

10.0 Landscape and Visual Impact

10.1	INTRODUCTION	2
10.2	PROPOSED DEVELOPMENT	2
10.3	STATEMENT OF COMPETENCE	3
10.4	RELEVANT LEGISLATION AND GUIDANCE	3
10.5	METHODOLOGY	4
10.6	DESCRIPTION OF THE BASELINE ENVIRONMENT	12
10.7	STATEMENT OF POTENTIAL IMPACTS	32
10.8	CUMULATIVE BASELINE	33
10.9	MITIGATION AND MONITORING MEASURES	35
10.10	RESIDUAL EFFECTS	36
10.11	MITIGATION MEASURES AND RESIDUAL EFFECTS	57
10.12	SUMMARY OF SIGNIFICANT EFFECTS	57
10.13	STATEMENT OF SIGNIFICANCE	58
10.14	REFERENCES	58

10.1 Introduction

This chapter describes the landscape context of the proposed Keerglen Wind Farm and assesses the likely landscape and visual impacts of the scheme on the receiving environment. Although closely linked, landscape and visual impacts are assessed separately.

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

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

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

10.2 Proposed Development

ABO Energy Ireland Ltd intend to apply for a ten-year permission for development of a wind farm project in the townlands of Keerglen, Ballinglen and Ballykinlettragh on a site measuring a combined c.81.88 ha.

The development will consist of:

- Construction of up to 8 no. wind turbines with a maximum overall tip height of between 176-180m, comprising rotor diameters ranging between 133-150m and hub heights ranging between 105-112m high;
- Associated Wind Turbine foundations and hard stand areas at each turbine;
- 1 No. 38kV electrical substation building, compound and associated infrastructure works;
- 1 No. temporary welfare site compound and associated works;
- 20kV underground cables facilitating the connection of turbines to 38kV electrical substation and all associated infrastructure and works;
- Provision of a new temporary roadway connecting the R315 and the L51723 in the townland of Ballinglen to facilitate the delivery of turbine components and other abnormal loads;

- Widening and ancillary works to sections of the L51723 in the townlands of Keerglen and Ballykinlettragh;
- Provision of new permanent site access of the L51723;
- Upgrading of existing agricultural tracks and drainage infrastructure, and construction of new internal site tracks and all associated works as required;
- Construction of a clear-span bridge crossing the Keerglen River within the development area;
- 1 no. borrow pit;
- Designated peat storage areas alongside internal side roads;
- Site drainage;
- Ancillary forestry felling to facilitate construction and operation of the proposed development;
- All associated infrastructure and site development works.

For the purposes of the EIA Directive, the EIAR further considers:

- Temporary minor off-site works along the turbine delivery route;
- Approximately c. 22.8km of 38kV underground electricity export connection and associated works along public roads and private lands to include horizontal directional drilling at bridge locations;
- Temporary met mast of between 100-112m in height and all associated infrastructure and works

This assessment will be completed using a Vestas V150 'specimen turbine' with a tip height of 180m, hub height of 105m, and rotor diameter of 150m, which represents the maximum tip height and rotor diameter of a series of turbines being considered as part of the application in order to allow a degree of flexibility to any planning consent as per the provisions set out in Circular PL11-2023. The application is also considering three other (four total) wind turbines with a maximum overall tip height ranging between 176-180m, comprising rotor diameters ranging between 133-150m and hub heights ranging between 105-112m high. Following the full assessment of the specimen turbine, comparative photomontage views will be used to examine if there are any material differences in visual impact between the specimen turbines and the Nordex N133, which has a tip height of 176.6m, hub height of 110m, and rotor diameter of 133.3m. This being the other end of the range in terms of hub height and rotor diameter.

10.3 Statement of Competence

This Landscape and Visual Assessment (LVIA) report was prepared by Jorden Derecourt (BLA (Hons), MLA (Hons), MILI) and reviewed by Richard Barker (MLA MILI) of Macro Works Ltd, a specialist LVIA company with over 20 years of experience in the appraisal of effects from a variety of energy, infrastructure and commercial developments. Relevant experience includes LVIA work on over 140 onshore wind farm proposals throughout Ireland, including six Strategic Infrastructure Development (SID) wind farms. Macro Works and its senior staff members are full/corporate members of the Irish Landscape Institute.

10.4 Relevant legislation and guidance

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

- Environmental Protection Agency (EPA) publication 'Guidelines on the Information to be contained in Environmental Impact Statements (Draft 2022).
- Landscape Institute and the Institute of Environmental Management and Assessment publication entitled Guidelines for Landscape and Visual Impact Assessment – Third Addition (2013).
- Scottish Natural Heritage (NatureScot) Guidance Note: Cumulative Effect of Wind Farms (2021).
- Department of the Environment, Heritage and Local Government Wind Energy Development Guidelines (2006).
- Scottish Natural Heritage (NatureScot) Visual representation of wind farms: Best Practice Guidelines (version 2.2 - 2017).

10.5 Methodology

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

10.5.1 Desktop Survey

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

10.5.2 Fieldwork

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

10.5.3 Appraisal

- Consideration of the receiving landscape with regard to overall landscape character as well as the salient features of the study area including landform, drainage, vegetation, land use and landscape designations.

- Consideration of the visual environment including receptor locations such as centres of population and houses; transport routes; public amenities, facilities and heritage features and; designated and recognised views of scenic value.
- Consideration of design guidance and planning policies.
- Consideration of potentially significant effects and the mitigation measures that could be employed to reduce such effects.
- Estimation of the significance of residual landscape impacts.
- Estimation of the significance of residual visual impacts aided by photomontages prepared at all of the selected VRP locations.
- Estimation of cumulative landscape and visual effects in combination with other surrounding developments that are either existing or permitted.

10.5.4 Assessment Criteria for Landscape Impacts

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

- Landscape character, value and sensitivity
- Magnitude of likely impacts; 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 outlined Table 10.1 below

Table 10.1 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.

Table 10.1 Landscape Value and Sensitivity	
Sensitivity	Description
Medium	Areas where the landscape character exhibits some capacity and scope for development. Examples of which are landscapes, which have a designation of protection at a county level or at non-designated local level where there is evidence of local value and use.
Low	Areas where the landscape character exhibits a higher capacity for change from development. Typically this would include lower value, non-designated landscapes that may also have some elements or features of recognisable quality, where landscape management objectives include, enhancement, repair and restoration.
Negligible	Areas of landscape character that include derelict, mining, industrial land or are part of the urban fringe where there would be a reasonable capacity to embrace change or the capacity to include the development proposals. Management objectives in such areas could be focused on change, creation of landscape improvements and/or restoration to realise a higher landscape value.

The magnitude of a predicted landscape impact is a product of the scale, extent or degree of change that is likely to be experienced as a result of the proposed development. The magnitude takes into account whether there is a direct physical impact resulting from the loss of landscape components and/or a change that extends beyond the proposal site boundary that may have an effect on the landscape character of the area. Table 10.2 refers.

Table 10.2 Magnitude of Landscape Impacts	
Magnitude of Impact	Description
Very High	Change that would be large in extent and scale with the loss of critically important landscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that contribute to an 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 impact is based on a balance between the sensitivity of the landscape receptor and the magnitude of the impact. The significance of landscape impacts is arrived at using the following matrix set out in Table 10.3 below.

Table 10.3 Landscape Impact Significance Matrix					
	Sensitivity of Receptor				
Scale/Magnitude	Very High	High	Medium	Low	Negligible
Very High	Profound	Profound-substantial	Substantial	Moderate	Slight
High	Profound-substantial	Substantial	Substantial-moderate	Moderate-slight	Slight-imperceptible
Medium	Substantial	Substantial-moderate	Moderate	Slight	Imperceptible
Low	Moderate	Moderate-slight	Slight	Slight-imperceptible	Imperceptible
Negligible	Slight	Slight-imperceptible	Imperceptible	Imperceptible	Imperceptible

*The significance matrix provides an indicative framework from which the significance of impact is derived. The significance judgement is ultimately determined by the assessor using professional judgement. Due to nuances within the constituent sensitivity and magnitude judgements, this may be up to one category higher or lower than indicated by the matrix.

** Significance judged to be 'Substantial' and above is deemed to be significant in EIA terms

10.5.5 Assessment Criteria for Visual Impacts

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

10.5.4.1 Visual Sensitivity

Unlike landscape sensitivity, visual sensitivity has an anthropocentric basis. Visual sensitivity is a two-sided analysis of receptor susceptibility (people or groups of people) versus the value of the view on offer at a particular location.

To assess the susceptibility of viewers and the amenity value of views, the assessors use a range of criteria and provide a four point weighting scale to indicate how strongly the viewer/view is associated with each of the criterion. Susceptibility criteria is extracted directly from the IEMA Guidelines for Landscape and Visual Assessment (2013), whilst the value criteria relate to various aspects of a view that might typically be related to high amenity including, but not limited to, scenic designations. These are set out below:

- **Susceptibility of receptor group to changes in view.** This is one of the most important criteria to consider in determining overall visual sensitivity because it is the single category dealing with viewer susceptibility. In accordance with the IEMA Guidelines for Landscape and Visual Assessment (3rd edition 2013) visual receptors most susceptible to changes in views and visual amenity are;
- *Residents at home;*
- *People, whether residents or visitors, who are engaged in outdoor recreation, including use of public rights of way, whose attention or interest is likely to be focused 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*
- *Travelers 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 focused on their work or activity, not their surroundings and where the setting is not important to the quality of working life.*

10.5.4.2 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.

10.5.4.3 Visual Impact Magnitude

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

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

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

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

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

"Visibility at Locations: Windfarms or Wind Turbines were visible from four locations, they were mentioned by visitors at one location – Cobh. At this site 11% of visitors mentioned noticing wind energy projects

Visibility en-route to locations: Wind Energy projects were mapped as being visible en-route to six sites, they were mentioned by less than 5% of all visitors."

The purpose here is not to suggest that turbines are unlikely to be noticed, regardless of the visual presence, but rather to highlight that the assessment of visual impact magnitude for wind turbines is more complex than just the degree to which turbines occupy a view. Furthermore, a clear and comprehensive view of a wind farm might be preferable in many instances to a partial, cluttered view of turbine components that are not so noticeable within a view. On the basis of these reasons, the visual amenity aspect of assessing impact magnitude is qualitative and considers such factors as the spatial arrangement of turbines both within the scheme and in relation to surrounding terrain and land cover. It also examines whether the project contributes positively to the existing qualities of the vista or results in distracting visual effects and disharmony.

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

Table 10.4 Magnitude of Visual Impact	
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

10.5.5 Visual Impact Significance

As stated above, the significance of visual impacts is a function of visual receptor sensitivity and visual impact magnitude. This relationship is expressed in the same significance matrix included for Landscape Impact Significance at Table 10.4 above.

10.5.6 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 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

10.5.7 Assessment Approach for Candidate Turbine Options

In this instance, four candidate turbine options are proposed and rather than produce a full set of photomontages for all turbine dimensions, it was elected to use one of the candidate turbine dimensions for the full set of photomontages (the specimen turbine), with a second turbine selected to illustrate any differences in visual impact at select viewpoint locations. A sample of four viewpoint locations, predominantly in close proximity to the site, is used to illustrate the difference between the two candidate turbines, which are at the extremes of the turbine range being considered in terms of the rotor diameter to hub height relationship. The Vestas V150 option was selected as the specimen turbine to be used for all photomontages, because the larger rotor diameter and maximum tip height. Furthermore, two of the proposed specimen turbines also have a 105m hub height. The other model used for comparative photomontages is the Nordex N133, which has the lowest tip height, but the highest hub height, resulting in the smallest rotor diameter of the four proposed options.

10.6 Description of the Baseline Environment

10.6.4 Landscape Baseline

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

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



Figure 10.1 Aerial photography showing the landscape context of the site and its immediate surrounds

10.6.4.1 Landform and Drainage

The proposed development site is located along the southern face of the small Keerglen River valley at the north-eastern periphery of the Nehpin Range. Elevation across the site slopes to the north and east, from 180-120m AOD. A short distance to the west of the site, the terrain descends from c.220m AOD to the wide, and ostensibly flat landform of the Bellacorrick Basin. To the east, the Ballinglen River runs along a relatively narrow valley towards the coast to the north. On the far side of the Ballinglen Valley is the hill of Aghaleague (291m), which is one of the tallest points in the eastern study area. To the north, the upland areas are more extensive and dramatic, with a relatively short transition to the Coastline to the north and a more gentle slope into the Bellacorrick Basin, which occupies a large proportion of the study area. To the south of the site, the upland areas which define the Bellacorrick Basin are more subtle.

The wider study area comprises similar landscape characteristics as the central study area but on a much broader scale. Broad elevated upland areas of the Nephin Beg Range heavily influence the wider western and southwestern parts of the study area, which encompasses the Bellacorrick Basin and its surrounding hills and ridges. However, the tallest sections, including Nephin Mountain and Nephin Beg, are outside the study area's southern extent. To the south, the terrain comprises more typical low-rolling lands, whilst a section of Lough Conn penetrates into the southernmost aspect of the study area. Killala Bay heavily influences the wider eastern half of the study area and contains several notable coastal features, including Bartragh Island and broad sandy beaches. The River Moy Valley borders the southeast and drains into Killala Bay east of the study area.

10.6.4.2 Vegetation and Land Use

Whilst the principal land cover within the central and wider study area is peatland, extensive areas of large commercial conifer forest plantations also occupy large tracts of the surrounding landscape. Agricultural farmland of various field shapes and sizes bound by mixed hedgerow vegetation is located along the Ballinglen Valley and the more gentle rolling south-eastern areas. Indeed, notable areas of the site and central study area, principally the more elevated lands, comprise peatland and blocks of commercial conifer forestry. In the context of the entire study area, much of the landscape contained in its eastern and southern extents is dominated by pastoral lands, whilst to the west, where the more broad elevated lands are located, the terrain is cloaked in extensive peatland and blocks of conifer forestry. In terms of urban land uses, the principal urban areas within the study area include Ballina and Crossmolina, both of which are situated within the wider southern half of the study area. The wider study area also encompasses some notable wind farm developments, the largest agglomeration of which is situated in the wider southwest quadrant within the Bellacorrick Basin.

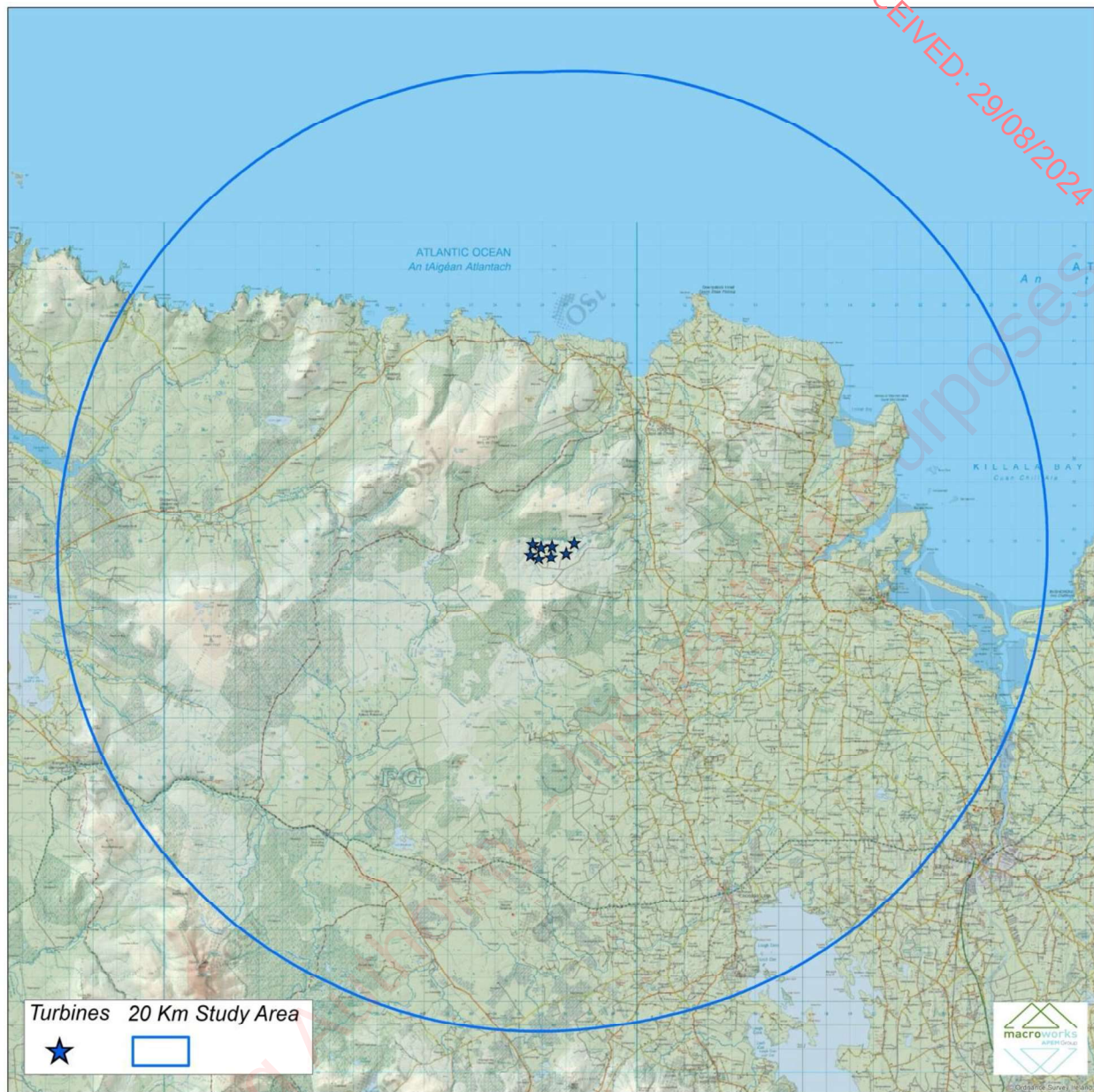


Figure 10.2 Terrain shadow map showing the extent of the 20km study area

10.6.5 Landscape Policy Context and Designations

10.6.5.1 Department of the Environment, Heritage and Local Government Wind Energy Development Guidelines 2006 (2019 Revision)

The Wind Energy Development Guidelines (2006/2019 revision) provide guidance on wind farm siting and design criteria for a number of different landscapes types. The site of the proposed development is considered to be located within a relatively complex landscape setting that where several contrast landscape types converge. The site of the proposed development is considered to be most consistent with the landscape type 'Transitional Marginal Landscapes'. While the landcover is most consistent with 'Mountain Moorland, the relatively enclosed nature of the landform better aligns with 'Transitional Marginal'. Some parts of the central and wider study area are consistent with the landscape types 'Hilly and Flat Farmland' and 'Coastal Zone'.

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

Transitional Marginal Landscapes:

- Location –** *“As wind energy developments, for reasons of commercial viability, will typically be located on ridges and peaks, a clear visual separation will be achieved from the complexity of lower ground.”*
“wind energy developments might also be located at lower levels in extensive areas of this landscape type, where they will be perceived against a relatively complex backdrop. In these situations it is important to minimise visual confusion such as the crossing by blade sets of skylines, buildings, utility lines and varied landcover.”
- Spatial extent -** *“Wind energy developments in these landscapes should be relatively small in terms of spatial extent. It is important that they do not dominate but achieve a balance with their surrounds, especially considering that small fields and houses are prevalent.”*
“4(a) Wind energy development with regular spacing and linear layout – may not be appropriate due to the undulation of the land from as well as limited field pattern.”
“4(b) Wind energy development with irregular spacing and random layout -is more appropriate given the relative undulation of the setting.”
“4(c) Large wind energy development straddling two landscape character types within the same visual unit can create visual ambivalence and, thus, negative tension between the two character types involved.”
- Spacing -** *“All options are possible, depending on the actual landscape characteristics. However, irregular spacing is likely to be most appropriate.”*
- Layout -** *“The likely location of wind energy developments on ridges suggests a linear or staggered linear layout whereas on broader hilltops they could be linear or clustered.”*
- Height -** *“...where the upper ground is relatively open and visually extensive, taller turbines may be more appropriate.”*
“...the profile can be even or uneven, depending on the profile and visual complexity of the terrain involved. The more rugged and undulating, the greater the acceptability of an uneven profile provided it does not result in significant visual confusion and conflict.”
- Cumulative -** *“This would have to be evaluated on a case-by-case basis, but great caution should be exercised. The spatial enclosure often found in transitional marginal landscapes is likely to preclude the possibility of seeing another wind energy development. However, should two or more wind energy developments be visible within a confined setting a critically adverse effect might result, depending on turbine height and wind energy development extent and proximity.”*

It is considered that the siting and design of the proposed Wind Farm is generally consistent with the guidance noted above for the 'Transitional Marginal Landscapes' landscape type. In combination with the

recommendations for the 'Transitional Marginal Landscapes' landscape type, the siting and design recommendations for the 'Mountain Moorland', landscape types have also been considered when designing the turbine layout for the proposed Keerglen Wind Farm as a result of the varied nature of the landscape within the central and wider Study Area. It is considered that the proposed wind farm developments siting and design responds well and is generally consistent with the guidance note above for the 'Transitional Marginal' landscape type, especially concerning the 'spatial extent' guidance, which states "irregular spacing and random layout is more appropriate given the relative undulation of the setting".

Siting in Relation to Individual Properties ('Setback')

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

SPPR 2: With the exception of applications where reduced setback requirements have been agreed with relevant owner(s) as outlined at 6.18.2 below, planning authorities and An 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 nearest residential dwelling to any of the proposed turbines is 1.6km which exceeds and fully complies with the setback distance outlined in the both the current 2006 Guidelines and the Draft Revised Guidelines (2019).

10.6.5.2 Mayo County Development Plan 2022-2028

Mayo CDP 2022-2028 – Landscape Appraisal

The Mayo County Development Plan features a Landscape Appraisal rather than a Landscape Assessment; however, with regard to identifying the county's different landscape character areas, the two are functionally similar.

The landscape appraisal identifies "Mayo has many landscapes. One of the first tasks of any analysis is to subdivide the County into its constituent parts. These are called 'Character Units'. Each of them contains an area of land, which has similar character-giving elements such as slope, vegetation and landuse. The appearance of the landscape is relatively uniform within each Character Unit."

The site is *located* within Area E: North Mayo Mountain Moorland, and described as *“the mountainous spine of northern Mayo oriented in a crescent from the northern coast before diverging west toward Achill, and east toward Lough Conn, ending at this point with Nephin Beg. This mountain range is a focal point for northern Mayo and shares boundaries with 7 other landscape character units, which indicates its physical extent and landscape dividing role. It can be characterised as a barren montaine, moorland with steep flowing slopes...”* The section in which the site is located is the (relatively) coastal, north-eastern point of the crescent mentioned above.

Critical landscape factors of this character unit are steep slopes, prominent ridgelines, smooth terrain and low vegetation, with the development considerations associated with these being *“both a potentially increased elevation and an immediate back drop for development, intensifying its visual prominence over greater distances.”*, *“it is important that development does not interrupt the integrity of primary ridgelines. Due to the dominating influence of ridgelines, in instances where penetration does occur, development can appear insubordinate to the landscape in which it sits”* 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, outlined below:

- Area C: North-West Coastal Bog layers over the outside of Area E and the western border of the study area, with the critical landscape factors of smooth terrain and low vegetation.
- To the north of Area C, E and G, the very northern extent of the landform around the coast is defined by Area D: North Coast Plateaux, with the critical landscape factors of elevated coastal vistas, smooth terrain and low vegetation.
- The inland, south-eastern quadrant 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 immediate south of the site and covering a large portion of the south-western study area, there is Area F: North Mayo Inland Bog Basin, with the critical landscape factors of smooth terrain and low vegetation.

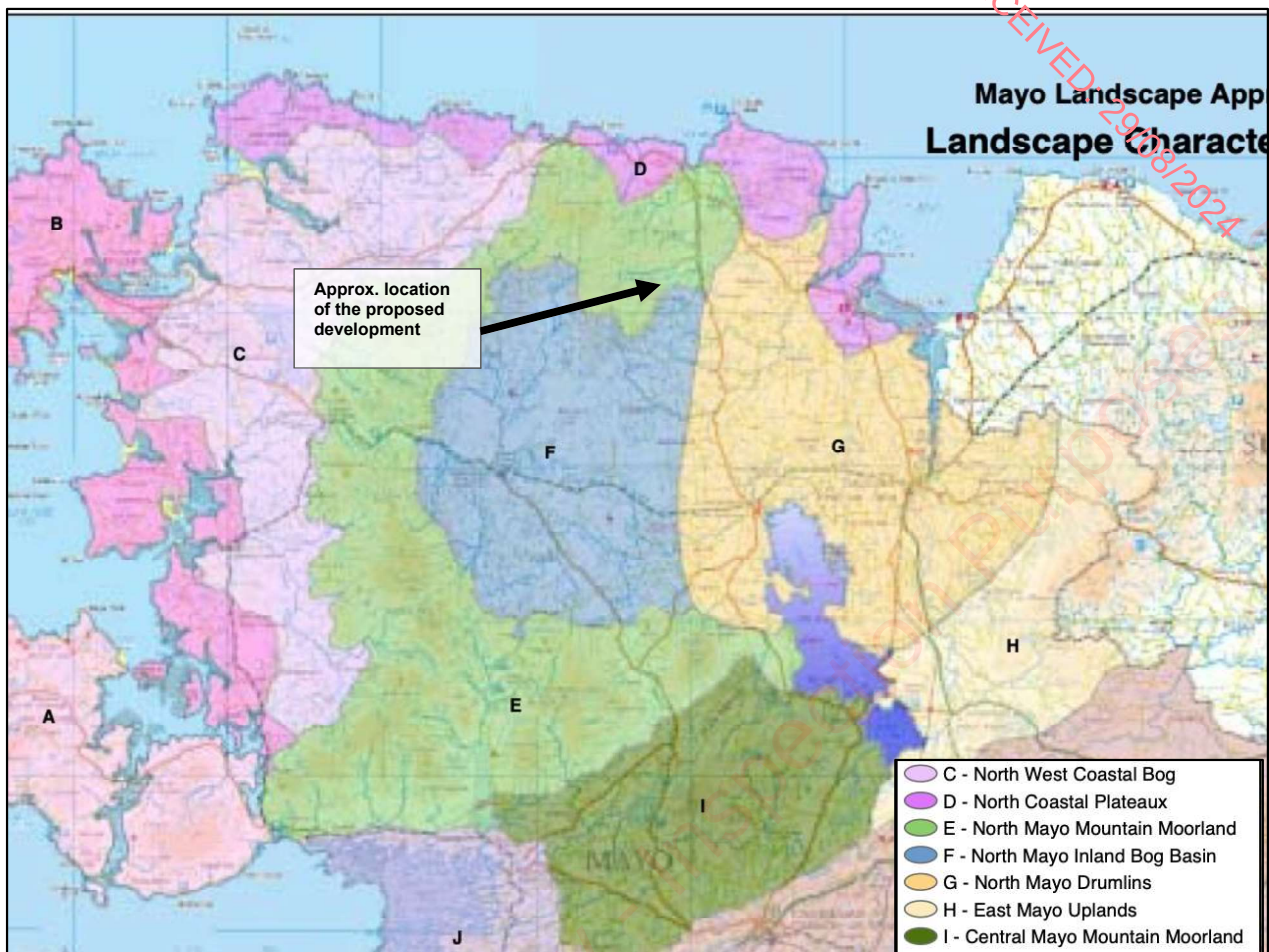


Figure 10.3 Landscape Character Units relative to the site, derived from Mayo Landscape Appraisal.

The following sections of the landscape appraisal 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 'Landscape Protection Policy Areas' map below is used to assess the development impact of different development types in conjunction with the Landscape Sensitivity Matrix.

The proposed development 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 study area also overlays landscape protection policy areas:

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

Policy Area 3 'Uplands, Moors, Heath or Bog', is classified as having a 'High' sensitivity in relation to wind farm development. Developments classified with a 'High' sensitivity area are described as having a *“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."

In the wider study area, the nearest other Landscape Policy areas are Policy Area 1 'Mountaine Coastal Zone' and Policy Area 4 'Drumlins and Inland Lowland'. Policy Area 1 is classified with a 'High' sensitivity in relation to wind farm development, whilst Policy Area 4 is classified with a 'High/Medium' in respect of wind farm development. Developments classified with a 'High' sensitivity area are described as having a "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' sensitivity classifications are designated as having a "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."

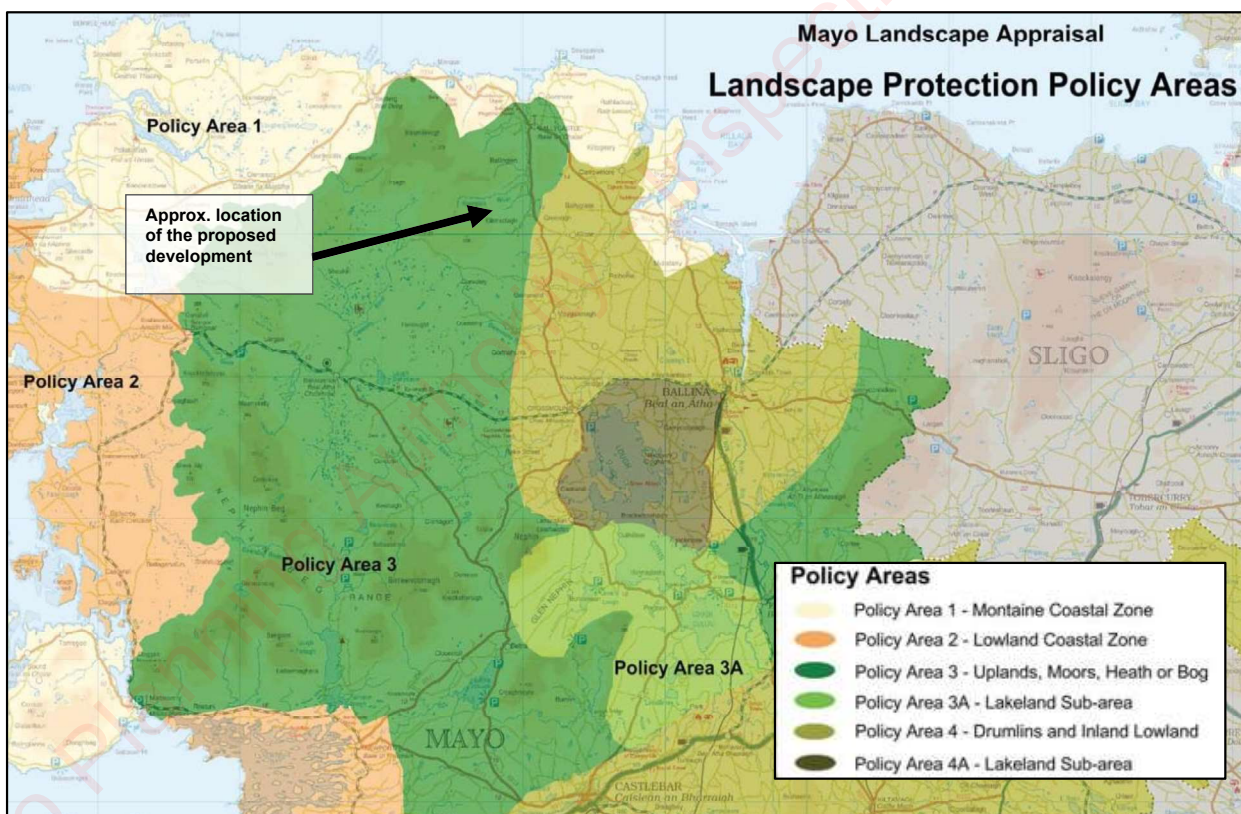


Figure 10.4 Map 3A Landscape Protection Policy Areas relative to the site, derived from Mayo County Development Plan 2014-2020, Volume 1 Written Statement (Incorporating Variations No. 1 & No. 2).

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

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 10.5 Figure 3 Landscape sensitivity matrix, derived from Mayo County Development Plan 2014-2020, Volume 1 Written Statement (Incorporating Variations No. 1 & No. 2).

The current Mayo CDP also includes landscape policies and objectives, some of which are relevant to the proposed development and are outlined below;

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 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.”

A Renewable Energy Strategy (RES) for County Mayo (2011-2020) is included in the current Mayo County Development Plan 2022-2028 and identifies four wind energy classifications which include;

- 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).

- Tier 2 - Open for Consideration identifies areas which may be considered for wind farms 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.

The proposed wind farm development is situated across both the 'Tier 1 – Preferred (Large Wind Farms)' designation and the 'Tier 2 – Open for Consideration'. With regard to renewable energy developments, it states in section 6.5.14 of the current RES "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."

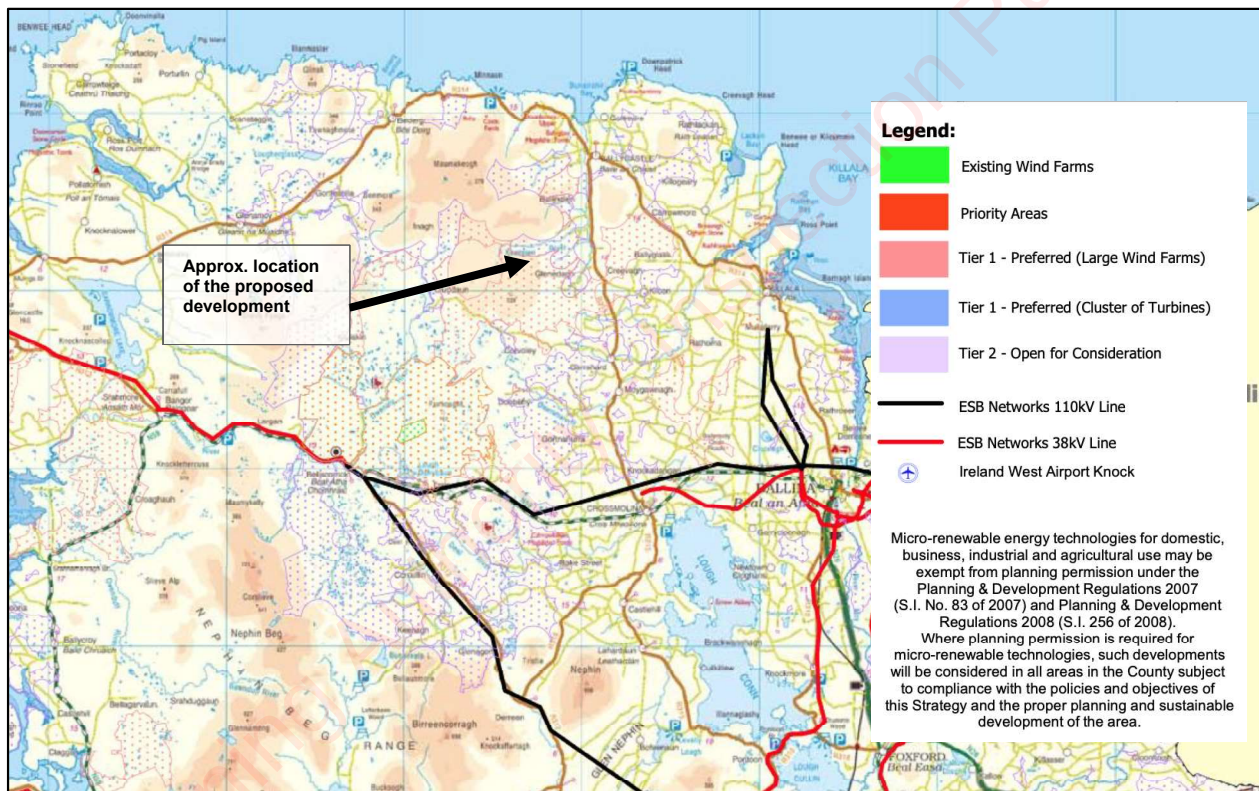


Figure 10.6 Map 1 – Wind Energy relative to the site, derived from Renewable Energy Strategy for Co. Mayo 2011–2020.

10.6.6 Visual Baseline

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

10.6.6.1 Zone of Theoretical Visibility (ZTV)

A computer-generated Zone of Theoretical Visibility (ZTV) map has been prepared to illustrate where the proposed turbines are potentially visible from. The ZTV map is based solely on terrain data (bare ground visibility), and ignores features such as trees, hedges or buildings, which may screen views. Given the complex vegetation

patterns within this landscape, the main value of this form of ZTV mapping is to determine those parts of the landscape from which the proposed development will definitely not be visible, due to terrain screening within the 20km study area. The ZTV below is based on the max tip height of the proposed turbines as a worst-case scenario.

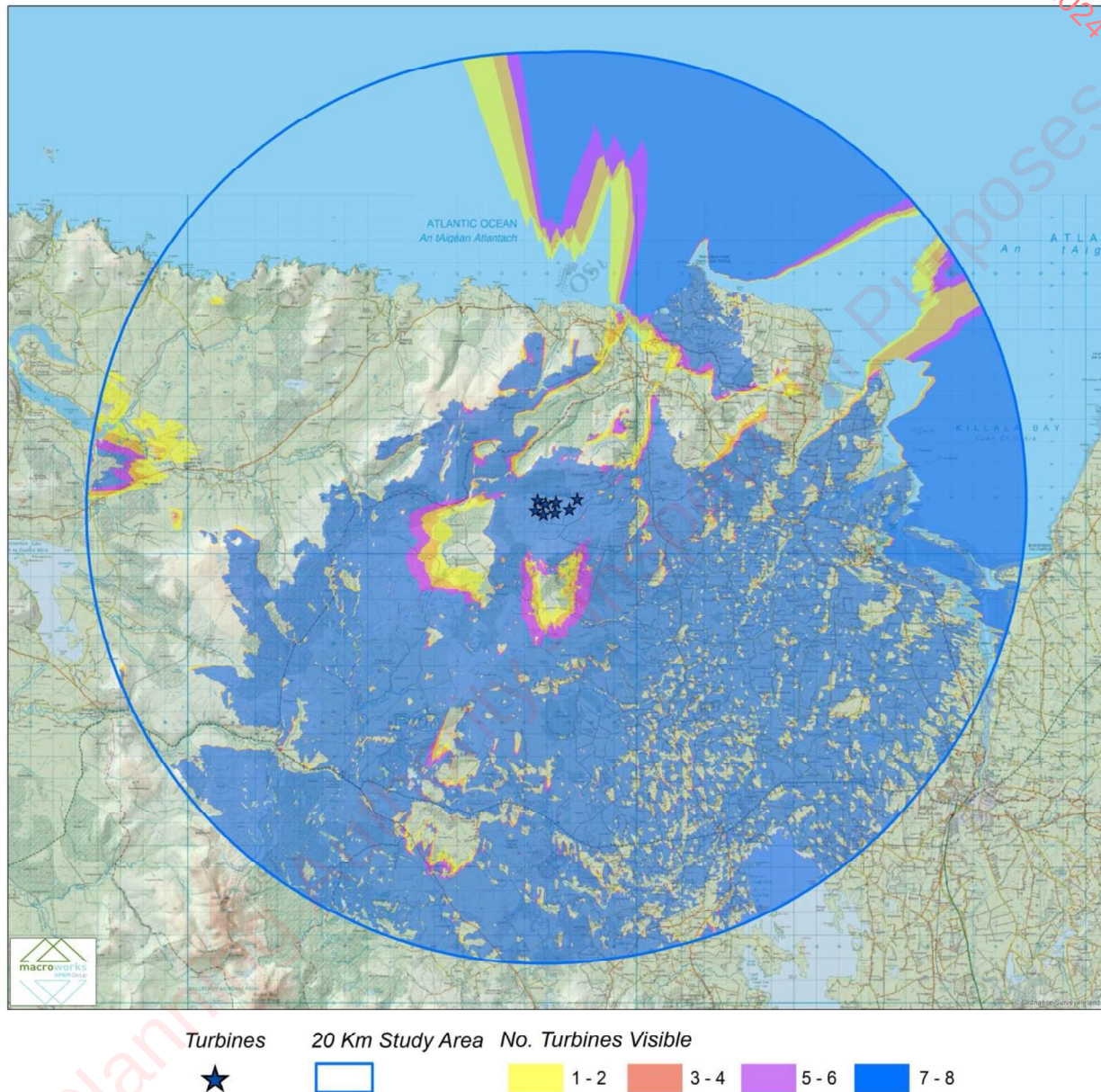


Figure 10.7 ZTV Map (Tip Height) for Keerglen Wind Farm (See Volume XX for full scale annotated ZTV maps).

The following key points are illustrated by the 'bare-ground' ZTV map (Figure 10.7 refers):

- Due to the elevated lands in the wider western extent of the study area, much of the potential for turbine visibility occurs in the eastern and southern half of the study area, while highly screened to the northwest on the far side of the Nephin Beg Range.
- There will be potential for comprehensive visibility (blue colour pattern) in the site's immediate surroundings, There will be potential for comprehensive visibility (blue colour pattern) in the site's immediate surroundings,

especially to the south and east. However, there are two patches to the south and west where there are isolated areas of no visibility within wider swathes of comprehensive (blue) visibility.

- Immediately north of the array, the potential for visibility becomes much more sporadic due to the locally elevated hills and ridges that occur to the north of the site. These will act as a visual screen for many of the local and coastal receptors located in the northern extent of the central study area.
- Similarly, the degree of theoretic visibility is much more sporadic to the west of the study area than to the east or south. This is principally due to the Bellacorrick Basin and the surrounding Nephin Range to the north and west of the study area. While the settlement of Ballycastle (to the north) will have very limited potential turbine visibility, most of the R314 corridor is entirely screened.
- The wider landscape to the south and east has a much clearer potential for visibility of the proposed turbines. This is principally due to the relatively flat to low-rolling terrain in this aspect of the study area.
- The settlements of Killala and Crossmolina have the potential to afford areas of comprehensive visibility (blue colour pattern) of the proposed turbines. However, these also feature a sporadic overlay, with some clear areas of no turbine visibility.

10.6.7 Visual receptors

10.6.7.1 Centres of Population and Houses

The principal centre of population in relation to the proposed development is the settlement of Ballycastle, which is the only notable population centre within the central study area situated some c. 5.5km northeast of the site. Ballycastle is a Tier 4 Settlement in the 2022 Mayo CDP (Map 2.3 – Settlement Hierarchy Map). Otherwise, the central study area comprises a modest but scattered rural population comprising isolated farmsteads and small linear clusters of residential dwellings, generally contained to the east of the site.

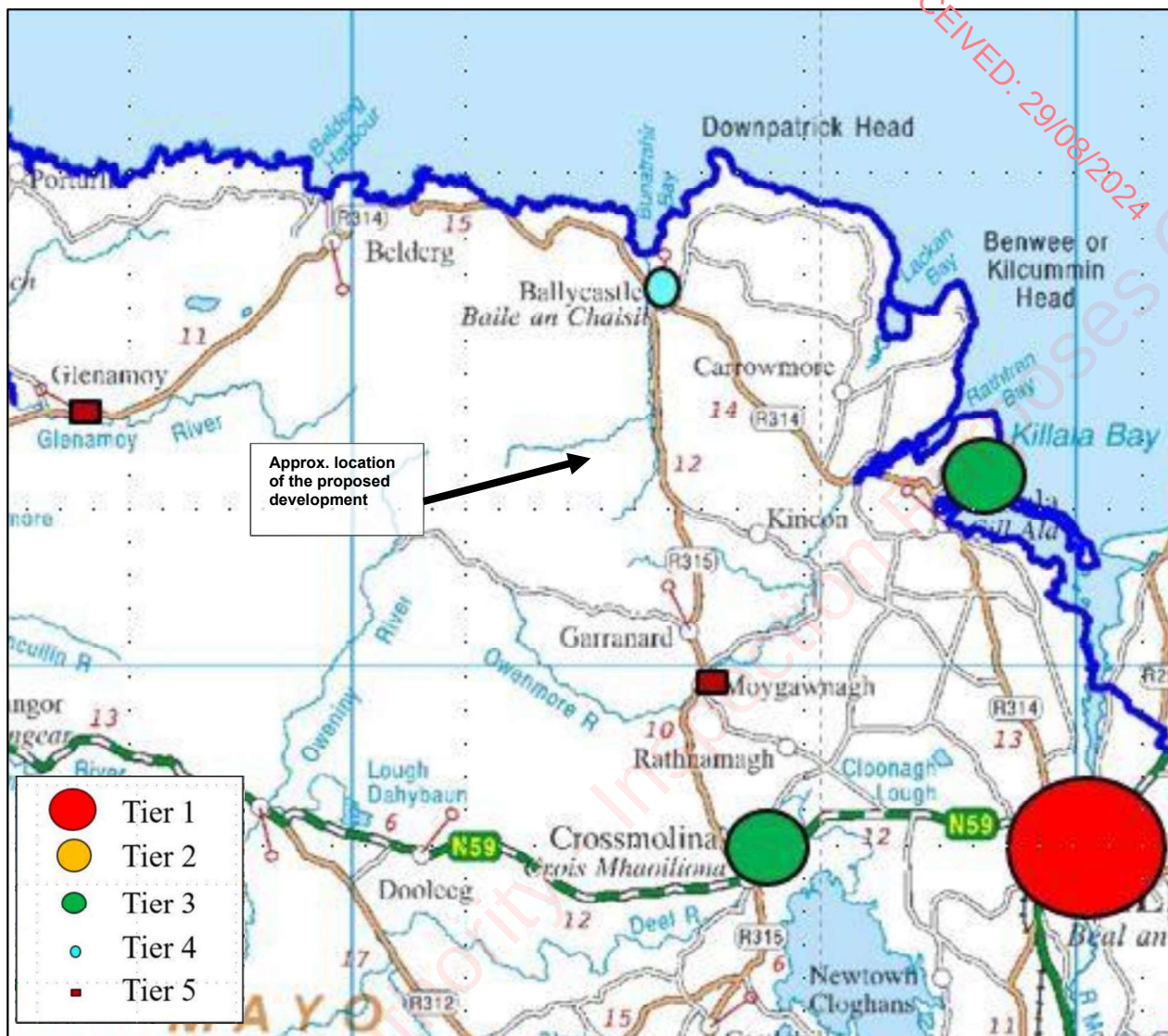


Figure 10.8 Mayo Settlement Hierarchy Map in the surrounds of Keerglen Wind Farm.

As shown above, the other settlements' wider study area encompasses the smaller (Tier 5) settlement of Moygawnagh, 9km to the southeast; on the far western extent of the study area, is Glenamoy, also a Tier 5 settlement. In the east of the study area are the larger Tier 3 settlements of Killala, located at the western shores of Killala Bay, 12km east of the site, and Crossmolina, located 15km south of the site, along the N59 road corridor. Ballina, the only Tier 1 settlement in the vicinity, is situated along the banks of the River Moy, marginally outside the study area at a distance of 20.5km. Aside from the towns and village settlements mentioned above, the wider study area encompasses smaller cross-road settlements and a modest rural population in its southern and eastern extents. The western half of the wider study area comprises a much sparser population density due to the elevated and rugged nature of the terrain here.

10.6.7.2 Transport Routes

The most notable major transport route in relation to the proposed wind farm is the N59 national secondary route that skirts through the southern extent of the study area in an east/west alignment and is located some c. 13km south of the turbine array at its nearest point. The closest major route to the proposed development is the R315 regional road, which is situated some 3km east of the site at its nearest point and is oriented in

a general north-south direction within the study area, connecting the settlements of Crossmolina and Ballycastle. To the northeast of the study area is the R314 regional road, 7km from the nearest proposed turbine. The R314 links the settlements of Killala, Ballycastle, and Glenamoy and loops around the northern half of the study area, generally parallel to the coastline, entering/exiting the study area to the southeast and western peripheries. In the distant south of the study area, the R312 splits off the N59 at Bellacorrick towards the southeast/Nephin Range. Otherwise, small settlements are connected via a network of interconnecting local roads, some traversing immediately adjacent to the site.

10.6.7.3 Amenity and Heritage Features

Due to the study area's location along the western Irish coastline, there are several notable tourism, heritage and amenity receptors within the study area. One of the most prominent of these is the Wild Atlantic Way (WAW) scenic driving route, which occurs along the coastal routes within the study area and is located just over 1.5km northeast of the nearest turbine. The Wild Atlantic Way, a 2,500km long tourist driving route, enters the study area in its northeast quadrant along the coast road west of Easky and follows the coast roads throughout the study area.

The Eurovelo Atlantic's Coast Route is an 11,000km long cycling trail that traverses the coastline of several countries along the western coast of Europe, including Ireland. The Celtic Coast section of this route follows a similar route to the Wild Atlantic Way within the study area, passing less than 1.5km northeast of the nearest turbine.

The Céide Fields encompass a network of stone-walled fields extending over hundreds of hectares and are the oldest known field patterns globally, dating back almost 6,000 years. The site currently comprises an award-winning visitor centre and is set against some of the most dramatic coastal rock formations in Ireland. It is located some 10km northwest of the proposed turbine array.

Downpatrick Head comprises a highly scenic coastal walk with views of the famous Dún Briste sea stack and the wider coastline. It is located along the WAW and is some 6km northwest of the nearest turbines in the proposed array.

The remnants of Rathfran Abbey, founded in 1274, are located along the coastline on the southwestern extent of Killala Bay and some 2.7km east of the nearest turbine. Several other notable heritage features accessible to the public are also located throughout the study area, several of which are contained along Killala Bay and the River Moy Estuary and include Moyne Abbey and Rosserk Friary. These are key features along the 'Monasteries of the Moy Greenway and Cycle Route', which enters the study area near Ballina along the River Moy to the east of the study area of the site before continuing to the north along the River Moy towards Killala Bay.

The central and wider study area also comprises several notable walking routes, many of which pass adjacent to the numerous tourism heritage and amenity assets within the study area. The principal walking route within the study area is the Western Way National Waymarked trail, which traverses through the northern extents of

the site and links the settlements of Ballina and Ballycastle. Other walking trails include the Kilcummin Loop Walks, the Ballycastle Loop Walk, and the Moygownagh Loop Walk.

It is also important to note that this part of Mayo is a popular tourism destination due to its coastal context, which comprises numerous short-term holiday homes, caravan parks, and glamping sites. Several golf courses are also located in the wider eastern extent of the study area..

10.6.8 Views of Recognised Scenic Value

Views of recognised scenic value are primarily indicated within County Development Plans (CDP) in the context of scenic views/routes designations, but they might also be indicated on touring maps, guide books, road side rest stops or on post cards that represent the area.

All of the scenic routes and views that fall inside the ZTV pattern (see Figure 10.7) were investigated during fieldwork to determine whether actual views of the proposed wind farm might be afforded. Where visibility may occur, a viewpoint has been selected for use in the visual impact appraisal later in this chapter. In some instances, a single viewpoint is selected to represent a stretch of designated scenic route or a cluster of designated scenic views, particularly distant ones

Mayo County Development Plan

The current Mayo County Development Plan (CDP) 2022-2028 includes Map 10.2, 'Scenic Routes and Views', which classifies scenic designations in County Mayo into two categories: Scenic Routes and Scenic Routes with Designated Views. Several 'Scenic Routes' occur within the study area, all of which are contained along the immediate coastline or adjacent to the Lakelands within the southern periphery of the study area. One 'Scenic Route with Designated Views' is located within the study area and is situated adjacent to the coastline in the northwest quadrant of the study area.

Viewpoints VP2, VP3, VP4, VP6, VP15 and VP18 were all selected to represent scenic designations in County Mayo within the study area.

Policy relating to scenic designations in the current Mayo County Development Plan is included below;

“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:

- *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*
- *Satisfied all other criteria, with regard to, inter alia, servicing, public safety and environmental considerations.*

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receptor locations were selected that are likely to provide views of the proposed wind farm from different distances, angles, and contexts.

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

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

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

Key Views

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

Designated Scenic Routes and Views

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

Local Community Views

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

Centres of Population

VRPs are selected at centres of population primarily due to the number of viewers that are likely to experience that view. The relevance of the settlement is based on the significance of its size in terms of the Study Area or

its proximity to the site. The VRP may be selected from any location within the public domain that provides a clear view either within the settlement or in close proximity to it.

Major Routes

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

Tourism, Recreational and Heritage Features

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

The Viewshed Reference Points selected in this instance are set out in the Table 10.5 and Figure 10.10 below.

VRP No.	Location	Representative of	Distance to nearest turbine	Direction of view
VP1	Downpatrick Head	AH, DSR	11.6km	SW
VP2	Local Road intersection at Muingrevagh	DSR, LCV, AH	9.9km	SW
VP3	Céide Fields	AH, DSR	8.5km	SE
VP4	R314 at Doonfeeny Upper	DSR, MR	7.6km	S
VP5	Local Road at Ballyknock	LCV	6.3km	S
VP6	R314 at Ballycastle	LCV, MR, CP	6.2km	SW
VP7	R315 at Ballinglen	MR, LCV	3.6km	W
VP8	Local Road at Carrowtrasna	LCV, AH	13.1km	W

VRP No.	Location	Representative of	Distance to nearest turbine	Direction of view
VP9	Western Way at Altderg	AH	3.7km	E
VP10	Local Road to east of site at Keerglen	LCV	1.8km	W
VP11	Templemurry Graveyard	AH, LCV	11.8km	W
VP12	Local Road south of site at Glenedagh Oughter	LCV	3.1km	NW
VP13	R315 at Creevagh More	MR, LCV	3.4km	W
VP14	Local Road at Castlereagh (Eurovelo)	AH, LCV	10.2km	W
VP15	Western Way at Moyne Abbey	AH, LCV	15.5km	W
VP16	Local Road at Carnlough	LCV	5.6km	N
VP17	R315 at Garanard	MR, LCV	7.2km	N
VP18	L2605 at Killanly	AH, DSR	20.4km	W
VP19	Western way at Ballmonnelly	AH	14.9km	NE
VP20	Moygownagh New Cemetery	CP, AH	9.2km	N
VP21	Junction of N59 / and R312 (Western Way)	MR, AH	14.6km	NE
VP22	N59 at Dooleeg More	MR	13.4km	N
VP23	St . Tiernan's Cemetery Crossmolina	CP, AH, MR	15.7km	N

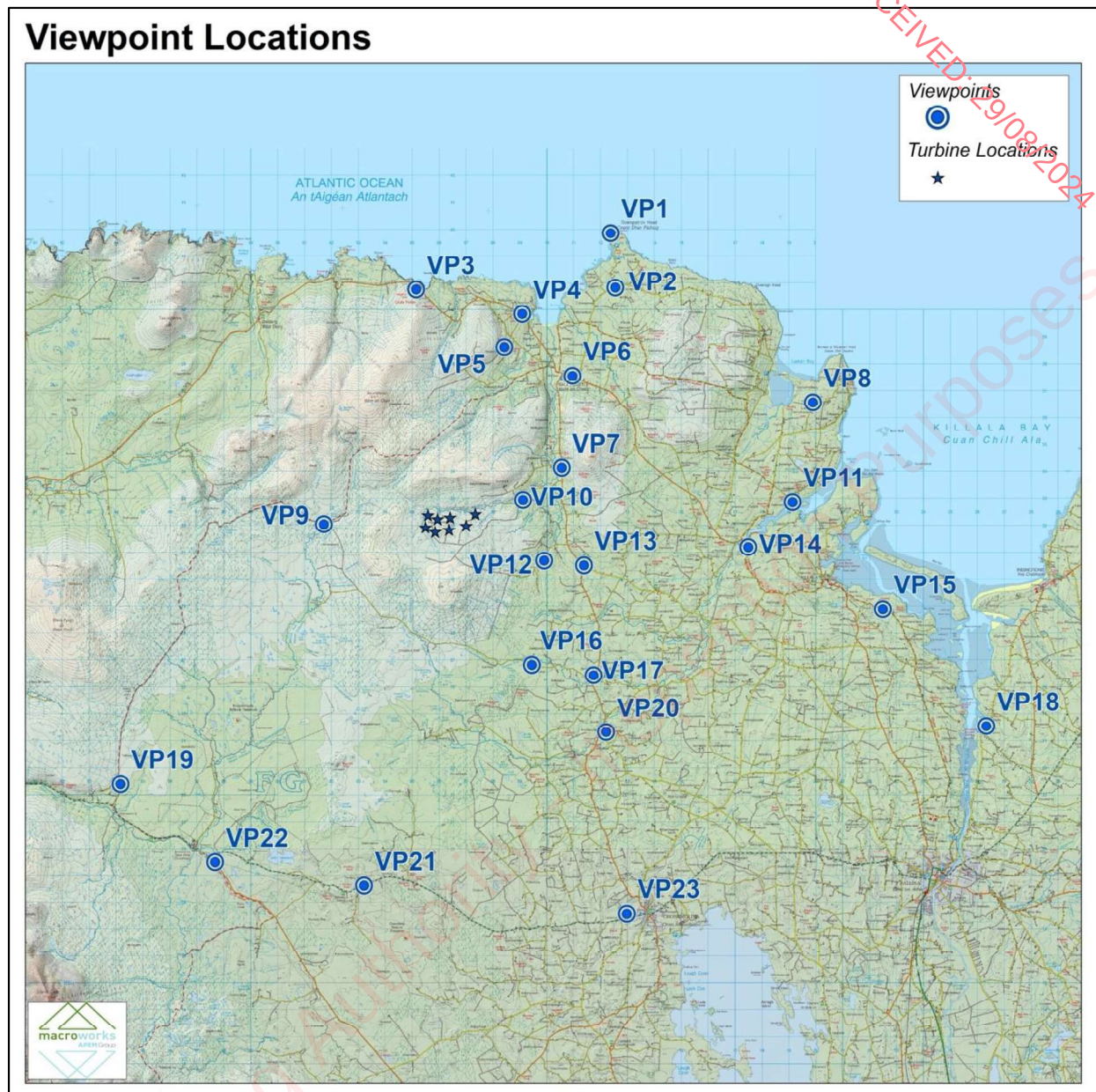


Figure 10.10 Viewpoint Location Map

10.7 Statement of Potential Impacts

Based on the assessment criteria employed herein, potential significant 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 Table 10.1, Table 10.2 and Table 10.4). From previous experience of this type of development in a rural setting, it is considered that 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

- c) Incongruous change to areas of sensitive landscape character

Visual Impacts

- a) A combination of visual and spatial dominance as seen from highly sensitive receptor locations. This is most likely to occur within 1-3km of the proposed development.
- b) Visual clutter and ambiguity as seen from highly sensitive receptor locations. This can occur at any distance, but tends to occur beyond 2-3km as turbines can become stacked in perspective and a more two dimensional layout is perceived.
- c) A combination of both of the above effects.

From baseline studies and early stage assessment specific to the proposed development, the most highly sensitive physical landscape receptor is considered to be the coastline, and its associated scenic and naturalistic values, specifically the Céide Fields and Downpatrick Head.

The most sensitive visual receptors are likely to be the designated scenic views and routes identified in the Mayo County Development Plan, which are sensitive receptor locations on the basis that they represent a consensus on scenic amenity.

10.8 Cumulative Baseline

The Scottish Natural Heritage (SNH) Guidelines relating to the Cumulative Effects of Wind Farms (2012) and the 3rd edition of the IEMA Visual impact Assessment Guidelines (2013) identify that cumulative impacts on visual amenity consist of combined visibility and sequential effects. The same categories have also been subsequently adopted in the Landscape Institute's 2013 revision of the Landscape and Visual Impact Assessment Guidelines:

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

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

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

In terms of landscape character, additional wind energy developments might contribute to an increasing sense of proliferation. A new wind farm might also contribute to a sense of being surrounded by turbines with little relief from the view of them.

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 10.6 below provides criteria for assessing the magnitude of cumulative impacts.

Criteria	Description
Very High	- The proposed wind farm will strongly contribute to wind energy development being the defining element of the surrounding landscape. - It will strongly contribute to a sense of wind farm proliferation and being surrounded by wind energy development. - Strongly adverse visual effects will be generated by the proposed turbines in relation to other turbines.
High	- The proposed wind farm will contribute significantly to wind energy development being a defining element of the surrounding landscape. - It will significantly contribute to a sense of wind farm proliferation and being surrounded by wind energy development. - Significant adverse visual effects will be generated by the proposed turbines in relation to other turbines.
Medium	- The proposed wind farm will contribute to wind energy development being a characteristic element of the surrounding landscape. - It will contribute to a sense of wind farm accumulation and dissemination within the surrounding landscape. - Adverse visual effects might be generated by the proposed turbines in relation to other turbines.
Low	- The proposed wind farm will be one of only a few wind farms in the surrounding area and will be viewed in isolation from most receptors. - It might contribute to wind farm development becoming a familiar feature within the surrounding landscape. - The design characteristics of the proposed wind farm accord with other schemes within the surrounding landscape and adverse visual effects are not likely to occur in relation to these.
Negligible	- The proposed wind farm will most often be viewed in isolation or occasionally in conjunction with other distant wind energy developments. - Wind energy development will remain an uncommon landscape feature in the surrounding landscape. - No adverse visual effects will be generated by the proposed turbines in relation to other turbines.

There are 3 operational wind farms, 3 permitted wind farms, and 6 proposed wind farms (with ABP or pre-planning) contained within the study area. There is one (Bellacorrick) which is being decommissioned to facilitate the construction of Oweninny. These are set out in Table 10.7 below:

Table 10.7 Cumulative Wind Farms within the Study Area			
Wind Farm Name	Number of turbines	Distance and Direction from Proposed Development Site (to nearest turbine)	Status
5 to 10km			
Glenora WF	22	600m north	Proposed (with ABP)
Oweninny 1	29	6.8km southwest	Operational
Oweninny 3	18	6.9km southwest	Proposed (with APB)
Corvoderry Wind Farm	10	9.3km south/southwest	Permitted
ABO Sheskin	8	9km southwest	Permitted
Tirawley	24	7.5km east	Pre-planning
10 to 15km			
Bellacorrick	21	12km south	Decommissioning
Oweninny 2	30	11.4km southwest	Operational
Sheskin South	21	11.2km southwest	Proposed (with ABP)
Killala	6	12.8km east	Operational
Dooleg	1	13km south	Permitted
Gortnahurra	18	10.3km southwest	Pre-planning
15 to 20km			
Kilsallagh	13	17.2km southwest	Pre-planning

10.9 Mitigation and Monitoring Measures

10.9.1 Construction Stage

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

10.9.2 Operational Stage

Given the highly visible nature of commercial wind energy developments it is not generally feasible to screen them from view using on-site screening measures typically employed for other forms of development during the operational phase. Instead, landscape and visual mitigation measures have been incorporated into the siting and design of the development at an early stage. In the case of the proposed development, the guidance provided in the *Wind Energy Development Guidelines for Planning Authorities 2006/2019 revision* was the principal consideration. The relevant guidance for the landscape types that constitute the landscape

and visual setting of the proposed development are discussed in detail in Section 10.6.5.1 above. It is considered that the proposed development is broadly in line with the recommendations contained within the Guidelines.

The proposed development has embedded landscape and visual mitigation measures and thus, the appraisal of potential landscape and visual effects is equivalent to any appraisal of residual effects in this instance.

Some of the general mitigation measures that will be implemented to make the development less intrusive and less eye catching on a localised level include: -

- The colour will be industry standard off-white/light grey semi-matt non-reflective finish,
- Transmission lines between individual turbines and the substation will be placed underground,
- Special care will be taken to preserve any features, insofar as possible, which contribute to the landscape character of the study area; and,
- Counter rotation of blade sets will be avoided.

All structures associated with the substation will be designed to a high standard, considering not only its function but also its aesthetic quality, to minimise any sense of intrusion. The proposed development will provide colour harmony and adequate screening of the substation using local provenance planting.

10.9.3 Decommissioning Phase

The turbines are expected to be fully operational for up to 30 years. After this period, and if planning permission is not sought for an extension of this use at the site, the turbines and ancillary developments will be deconstructed and removed from the site, with the exception of electricity grid infrastructure, which may remain as part of the national grid network in perpetuity. Aspects of the ancillary site development, including the access tracks, may be retained in situ. These may facilitate the use of the site for, as stated, suitable future rural development uses, including animal grazing or recreational activities, including walks and bridleways.

10.10 Residual Effects

10.10.1 Residual Landscape Effects

10.10.1.1 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 as well as the broader scale of the Study Area.

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

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

The central Study Area's landscape character, value and sensitivity can be divided based on being within or outside the Bellacorrick Basin. Generally, the west of the central study area is occupied by slopes that

face inland, to the south and west, featuring large-scale land cover/uses such as peat bog, commercial forestry, and growing influence from wind energy. In contrast, the east of the site and central study area features smaller scale land use patterns within valleys which open towards the north Mayo drumlin landform. To the north, the upland areas that enclose the Bellacorrick Basin create a dramatic backdrop for the more sensitive coastal setting (not located within the central study area), including the Western Way walking route, which crosses south of Maumakeogh. The site is contained along rolling transitional terrain that slopes away from the Bellacorrick Basin, cloaked in a mix of commercial conifer forestry, pastoral farmland, and peat bog. The proportion of forestry/bog to farmland and land use scale changes from east to west, with the larger scale land uses to the west and a higher proportion of smaller scale hedgerows and pastures to the east. Indeed, the site and much of its immediate context are located across this transition, typical for the wider landscape, with a gradient of rural land uses with contrasting extremes of landscape values and sensitivities.

Regarding settlement patterns, there are no prominent population centres in the central study area. However, there is a modest but dispersed rural population within the central study area, with the site's immediate context and western extent comprising the lowest population densities within the central study area. While scattered residential development is located west of the site, this is very limited, and the residential population is primarily located in the east of the central study area, along the Ballinglen River Valley. The valley landform opens to the north, where residential receptors benefit from locally elevated views afforded across the coastline and out to sea, and to the south, where the landform opens to gently rolling drumlins. The central study area is principally accessed via a network of interconnecting local roads, which branch off the R315 regional road, which runs north/south to the east of the site along the Ballinglen Valley.

The sensitive nature of the northern periphery of this part of the study area is highlighted in the current CDP, which classifies the coastal area as Policy Area 1, which is typically designated with a High / High-medium potential development impact in regards to larger scale built developments such as Wind Farms, Power Lines and Communication Masts. Meanwhile, the majority of the central study area and the site itself are located within Policy Area 3, which is also designated as having High sensitivity to such developments. Notwithstanding this, the more robust and less susceptible inland parts of the central study area are contained by Policy Area 4, which has a much stronger ability to accommodate development and is classified with potential development impacts ranging between High-Medium to Low with respect to Wind Farms, Power Lines and Communication Masts.

On balance of the reasons outlined above, the landscape sensitivity of the Central Study Area is deemed to be Medium.

Wider Study Area (c. 5-25km)

The wider study area comprises similarly contrasting landscape values, character and sensitivity to the central study area, albeit over a much broader area. The coastal parts of the study area remain some of the most susceptible and distinctive parts of the wider study area, encompassing receptors and landscape features such as Downpatrick Head, the Céide Fields and Killala Bay. The wider north-western aspects of

the study area contain similarly distinctive coastlines, where there is a much stronger sense of remoteness and the naturalistic due to the limited rural population and extensive areas of moorland and rolling upland terrain around the Nephin Range.

The inland parts of the wider study area contrast with the more susceptible coastal areas described above. Whilst there is some notable sense of scenic amenity in the surrounds of Lough Conn and the elevated lands in the surrounds of the Bellacorrick Basin, there is a much stronger influence from anthropogenic land uses and landscape features, including extensive wind energy development. A strong sense of remoteness and openness is afforded in the Bellacorrick Basin, the wider southwest quadrant of the study area; however, this part of the study area has one of the country's highest concentrations of wind turbines. There is also a strong historical association with energy generation in this part of the study area, as the Bellacorrick Basin was once home to one of ESB's peat-fired electricity generating plants, which comprised a 300ft high cooling tower.

The population density increases east of the Bellacorrick Basin in the wider study area, where Crossmolina and Ballina account for the most notable urban settlements. The landscape in the surroundings of these settlements is much less distinctive than the coastal parts of the study area and the surroundings of the Bellacorrick Basin and is principally influenced by more typical rural land uses such as pastoral farmland. There is also a notable presence of commercial and industrial land uses in the wider southern half of the study area, especially on the outskirts of the larger settlements.

The wider study area comprises an array of contrasting landscape areas, all of which have varying levels of landscape value and sensitivity. Nonetheless, on balance, it is considered that the coastal parts of the study area are some of its most susceptible and are considered to have a High and sometimes Very High landscape sensitivity, especially in the surroundings of sensitive amenities and heritage features. In contrast, the more inland parts of the study area, such as those within its southern half, comprise more traditional rural land uses and encompass less sense of rarity and distinctiveness. The landscape sensitivity here is considered to range between Medium to Medium-low, albeit with some localised areas of higher sensitivity.

A simplified interpretation of the different characteristics of the study area is presented below. This divides the study area into areas primarily under coastal influence, areas defined by upland and bog characteristics, and the settled rural character areas of the study area. There are small areas within each which do not meet these descriptions as well as varying width of transitional landscapes. This interpretation of the landscape within the study area is broadly consistent with the Mayo Landscape Character Assessment, but is project / study area specific with a finer grain of analysis.

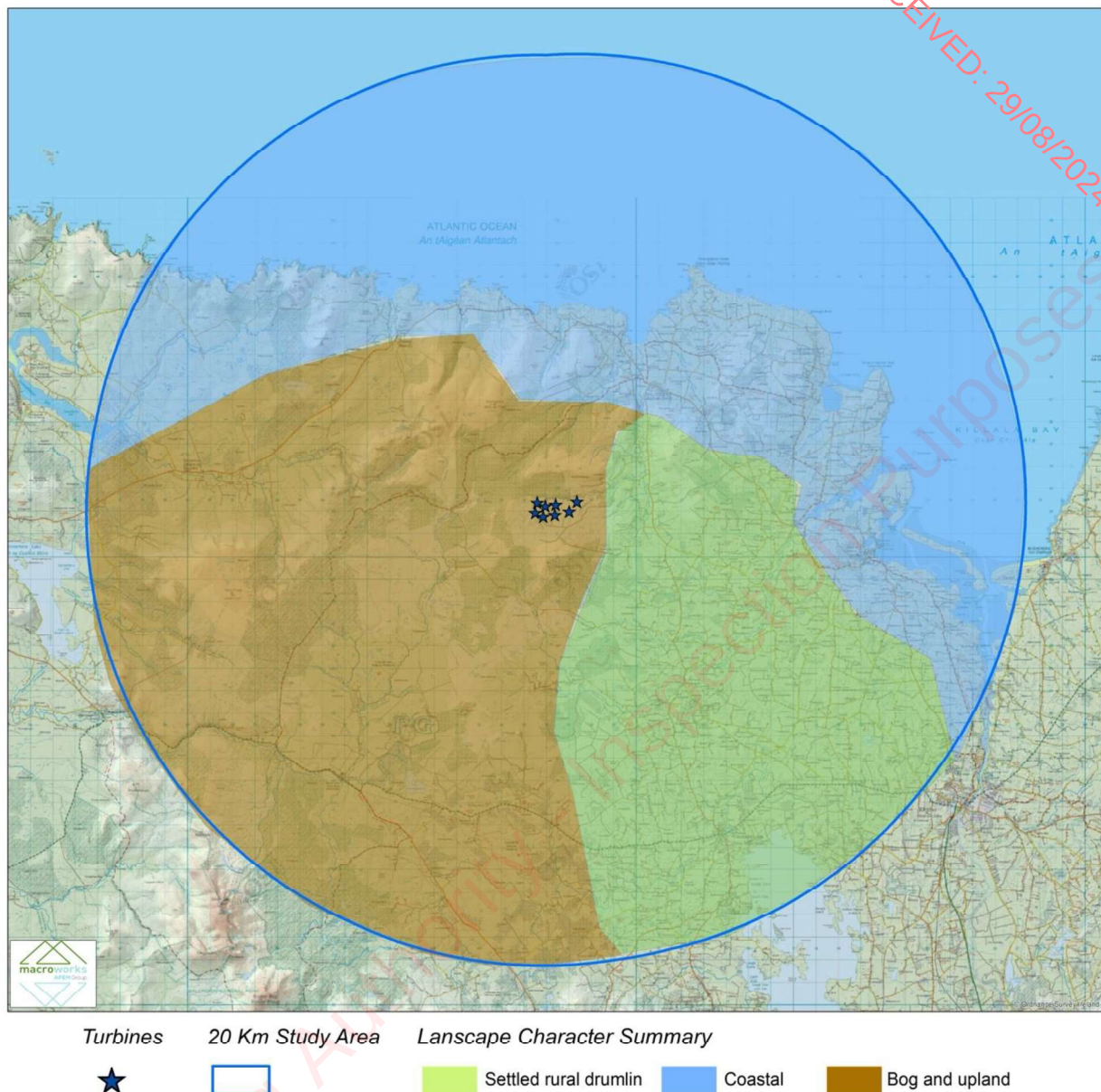


Figure 10.11 Simplified Landscape Characteristics of the wider study area

10.10.1.2 Magnitude of Landscape Impacts

The physical landscape as well as the character of the proposed development and its immediate surrounds is affected by the proposed wind turbines as well as ancillary development such as access and circulation roads, areas of hard standing for the turbines, borrow pits, underground electricity export connection and the substation compound. By contrast, for the wider landscape of the study area, landscape impacts relate almost exclusively to the influence of the proposed turbines on landscape character. The aspects of the proposed development that are likely to have an impact on the physical landscape and landscape character are identified in Chapter 3 (Description of Proposed Development) with construction processes described in the Environmental Management Plan (EMP) at Appendix 3.5.

Construction Stage Effects on the Physical Landscape

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

The finalised internal road layout has been designed to avoid environmental constraints, and every effort has been made to minimise the length of the necessary roadway by utilising and upgrading existing forestry and bog tracks. Furthermore, the road layout has been designed to follow the natural contours of the land wherever possible, reducing the potential for areas of excessive 'cut and fill'. There will be an intensity of construction stage activity associated with the access tracks and turbine hardstands, which will consist of the movement of heavy machinery and materials. However, this will be temporary/short-term in duration and transient in location. The operational stage effects on landscape character from these familiar and dispersed surface features will be minor.

There will be one 38kV on-site substation constructed to collect the generated power from the proposed development. It is proposed that this power will be distributed to the existing Tawnaghmore ESB Substation or a Large Energy User at Killala Business Park, the details of the same will form a subsequent planning application. The 38kV on-site substation will be located centrally on site and will have dimensions of 16m x 6.12m. The building is single storey with a pitched roof with a height of 5.95m to ridgeline and will have a grey harled render finish. The proposed substation compound, which will be enclosed by a 2.5 metre high steel palisade fence. The lighting mast is the tallest feature within the substation and will rise to a height of c.10m). 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.

All internal site cabling will be underground and will follow site access tracks without the need for trenching through open ground. Indeed, the land cover of the site will only be interrupted as necessary to build the structures of the proposed wind farm and to provide access. Impacts from land disturbance and vegetation loss at the site are considered to be modest in the context of this landscape setting.

A temporary meteorological (Met) mast is screened in as part of the Environmental Impact Assessment and shall be applied for planning permission in a separate subsequent planning application. That temporary Met mast proposed as part of that subsequent planning application will be erected on site comprising of a 100-112m in height lattice steel mast with a shallow concrete foundation, fixed to ground by anchors by 3 no. guy-wires. The proposed project also includes the upgrade of 3.5km of existing farm tracks and the construction of an additional 3.7km of new access tracks.

The underground electricity export connection cabling will run from the onsite substation across a combination of private lands and public roads generating land disturbance and associated movement of machinery and stockpiling of materials and will connect to existing Tawnaghmore ESB Substation or a Large Energy User at Killala Business Park, Co. Mayo. No overhead lines are required for this connection. Connection works will involve the installation of ducting, joint bays, drainage and ancillary infrastructure and the subsequent running of cables along the existing road network. This will require delivery of plant and construction materials, followed by excavation, laying of cables and subsequent reinstatement of trenches.

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

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

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

Operational Stage Effects on Landscape Character

For most commercial wind energy developments, the greatest potential for landscape impacts to occur is as a result of the change in character of the immediate area due to the introduction of tall structures with moving components. Thus, wind turbines that may not have been a characteristic feature of the area become a new defining element of that landscape character. In this instance, wind turbines are not a characteristic feature of the immediate site context, but the existing Oweninny I Wind Farm development is located 6km to the southwest of the site at its nearest point. Furthermore, this is the nearest component of the wider wind energy development, which forms a characteristic feature of the wider southwest quadrant of the study area in the surrounds of the Bellacorrick basin, where a considerable number of existing and permitted wind farm developments are located. Killala Wind Farm is a modest-sized wind farm development located to the west of Killala town in the wider eastern half of the study area. Thus, whilst wind energy development is not a wholly familiar feature of the immediate landscape context, it forms part of the landscape character of the wider study area, which also influences parts of the central study area as existing wind turbines can be viewed throughout some of the more elevated parts of the central study area. Thus,

the effect is one of intensification of an established land use in this landscape context and not the introduction of a new and unfamiliar feature.

In terms of scale and function, the proposed wind farm is well assimilated within the context of the central study area. This is due to the contained nature of the scheme, which reflects the landform and line of the valley, which narrows to the east, and the scale of the underlying landscape land use patterns – which are larger scale to the west and smaller scale to the east. These attributes prevent the height and extent of the proposed wind farm, causing the type of scale conflict that can occur in more intricate landscape areas. Whilst some degree of rural tranquillity exists in the surrounds of the proposed development, generally to the east of the site, this is a robust working rural landscape in which the proposed wind farm will be seen at the periphery of, well contained within a transitional context. Although the proposed development represents a stronger human presence and level of built development than currently exists on the site, it will not detract significantly from its productive rural character.

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

The decommissioning phase will have similar temporary impacts as the construction phase with the movement of large turbine components away from the site. There may be a minor loss of roadside and trackside vegetation that has grown during the operation phase of the development, but this can be reinstated upon completion of decommissioning. Areas of hard standing and access tracks that are of no further use will be reinstated and reseeded to blend with the prevailing surrounding land cover of the time.

In summary, the proposed development will have physical impacts on the land cover of the site and cable route during the operational phase. Still, these will be relatively minor in the context of this working rural landscape that comprises pockets of existing wind energy development and areas of commercial conifer forest. While the scale and intensity of built development will be considerably increased within the context of the site and central study area, the proposed development will be well assimilated within its landscape context without undue conflicts of scale with underlying landform and land use patterns. For these reasons, the magnitude of the landscape impact is deemed to be **High-medium** within the site and its immediate environs (c.1km) reducing to **Medium** for the remainder of the central Study Area. The quality of the landscape effects is deemed Negative. Beyond 5km from the site, the magnitude of landscape impact is deemed to reduce to **Low** and **Negligible** at increasing distances as the wind farm becomes a proportionately smaller and integrated component of the overall landscape fabric.

10.10.1.3 Significance of Potential Landscape Impacts

Based on a **Medium** sensitivity judgement and a **High-medium** magnitude of construction stage landscape impact, the significance of impact is considered to be **Substantial-moderate / Negative / Short-term** within and immediately around the site during construction but reducing quickly with distance and broader context.

Based on a **Medium** sensitivity judgement and a **High-medium / Medium** magnitude of operational stage landscape impact, the localised significance of impact is considered to be **Substantial-moderate / Negative / Long-term** within and immediately around the site. Thereafter, significance will reduce to **Moderate** and **Slight** at increasing distances as the development becomes a progressively smaller component of the wider landscape fabric even in the context of higher sensitivity landscape units / features.

10.10.2 Residual Visual Effects

In the interests of brevity and so that this chapter remains focussed on the outcome of the visual assessment (rather than a full documentation of it), the visual impact assessment at each of the 23 selected representative viewpoint locations has been placed into Technical Appendix 10.1. This section should be read in conjunction with both Technical Appendix 10.1 and the associated photomontage set contained in a separate booklet accompanying the EIAR. A summary table is provided below, which collates the assessment of visual impacts (Table 10.8 below). A discussion of the results is provided thereafter.

10.10.2.1 Summary of Visual Impacts

VRP No.	Distance to nearest turbine	Visual receptor Sensitivity	Visual Impact Magnitude	Significance of Visual effect
VP1	11.6km SW	High	Low-negligible	Slight/ Negative/ Long-term
VP2	9.9km SW	High-medium	Low-negligible	Slight-imperceptible / Negative / Long Term
VP3	8.5km SE	Very high	Negligible	Imperceptible / Neutral / Long Term
VP4	7.6km S	High-medium	Negligible	Imperceptible / Neutral / Long Term
VP5	6.3km S	Medium	Negligible	Imperceptible / Neutral / Long Term
VP6	6.2km SW	Medium	Negligible	Imperceptible / Neutral / Long Term
VP7	3.6km W	Medium-low	Medium-Low	Moderate-slight / Negative / Long term
VP8	13.1km W	Medium	Low	Slight/ Negative/ Long Term
VP9	3.7km E	Medium	Low-negligible	Slight-imperceptible / Negative / Long Term
VP10	1.8km W	Medium-low	Medium	Moderate/ Negative/ Long term
VP11	11.8km W	High-medium	Low	Slight/ Negative/ Long Term
VP12	3.1km NW	Medium-low	Medium	Moderate/ Negative/ Long Term
VP13	4.4km W	Medium-low	Medium-Low	Moderate-slight/ Negative/ Long Term
VP14	10.2km W	Medium	Low	Slight/ Negative/ Long Term
VP15	15.5km W	High-Medium	Low-negligible	Slight/ Negative/ Long Term
VP16	5.6km N	Medium-low	Medium-Low	Moderate-slight/ Negative/ Long Term
VP17	7.2km N	Medium-low	Medium-Low	Moderate-slight/ Negative/ Long Term
VP18	20.4km W	High-medium	Low-negligible	Slight/ Negative/ Long Term
VP19	14.9km NE	Medium	Low-negligible	Slight-imperceptible/ Negative/ Long Term

VRP No.	Distance to nearest turbine	Visual receptor Sensitivity	Visual Impact Magnitude	Significance of Visual effect
VP20	9.2km N	Medium	Low	Slight/ Negative/ Long Term
VP21	14.6km NE	Medium-low	Low-negligible	Slight-imperceptible / Negative / Long Term
VP22	13.4km N	Medium	Low	Slight/ Negative/ Long Term
VP23	15.7km N	Medium-low	Low-negligible	Slight-imperceptible / Negative / Long Term

10.10.2.2 Visual Impacts on Local Community Views

Local Community views are considered to be those experienced by people who live, work and move around the area within approximately 5km of the site. These are generally the people that are most likely to have their visual amenity affected by a wind energy proposal due to proximity to the turbines, a greater potential to view turbines in various directions, or having turbines as a familiar feature of their daily views.

Due to the broad and dispersed nature of the proposed wind farm, up to 13 viewpoints (VP2, VP5, VP6, VP7, VP8, VP10, VP11, VP12, VP13, VP14, VP15, VP16, VP17) were selected to represent local community receptors within the study area. It is important to note that many views selected to represent local community receptors in the vicinity of the coastline were also selected to represent scenic designations and amenity and heritage features such as the Wild Atlantic Way tourist driving route, or within the upland areas, the Western Way long distance walking route. The sensitivity of these views ranges between Medium-low to High-medium, with the higher ranging sensitivities associated with the coastal context and its array of sensitive landscape receptors and broad elevated views afforded across the wider landscape. Those receptors identified with a 'medium' to 'medium-low' sensitivity are more typical views influenced by the surrounding working landscape, such as broad areas of settled, pastoral farmland. Views which were primarily selected to represent the nearest local residents include VP5, VP7, VP10, VP12 and VP16. While VP7 is located on the R315 and also a main route receptor. Those most sensitive to changes in the view and best represented by the view are the local receptors.

The significance of visual effects ranged between 'Moderate' to 'Imperceptible', with the highest impacts related to those receptors located nearest to the proposed development that have the potential to afford close views of the entirety of the scheme. Two views, VP10 and VP12, were classified with 'Moderate' significance of visual effect, and two viewpoints, VP7 and VP16, were classified with a 'Moderate-slight' significance. In the final view, VP5 is classified as having an 'Imperceptible' magnitude of impact due to landform screening.

Viewpoint VP10, with a significance of 'Moderate', is situated to the east of the site and will afford views of all turbines at close proximity, with the nearest turbines presenting at a prominent scale. Whilst clear views of turbines from a near distance have the potential to be afforded from several nearby dwellings and local access roads, which adds to the intensity of land use within the transitional viewer context, there is a strong sense of perspective and legibility within the view. In contrast, the significance of 'Moderate' at VP12 is due to the irregular arrangement and clutter of the proposed turbines, which are partially screened by landform. Additionally, there is

some contextual and scale confusion in relation to a visible residence in the foreground and contrasting land use scales.

Two viewpoints representing the local community were classified with a significance of effect of 'Moderate-slight' and include viewpoints VP7 and VP16. At both these locations, the proposed development is seen to be well-spaced, progressively revealed by intervening landforms. This serves to separate the proposed development from the viewer context while presenting a generally well-spaced and legible array. Although the turbines in both contexts will be one of the principal built features of the view, the proposed wind farm development does not appear out of place in this transitional setting. The arrangement and context of the proposed development are clear and do not cause undue confusion or visual irritation. However, both views are located in such proximity that the visual presence is co-dominant, which contributes to the Moderate-slight significance.

Overall, whilst the turbines will present at a considerable scale at some of the nearest local community receptors, the turbines do not generate any notable sense of over-bearing, nor do they appear out of place when viewed against the robust transitional landscape, influenced by an array of productive land uses. Whilst there is some notable sense of scenic amenity afforded throughout the local landscape, in particular along the Ballinglen Valley, the turbines are separated contextually by intervening landforms and land uses. Thus, it is not considered that the proposed development will generate significant visual impacts at local community receptors.

10.10.2.3 Visual Impacts on Designated Views

Five representative views (VP1, VP2, VP3, VP4, VP18) were selected to represent scenic designations within the study area throughout Mayo (VP1, VP2, VP3, VP4) and Sligo (VP18). The majority of the designated scenic views relate to the coastline, as do a number of the Wild Atlantic Way, Western Way, and 'Monasteries of the Moy' attractions. Therefore, many of the representative views mentioned above also represent the many heritage and amenity assets located along the coastal routes. The sensitivity of visual receptors at these representative views ranged from Very High to High-medium, highlighting the coastline's highly susceptible nature within the study area. The residual significance of effect at these receptors ranged between Slight to Imperceptible and is discussed further below. Those receptors that principally represent heritage & amenity assets (VP1, VP3) will be discussed further in their relevant section below.

Viewpoint VP18 represents a scenic route designation in County Sligo located marginally outside the wider eastern half of the study area, along a local road to the east of the River Moy corridor. A pleasant view across the wider River Moy corridor is afforded from here, where several heritage assets are visible along the banks of the river corridor. The turbines will be visible as small-scale distant background features to the west from this scenic route designation across the River Moy. Overall, the proposed turbines will have little influence on the scenic amenity afforded by this scenic route, which is already influenced by the existing Killala turbines that are visible at a more noticeable scale. Thus, the residual significance of visual effect was deemed Slight.

Viewpoint VP15 is representative of a Mayo scenic route but also overlays the Western Way and Monasteries of the Moy Trail and Euro Velo route, located in close proximity to Moyne Abbey. The turbines will be viewed as

minor background features with a minimal visual presence, located away from the primary amenity of the location. As such, the final significance of visual effect was deemed Slight.

Viewpoints VP2 and VP4 are representative of a scenic route designation outlined in the Mayo County Development Plan that curves around the coastline along a local road to the north of the site. It is important to note that the main aspect of amenity along this route is typically in the opposite direction to the site across the rugged coastal context and out to sea. Viewpoint VP2 affords a heavily screened view of the proposed development where only the proposed turbine blade sets will be partially visible, rotating along the distant elevated ridge, resulting in a Slight-imperceptible final significance.

VP4 is representative of a 'scenic route with designated views' located along the R314 regional road in the northern quadrant of the study area. Viewpoint VP6 affords no view of the turbines from this scenic route designation, with only the very end of a blade visible in the wireframe and screened by vegetation in the montages. Thus, the significance of visual effect was deemed 'Imperceptible' from this section of the regional road scenic route.

On balance of the reasons outlined above, it is considered that some aspects of the study area, most notably its coastal locations, present with a high degree of scenic amenity. Nonetheless, much of this relates to views across the rugged coastline and out to sea, which are typically in the opposite direction to the proposed turbines. The exception to this is VP18, where the proposed turbines are a distant background feature, clearly separated from the higher amenity landscape. Thus, impacts at scenic designations within the Study Area are not considered to be significant.

10.10.2.4 Visual Impacts on Amenity and Heritage Features

As a result of the proposed project's location in the vicinity of the coastline, which encompasses numerous tourism, amenity and heritage features up to 14 views (VP1, VP2, VP3, VP6, VP8, VP9, VP11, VP14, VP15, VP18, VP19, VP20, VP21, and VP23) were selected to represent amenity and heritage assets within the study area. Some of the principal linear amenity features include the Wild Atlantic Way tourist driving route and the Eurovelo cycling routes. Both of these also follow the scenic route designations identified above, and therefore, the assessment of these scenic routes also relates to these linear amenity features. Other notable linear amenity features include the Western Way National Waymarked walking trail, which occurs in almost 270 degrees of the study area, from southeast to the north and around to the southwest. Another linear attraction is the 'Monasteries of the Moy' trail, which borders the River Moy in the far east of the study area.

Views primarily selected for amenity and heritage receptors are VP1, VP3, VP8, VP9, VP11, VP14 and VP19. From these viewpoints, the significance of visual effects ranged between 'Slight' to 'Imperceptible'. These are outlined below, with emphasis on the most sensitive receptors.

The nearest views were experienced at VP9, along the Western Way at Altderg, 3.7km to the west of the site. The proposal is highly screened and well separated from the Western Way by intervening landform at this location, resulting in little impact on the view and a significance of Slight-imperceptible. Another location along

the Western Way was VP19, which assigned a significance of Slight-imperceptible due to the proposal being a background feature at a distance of just under 15km away, while the larger, existing wind energy within the Bellacorrick Basin is more prominent in the foreground.

In respect of a planning application for a consented wind farm in the Boggeragh Mountains in County Cork, which is situated immediately adjacent to a national waymarked walking trail, the inspector noted (in relation to the Blackwater Way walking trail);

"The proposed development will involve the introduction of large structures into the landscape at a relatively near distance along part of the route. However, in the context of the assessment in relation to visual amenity and landscape above, I do not consider that the impact of the proposed development would significantly affect the recreational value of the walking route. I have no objection to the proposed development in this respect."

It is important to note that the inspector acknowledged that the proposed wind farm would not "significantly affect the recreation value of the walking route", which passed less than c.500m south of the nearest turbines. Indeed, these consented turbines are situated considerably closer to the Blackwater Way than the proposed Keerglen turbines are to the Western Way.

One of the most sensitive heritage receptors within the study area is the nationally and internationally renowned Céide Fields complex, which is situated some c.8.5km northwest of the site along elevated lands immediately adjacent to the coastline. It is classified with a 'very high' receptor sensitivity due to its remote location along the coastline and affords broad sweeping views out to sea and across the rugged coastal context. The proposal will not be visible from this location, resulting in an 'Imperceptible' significance of visual impact.

Downpatrick Head is another notable amenity and heritage receptor situated just under 12km north of the site. This is a highly popular tourism receptor and one of the many stops along the Wild Atlantic Way trail. Several proposed turbine blades will be visible to varying degrees along the distant broad ridge viewed inland away from the coastline. Whilst the rotating turbine components have the potential to draw the eye, the turbines are viewed at a modest scale and will have no notable effect on this susceptible coastal context. Indeed, in the context of the sweeping 180-degree panorama afforded of the coastline, which encompasses the distinctive Dun Briste sea stack, the proposed turbines will have a minimal visual presence. As a result, the significance of visual effect was deemed Slight.

Several other notable, local heritage and amenity assets are also located throughout the central and wider study area. To the east of the site is Carrowmore Beach, backed by Lacken Strand. Viewpoint VP8 is representative of views afforded from above Carrowmore Beach, which also forms part of a local looped walking trail known as the Kilcummin Loop Walks. The proposed turbines will be clearly visible from this locally elevated location and present with a broad visual envelope across the distant ridge. The turbines will not be a noticeable feature of this coastal view, as they are well offset from the coastline and are viewed as being well contained in the transitional and background working landscape context influenced by a mix of pastoral lands and extensive areas of forestry. Thus, the magnitude of visual impact is deemed Slight.

To the south of VP8, VP11 is located at Templemurry Graveyard, with views of and representing Rathfrán Abbey. There is a degree of visual confusion in the layout, and the proposed development is viewed in the background of the direct view towards the heritage feature. However, the separation distances and clear landscape change between the viewer, heritage features, and the proposed development limit the influence that the proposed development has at this location. Therefore, the final significance is deemed Slight.

Clustered in the east of the study area with VP8 and VP11, VP14 is located along the Eurovelo cycle route, as well as representing local community, a main route, and cluster of heritage/amenity features. As with VP8 and VP11, there are views to the proposed development, which are mitigated by the relative scale and visual dominance of the scheme. As above, the final significance is Slight.

Overall, the study area comprises a variety of sensitive and visually susceptible tourism, heritage, and amenity assets that have the potential to provide views of the proposed wind farm. Nonetheless, similar to the scenic designations, the proposed turbines are typically viewed in the opposite direction from the main aspect of visual amenity from these visual receptors. As a result of the reasons outlined above, it is not considered that the proposed development will result in significant visual impacts with respect to heritage and amenity features within the Study Area.

10.10.2.5 Visual Impacts on Centres of Population

Viewpoints VP6, VP20, and VP23 were all selected to represent population centres within the study area. Whilst a modest rural population exists within the central study area, there were no centres of population as shown on the Co. Mayo settlement hierarchy map. Several centres of population are located in the wider surrounding area of the study area and have the potential to afford views of the proposed turbines.

Ballycastle (VP6), Moygownagh (VP20) and Crossmolina (VP23) are notable settlements situated in the wider study area. Ballycastle (VP6) to the north, Moygownagh (VP20) and Crossmolina (VP23) to the south and southeast respectively.

Viewpoint VP6 is representative of the settlement of Ballycastle and is located along the R314 to the east of the centre of the settlement. Whilst the wireframe view identifies the potential for partial visibility of turbine blades, the actual visibility scenario is that of a highly screened view between buildings and vegetation, which effectively screens views from this location. This is also representative of the R315 and a small heritage feature within Ballycastle. It is also important to note that the visible and partially visible turbines are viewed inland in the context of the more robust working landscape context. As the proposed development is entirely screened, the impact is deemed Imperceptible.

Viewpoint VP20 was included as a representative view of the local community and village at Moygownagh and is afforded a screened view of the proposed wind farm development. The turbines present in a condensed cluster from this local landscape context, with a high degree of screening is generated by the rural surroundings and vegetation. Thus, the significance of visual impact is deemed 'Slight' at the settlement of Moygownagh.

Viewpoint 23 is located in the wider southern study area, where the proposed turbines present as distant background features from the outskirts of Crossmolina at St Tiernan's Cemetery. Thus, the residual significance of visual impact is deemed 'Slight-imperceptible' at the settlement of Crossmolina.

As a result of the reasons outlined above, it is not considered that the proposed development will result in significant visual impacts at Centres of Population within the Study Area.

10.10.2.6 Visual Impacts on Major Routes

Major route receptors are represented by up to eight viewpoints, including VP4, VP6, VP7, VP13, VP17, VP21, VP22, and VP23. Those not already discussed under other receptors include VP13, VP17, VP21, and VP22. Only one major route receptor is located within the central study area, which is the R315, represented by VP7, VP13 and VP17. The closest of these is VP13, which is also representative of local receptors in the rural surrounding areas. The proposed development is set back from the viewer, however presents at a modest scale and adds modern, more intensive land use to a view dominated by rural land uses. Similar impacts occur at VP17, which is also located along the R315. At both these locations, the final significance is deemed Moderate-slight.

The most notable major route is the N59, which is situated in the wider southern periphery of the study area. Whilst there is potential for intermitted views of the proposed development from both major route receptors, the turbines will be viewed at a considerable distance and will have no notable influence on the visual amenity afforded from this busy route corridor, which are principally influenced by large scale existing land uses, including wind development. As such, the two viewpoints located along the N59, within the Bellacorrick Basin, feature a significance of Slight-imperceptible at VP21 and Slight at VP22.

As a result of the reasons outlined above, it is not considered that any significant visual impacts will occur in respect of major route receptors.

10.10.2.7 Summary of Visual Impacts

Based on the visual impact assessments outlined above and in Table 10.8. The most notable visual impacts occur at local community receptors, which account for the two of the 'Moderate' visual impact significance classifications and principally relate to their close proximity to the proposed development. In both instances, the primary impact is due to the intensification of built development with moving components in the localised setting. However, while the array is viewed at a closer distance from VP10 than from VP12, there is more legibility to the view of the turbines and their contextual separation from the viewer. Nonetheless, in all instances where the proposed turbines are viewed at a close distance, they do not present with any strong sense of overbearing, nor do they appear over-scaled in this transitional landscape.

With regard to some of the most susceptible parts of the study area, such as the coastal landscape to the north and east of the proposed project, whilst the turbines will be visible in some instances, they do not present in a highly prominent manner and are typically viewed in the opposite direction to the main aspect of visual amenity.

From the north of the study area, visibility is generally restricted to partial blades and tips or the turbines are entirely screened. From the east of the study area, the proposed development is often visible in its entirety, revealed by a distant sloping landform. Furthermore, there is a strong sense of contextual separation from the coastline, with the turbines viewed well offset from the coastline along elevated terrain influenced by typical transitional land uses such as pastoral farmland and conifer forestry.

Even in the context of local community receptors where the turbines will present with a dominant visual presence in some instances, the layout and contained extent of the proposed wind farm clearly reflects the scale of landform and land use within which it is set, reinforcing the transition between the surrounding settled rural land uses to the larger scale land uses in the west of the study area.

On balance of the reasons outlined above, it is not considered that the proposed Keerglen Wind Farm will result in significant visual impacts at any surrounding receptors. Indeed, whilst there will be some moderate impacts at local community receptors, the turbines are typically viewed in the context of a working rural landscape context that comprises broad underlying land uses and is well accommodated in terms of its scale and function, reflected in the generally below-average impacts.

10.10.2.8 Turbine Range Assessment

For the landscape and visual assessment, the pertinent aspect of the design range relates to the turbine dimensions used to prepare the photomontages, upon which, the visual impact assessment is based. As described in the methodology section, it was elected to use one of the candidate turbine dimensions for the full set of photomontages (the specimen turbine), with a second turbine selected to illustrate any differences in visual impact at a sample of four viewpoint locations, predominantly in close proximity to the site.

The Vestas V150 option was selected as the specimen turbine to be used for all photomontages, because the larger rotor diameter and maximum tip height. Furthermore, two of the proposed specimen turbines also have a 105m hub height. The other model used for comparative photomontages is the Nordex N133, which has the lowest tip height, but the highest hub height, resulting in the smallest rotor diameter of the four proposed options.

As can be seen from the comparative photomontages (included in Volume 5 there is a relatively subtle difference in the perceived scale of the proposed turbines in the two scenarios which will be difficult to discern from even the nearest visual receptors. Indeed, the visual presence of the turbines in all instances will be the same due to subtle variations in the turbine dimensions, and it is not considered that any of the turbine combinations proposed in the entire range will result in any contrasting landscape or visual effects than those already stated in the assessment above.

Regardless of whether the difference between the alternative turbine dimensions can be discerned or not, there will be no material difference in the level of visual impact between them, and certainly not a higher impact than the base-case outlined in the visual impact appraisal highlighted above. Furthermore, the alternative turbine dimensions will result in no material difference to the residual landscape effect outlined above. Thus, the

submitted LVIA is deemed to comfortably cover the range of potential turbine dimension options proposed and it is not considered necessary to prepare separate photomontages / assessments at all viewpoints for all possible turbine dimensions highlighted above.

10.10.3 Cumulative Effects

The nature of cumulative visibility within the study area is analysed below using the cumulative wireframe views contained in the photomontage booklet (refer Volume 5) and the cumulative ZTVs (refer to Figure's 10.2 and 10.3)

Although the photomontages and Cumulative ZTV maps relates principally to cumulative visual effects (i.e. utilising the selected VP set), it also informs the closely related assessment of cumulative landscape effects, particularly those relating to cumulative effects on the overall landscape character of the study area. The assessment below, therefore, relates to both cumulative visual effects and cumulative landscape effects.

In this instance, the study area comprises existing wind farms, consented wind farms, proposed (in planning) wind farms and wind farm developments at the pre-planning stage. As a result, the cumulative assessment of wind farm developments within the study area will be broken into two categories: the current cumulative scenario and the potential future cumulative scenario. The current cumulative scenario will assess the cumulative effect of the proposed Keerglen Wind Farm with respect to existing wind farm developments and consented wind farm developments. The potential future cumulative scenario will assess the proposed Keerglen Wind Farm with respect to existing wind farms, consented wind farms, proposed (in planning) wind farms and wind farm developments at the pre-planning stage (only where information is publicly accessible).

10.10.4 Cumulative Impacts – Current Cumulative Scenario

The cumulative map below (refer to Figure 10.12) shows the potential for cumulative visibility between the proposed development and all other existing and consented development within the study area. A discussion in relation to the current cumulative scenario effects follows below.

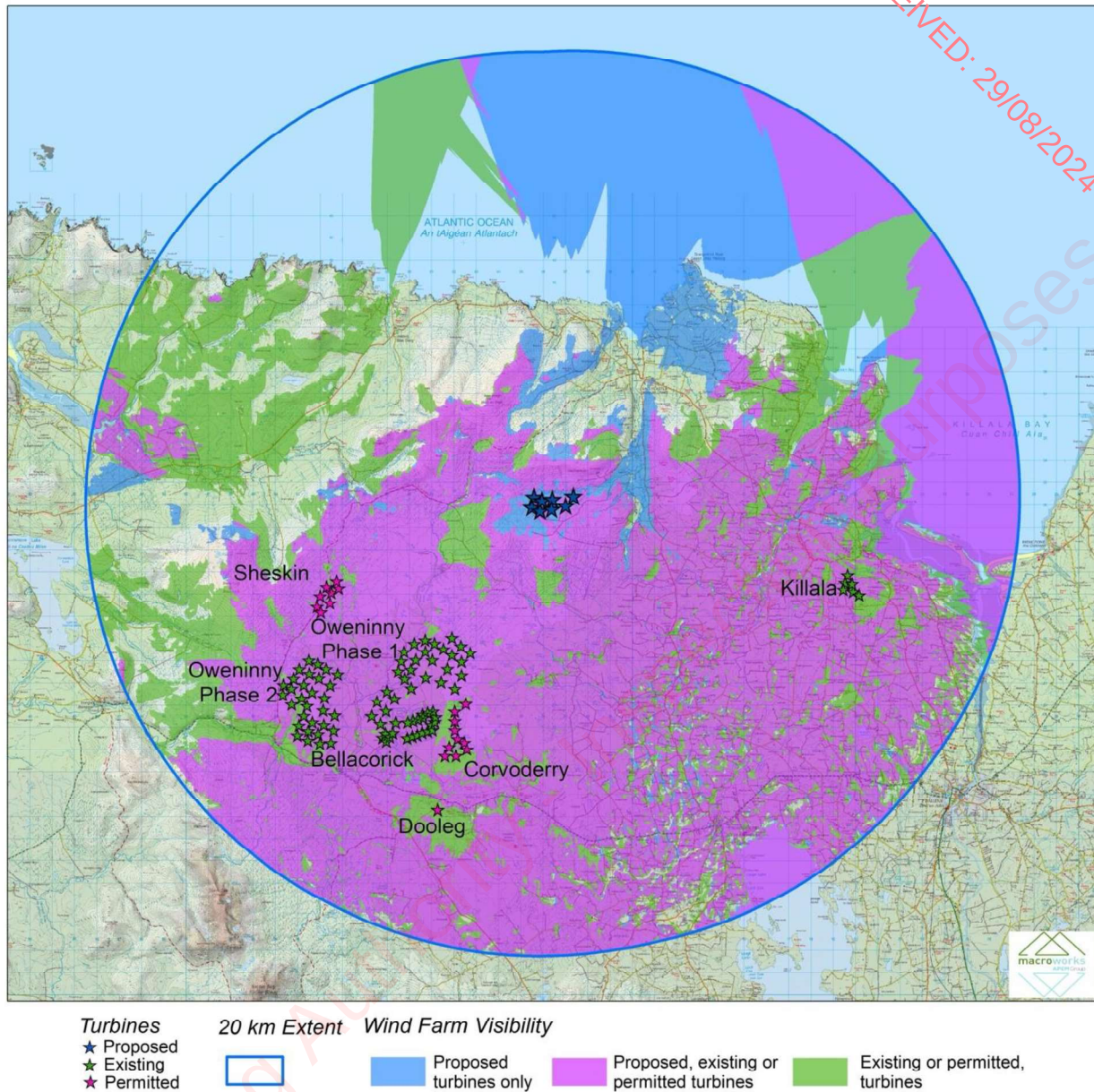


Figure 10.12 Cumulative ZTV Map (Tip Height - 180m) for Keerglen Wind Farm identifying the potential intervisibility of the proposed Wind Farm and all other existing and consented wind farms within the study area

The cumulative ZTV map shows the potential for cumulative visibility between the proposed turbines and all other existing and consented wind farm developments within the 20km study area. At present, there are three operational wind farms and two consented wind farm developments within the 20km study area, totalling 65 Operational turbines (Oweninny I, Oweninny II, Killala Wind Farms), and a further 19 permitted (Corvoderry, ABO Sheskin, Dooleg Single Turbine). There is also one wind farm currently being decommissioned to accommodate the newer developments (Bellacorick – 21 turbines). For the purposes of clarity, the removal of Bellacorick will be accounted for in total turbine numbers in the existing/permitted scenario – as it cannot coexist within the permitted scenario. Therefore, the total existing/permitted baseline consists of 84 turbines, the details of which are discussed below.

It is important to note that there are no existing or consented wind farm developments within the central study area. The greatest concentration of existing and permitted cumulative wind farm developments within the study area occurs within the Bellacorrick Basin to the southwest. The Bellacorrick Basin is ringed by the Nephin Range, with a central area of relatively flat to rolling bog and a history of energy production, including extensive wind energy development. The majority of wind energy developments within the study area are located within the central bog area and along the opposite side of an elevated area of upland terrain situated throughout the southwest quadrant of the study area. This cluster is the combination of Oweninny 1, Oweninny 2, (both operational), Corvoderry (permitted), and the older Bellacorrick (in decommissioning) wind farms. The nearest existing development within the study area is Oweninny Wind Farm 1, which comprises 29 turbines, located some 6.8km southwest of the site. Oweninny 2, Corvoderry and Bellacorrick are situated in close proximity to Oweninny 1 and appear as a cohesive area of large-scale land use. There are two other permitted wind farms within the Bellacorrick Basin context and south/southwest of the study area. The closer of the two to the site is Sheskin Wind Farm, 9km southwest of the proposed Keerglen site. Sheskin Wind Farm is located across the western transitional upland boundary of the Bellacorrick Basin, to the northwest of the main cumulative group near Bellacorrick. Additionally, there is a single turbine at Dooleg More, located along the N59, near the eastern boundary of the Bellacorrick Basin, where there is a greater influence of the rolling drumlin landform. Dooleg single turbine is located c.13km from the proposed Keerglen wind farm and to the east of the main cumulative group at Bellacorrick. The final existing or permitted cumulative wind farm in the study area is not located within the Bellacorrick Basin but rather on the opposite eastern side of the study area, near Killala Bay. Killala Wind Farm is a 6-turbine scheme located in the rural surrounds of Killala town along the coastline, 12.8km northeast of the proposed Keerglen site. As per the cumulative ZTV, the proposed development will be theoretically visible in combination with other existing and consented developments for 48% of the study area. The most notable part of the study area where the proposed development will be viewed in isolation is Downpatrick Head, and the associated scenic designations along the coastline to the north of the study area. Some 12% of the study area has the potential to afford views of the proposed turbines in isolation. The northwest quadrant of the study area also accounts for the most notable part of the 20km study extent, where proposed, existing, or consented developments will not be visible.

As highlighted in the visual impact appraisal, whilst there are instances where intervisibility between the proposed development and the existing Killala development will occur throughout the study area, the proposed and existing developments are well offset from each other and are viewed as distinctly separate developments, which limits the potential for any notable negative cumulative visual effects to occur.

In terms of sequential cumulative visual impacts, there are a number of linear receptors within the study area, including scenic routes, several linear amenity routes and some major route receptors. The most notable of these are the scenic routes and linear amenity routes that traverse the coastal parts of the study area. All of these routes have some potential to afford views of the proposed development and the existing Killala scheme. However, to the north of the study area, as shown in the visual impact assessment, there is limited visibility of the proposed development.

With regard to the cluster of existing and consented developments in the southwest quadrant of the study area, these will have no influence on the coastal routes that traverse through the study area. Nevertheless, the N59 national secondary route has the potential to afford views of the proposed, existing and consented developments within the current cumulative scenario. However, the visibility of the proposed development will be limited along this route due to its considerable distance from the proposed project.

Overall, the proposed development will result in an increase in the intensity of wind farm development along linear receptors within the study area, however, it is not considered that the proposed development will generate any notable negative aesthetic visual impacts in combination with other existing and consented developments as it is located over 5km from the nearest existing wind farm.

In respect of cumulative impacts with other forms of development, there are no other notable large-scale developments within the vicinity of the Proposed Development.

As a result of the reasons outlined above, the magnitude of cumulative effect in relation to existing and consented wind farms within the 20km Study Area is deemed Low. This is principally due to the fact that no other existing or consented developments are located within the central study area.

10.10.5 Cumulative Impacts – Potential Future Cumulative Scenario

The potential cumulative map below (refer to Figure 10.13) shows the potential for cumulative visibility between the proposed development and all other existing, consented, proposed (in-planning) and pre-planning developments within the study area. A discussion in relation to the potential future cumulative scenario effects follows below.

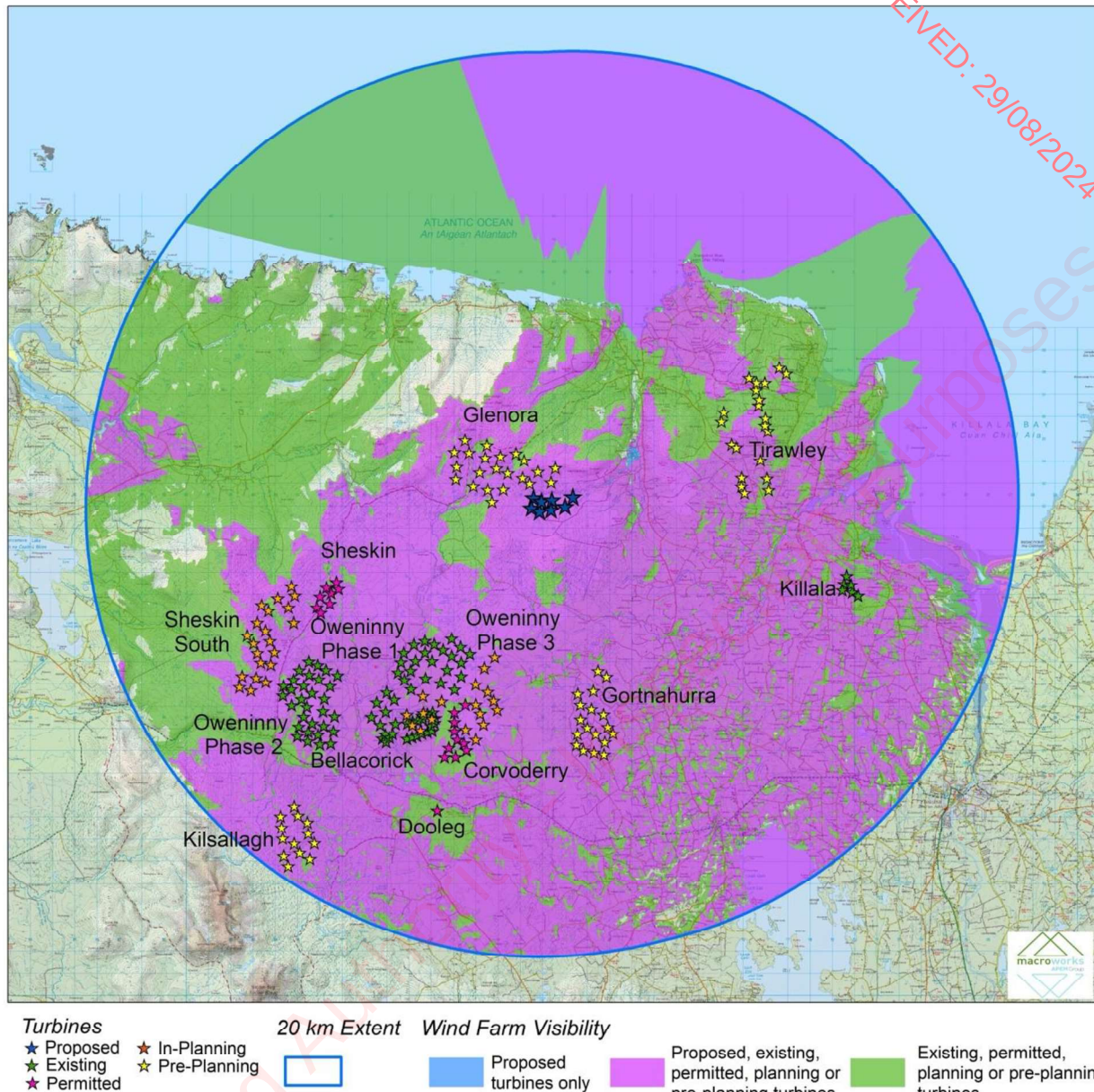


Figure 10.13 Cumulative ZTV Map (Tip Height-180m) for Keerglen Wind Farm identifying the potential intervisibility of the proposed Wind Farm and all other existing, consented, proposed (in-planning) and pre-planning wind farms within the study area

Whilst still at the planning or pre-planning stage, it is important to consider the several proposed developments located throughout the study area. The most notable potential for cumulative effects in the potential future cumulative scenario relates to both the proposed (pre-planning) Glenora and Tirawley wind farms, which have the potential to encompass up to 43 additional turbines within 10km of the site. Glenora is located immediately adjacent to the proposed Keerglen site, 600m to the northwest, with a dense layout extending up to 4km northwest of the proposed Keerglen site. In contrast, Tirawley (7.2km northwest of the site at the nearest point) is located over the east of the study area, with a north/south aligned arrangement of distributed clusters, with the furthest from the site ranging from 10.7km northeast to 8.5km east. The proposed Gortnahurra Wind Farm (pre-planning), which is located slightly further to the south of the site

(10.3km), is also proposed to comprise of approximately 18 no. wind turbines. There are three wind farms in the planning and pre-planning stage to the southwest of the study area, within the Bellacorrick Basin. In order of proximity, these are Oweninny 3, located to the east of Oweninny 1, at a distance of 6.9km to the proposed Keerglen site, Sheskin South (located immediately adjacent to Sheskin), 11.2km west of the proposed Keerglen site, and Killsallagh, in the southwest of the Bellacorrick Basin and periphery of the study area, at a distance of 17.2km from the proposed Keerglen site. The combination of these three developments totals 52 potential cumulative turbines in the southwest of the study area, in addition to the existing turbines and those identified in the north and east of the study area. Thus, in the potential future cumulative scenario, there is potential for an additional 116 no. turbines (in addition to the permitted baseline of 84 existing and permitted turbines) to be constructed across the wider study extent of the study area, resulting in a considerable increase in the intensity of wind farm development. Nonetheless, the proposed development will be contextually separated from these developments as it is located on a relatively defined crest of hills and ridges some 7.5km from the nearest of these proposed wind farms.

The exception to this is the proposed Glenora Wind Farm, which is located in close proximity to, and has the potential to be viewed in combination with the proposed Keerglen Wind Farm. In some instances, the in-planning/proposed Glenora Wind Farm is the more prominent development, while in others Keerglen Wind Farm is in the foreground with partial views of Glenora adding intensity to the view. Locations where the proposed Keerglen development is secondary to the surrounding cumulative scenario (specifically Glenora) include VP1, VP2, VP4, VP5, VP6 (in wireframe only), which experience longer distant views where Glenora is visible over the surrounding upland areas while the proposed Keerglen turbines are highly screened. At VP9, the proposed/in planning Glenora development is clearly visible and occupies much of the view, while Keerglen adds a subtle increase in intensity through a small number of blade tips being viewed in the wireframe view. However, as discussed in the Visual Impact Assessment, the actual visibility of Keerglen is Negligible, therefore there are not deemed to be any notable cumulative impacts from VP9. Instances where the proposed Keerglen turbines are viewed in the foreground are VP7, VP8, VP10, VP11, VP12, VP13, VP14, VP15, VP16, VP17, VP18, VP20, and VP23. These are generally characterised by an increase in width and depth of wind farm development by the addition of the proposed Keerglen Wind Farm and in some instances, the combination of Keerglen and Glenora presents as one larger development, with most turbines clearly visible. In other instances, the tip of Glenora wind farm is visible behind the land form, drawing the extent of wind energy into a larger proportion of the wider upland area.

While the primary cumulative relationship is between Keerglen Wind Farm and Glenora Wind Farm, the proposed Keerglen wind farm has a secondary cumulative impact to the broad area of cumulative development in the Bellacorrick Basin, and those across the rolling farmland to the northeast of the site, around Killala. Views from within the Bellacorrick Basin show the proposed Keerglen Wind Farm as a small background feature which is dwarfed by the intense development in the foreground. While this contributes to the extension of wind energy development across the wider upland context, the cumulative impact is mitigated by distance and partial screening. Views representative of the impact within the Bellacorrick Basin include VP19, VP21, and VP22. The proposed Keerglen development sits in a similar background manner when viewed through the potential cumulative scenario to the north and east of the site, with the

proposed/pre-planning Tirawley Wind Farm and existing Killala Wind Farm visible in the foreground of the eastern and northern coastal views/locations. These locations include VP1, VP2 (marginally outside of depicted FOV), VP8, VP11, VP14, VP15, and VP18. The character of the impacts will be similar to those to the west, where the proposed Keerglen development adds a small degree of intensity to the background of more prominent developments across the foreground.

In the potential future cumulative scenario, 33.57% of the study area will have the potential to afford views of the proposed Keerglen Wind Farm, existing development, consented development and all other proposed (planning and pre-planning) developments. It is also important to note that wind energy development is a well-established land use within the Bellacorrick Basin in the southwest quadrant of the study area. Thus, whilst there will be a considerable increase in the intensity of development here, it will not appear out of place or uncharacteristic of the area.

In terms of sequential impacts, as noted in the current cumulative scenario, the most notable linear receptors are contained along the coastline at the northern extent of the study area. Whilst there is some potential for the proposed (in-planning and pre-planning) turbines to be viewed from these coastal receptors, these developments are well offset inland from the coast and are viewed in the opposite direction to the main aspect of amenity, which limits their potential to notably impact on these sensitive receptors.

Overall, it is considered that there will be a much more prevalent presence of wind energy development within the study area in the potential future cumulative scenario. Wind farm development will become an established and characteristic land use throughout the study area. However, it is contained away from the immediate coastline and some of the most sensitive visual receptors.

Notwithstanding that the overall cumulative effect of existing, permitted and proposed wind farms within the study area is considerable, the contribution of Keerglen Wind Farm to that effect is deemed to be Medium.

10.11 Mitigation Measures and Residual Effects

Outside of those landscape and visual mitigation measures that formed part of the iterative design process of this proposed development over a number of years and which are embedded in the assessed project, other specific landscape and visual mitigation measures are not considered necessary/likely to be effective. Thus, the impacts assessed in Section 10.4 are the equivalent of residual impacts in this instance.

10.11.1 Decommissioning Phase

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

10.12 Summary of Significant Effects

It is not considered that there will be any significant effects on landscape and visual amenity arising from the proposed Keerglen Wind Farm.

10.13 Statement of Significance

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

10.14 References

1. Environmental Protection Agency (EPA) publication 'Guidelines on the Information to be contained in Environmental Impact Reports' (2022)
2. Department of Environment Heritage and Local Government (DoEHLG) Wind Energy Planning Guidelines (2006/2019 revision) and Preferred Draft Approach to revising the 2006 Guidance published 2017.
3. Landscape Institute and the Institute of Environmental Management and Assessment publication entitled Guidelines for Landscape and Visual Impact Assessment (2013).
4. NatureScot (NS) Guidance Note: 'Assessing the cumulative impact of onshore wind energy developments' (2012).
5. NatureScot (NS) Siting and Designing Wind Farms in the Landscape Version 3 (2017).