existing and permitted wind farms that are visible (green pattern) rather than the proposed wind farm.

### *15.9.2 Nature of Cumulative Visibility*

The nature of cumulative visibility within the study area is analysed in Table 15.10 below, using the same viewpoints that were used for the main visual effect assessment. In accordance with the Visual Representation of Wind Farms (2017) guidelines, cumulative wind energy developments that are not yet constructed are only shown on the cumulative wireline images and not within the photomontage views. As can be seen from the results contained in Table 15.10, the nature of cumulative visibility is very consistent throughout the viewpoint set. It almost always includes the Oweniny Phase 1 and Phase 2 developments in conjunction with the proposed Phase 2 development and most often also includes the permitted Sheskin development and in-planning Sheskin South development. The Phase 2 and proposed Phase 3 developments take turns as the nearest development depending on whether the viewpoint is from the west (Phase 2) or from the east and southeast (Phase 3) whereas the Phase 1 development is seldom noticeably closer than its counterparts. Similarly, the permitted Sheskin and in-planning Sheskin South Wind Farms are only closer in one of the views (VP2), as the northern slopes of the Bellacorrick basin have few receptors.

The three Oweniny phases are almost always viewed in the same viewing arc and when this extends to more than 90 degrees the arc is contiguous so that they are not read as being in discrete sections of the view.

In terms of sequential visibility, there are numerous linear receptors such as the N59, the R313 and the Western Way walking route, but the developments are encountered together rather than separately in a journey scenario. Thus, there is not a strong sense of sequential cumulative impact.



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In terms of cumulative visual effects, there will frequently be visual clutter from turbines from the Oweniny group of developments stacking / overlapping with each other in perspective. This is the inevitable by-product of concentrating so many turbines within the heart of the basin. The balance is that there is less of a sense of dissemination throughout a broader area and being surrounded by turbines at particular receptors, if they were more widely separated. In closer views of the developments (generally within 5km), the nearest turbines appear noticeably larger than those beyond due to the laws of perspective. This scenario ameliorates the sense of stacking because the spatial separation between turbines is much clearer and the blade sets are less likely to be intertwined.

Overall, the three Oweninny phases will be read as a large and extensive singular development with consistent design characteristics and within a singular landscape context – the vast cutaway bog at the northern end of the Bellacorrick Basin. The permitted Sheskin development is slightly discrete from the Oweninny developments, but because it is contained in the same landscape context and visual unit it does not appear isolated from them or generate any sense of visual tension. If granted planning permission, the Sheskin South development will also serve to link the Sheskin development to the Oweninny group of wind farms even though it does not lie between them. It does this by bridging north – south between Sheskin and Oweninny II and completing a broad sinuous arc.

The only time the Killala Wind Farm registers with any notable degree of visibility is from VP22 where it is clearly visible in the middle distance. Otherwise, it is contained in the far distance and within a separate landscape context in relation to the other developments within the heart of the Bellacorrick Basin. Thus, it does not make a material contribution to cumulative impacts in conjunction with the proposed development. Likewise, the permitted Dooleg single turbine will occasionally be present in views, but often in the opposite direction to the proposed development or at a disparate viewing angle to the main body of turbines. It is something of an outlier in this context being the only wind energy development to the south of the N59 in this part of the Bellacorrick Basin. However, as a single turbine it has little bearing on the overall cumulative impact in this area, which is more focussed on the large-scale developments to the north of the N59.

*Table 15.10: Assessment of Cumulative Visibility*

VP Ref.	No. of other wind farms in view	Nearer or further than proposal	Combined view (within a single viewing arc)	Succession view (within a series of viewing arcs from the same location)	Sequential view (view of different developments moving along a linear receptor)
VP1	3	Similar distance	Yes	No	No
VP2	4	1 closer 2 similar distance	Yes	No	No
VP3	4	Similar and further	Yes	No	No
VP4	None				
VP5	4	All further	Yes	No	No
VP6	4	2 nearer, others similar distance	Yes	No	No
VP7	None				
VP8	4	2 nearer others similar distance	Yes	No	No
VP9	2	Both further	Yes	No	No
VP10	None				
VP11	2	Both further	Yes	No	No
VP12	2	Both further	Yes	No	No

<b>VP13</b>	4	2 similar and 2 further	Yes	No	No
<b>VP14</b>	5	3 similar and 2 further	Yes	Yes	No
<b>VP15</b>	4	All slightly further	Yes	No	No
<b>VP16</b>	4	All slightly further	Yes	No	No
<b>VP17</b>	4	All slightly further	Yes	No	No
<b>VP18</b>	4	All slightly further	Yes	No	No
<b>VP19</b>	4	Similar distance	Yes	No	No
<b>VP20</b>	5	3 similar 1 further	Yes	No	No
<b>VP21</b>	4	3 similar 2 further	Yes	No	No
<b>VP22</b>	None				
<b>VP23</b>	None				
<b>VP24</b>	6	5 similar, 1 further	Yes	No	No

### *15.9.3 Cumulative Impacts with other Types of Development*

There are currently two applications in-planning for electrical infrastructure projects on adjacent sites within the Oweninny River valley just to the north of Bellacorrick. These include a hydrogen electrolysis plant and an open cycle gas turbine (OCGT) plant. In comparison to the

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scale and extent of the proposed Oweninny Phase 3 wind energy development and the other cumulative wind energy developments in the northern end of the Bellacorrick Basin, these two electrical infrastructure developments are of a modest scale and extent and are discretely positioned in relation to localised terrain and forestry. They will generally not be noticeable features in conjunction with the wind energy development unless a viewer is in close proximity to the two plants. They are likely to be read as ancillary to the more spatiality and visually dominant wind energy developments that surround them to the north and only very minor cumulative impacts are likely in conjunction with these, if they proceed through planning to construction.

The Glenora Wind Farm is a c. 220 turbine pre-planning development that lies around 7km to the southwest of the settlement of Ballycastle in the north-eastern quadrant of the study area. Should this project eventually be realised, it will contribute to the intensity and dispersion of wind energy development in conjunction with the proposed development within the broader context of the overall study area, but there is a considerable physical and contextual separation between them. It is not standard practice to consider pre-planning developments in detail for landscape and visual cumulative assessments because much could change prior to a planning application being lodged.

#### *15.9.4 Cumulative Impact Summary*

Based on the cumulative analysis and assessment above, it is considered that the proposed development will not give rise to significant cumulative impacts. Whilst this might seem counterintuitive given the number of large turbines represented by the three Oweninny developments and the Sheskin / Sheskin South developments, context is key. In this case, the cutaway peatland of the vast Bellacorrick Basin, which has a long legacy of power generation and distribution, is already characterised by large scale wind energy developments. It is a landscape of vast scale that can absorb a strategic scale of wind energy development, and this is reflected in the Wind Energy Strategy where the northern basin is generally classed as a 'Strategic' location for 'Large-scale' wind energy development. There is almost nowhere else in the country that has this key combination of vastness, robustness and legacy in its receiving landscape to accommodate a strategic scale of wind energy development.

Bord na Móna made an application to An Bord Pleanála for leave to apply for Substitute Consent in respect of the historical peat extraction on the Oweninny Bog, which ceased in 2003. Given the fact that the area subject to historical peat extraction will naturally revegetate and

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rehabilitation works were completed in 2007, there is no potential for a negative cumulative effect in respect of the subject matter of that application for substitute consent.

The proposed development makes a notable contribution to scale and intensity of wind energy development in conjunction with the Oweniny Phase 1 and Phase 2 developments as well as the Sheskin and Sheskin South developments, but it knits into the overall array and the effect is that of modest intensification rather than broad dissemination. Given that the Oweniny Phase 1 and Phase 2 developments form part of the baseline context, against which, the proposed development was assessed in the main body of the LVIA, it is not considered that cumulative landscape and visual impacts are any greater than those already assessed in earlier sections of this chapter.

Overall, it is considered that the proposed development will make a contribution to the cumulative impact of wind farms in the study area that is consistent with the criteria for a **Medium** cumulative effect in Table 15.5.

## 15.10 SUMMARY

This Landscape and Visual Impact Assessment has separately considered landscape effects, visual effects and cumulative effects in the context of relevant planning policy and a comprehensive baseline study of the 20km radius study area. The assessment is also based on the most relevant, best practice guidance documents for landscape and visual impact assessment of onshore wind farms in Ireland. Based on the findings of this assessment, the proposed Oweninny Wind Farm Phase 3 will result in noticeable landscape and visual change, particularly within its immediate context. However, even these localised effects are not considered to be significant and will reduce rapidly with increased viewing distances and broader landscape context.

Overall, it is considered that the proposed Oweninny Phase 3 wind farm will not give rise to any significant landscape or visual impacts, in its own right or cumulatively with other existing and permitted developments within the study area