12 LANDSCAPE AND VISUAL AMENITY

12.1 INTRODUCTION

This chapter assesses the impacts of the Development on landscape and visual amenity. The Development refers to all elements of the application for the Gortyrahilly Wind Farm (see **Chapter 2: Project Description**). The assessment will consider the potential effects during the following phases of the Development:

- Construction of the Development
- Operation of the Development
- Decommissioning of the Development

Common acronyms used throughout this EIAR can be found in **Appendix 1.2.** This chapter of the EIAR is supported by Figures provided in Volume III and by the following Appendix documents provided in Volume IV of this EIAR:

- **Appendix 12.1 – Visual Impact Assessments at Selected Viewpoints**
- **Appendix 12.2 – Cumulative Impact Analysis at Selected Viewpoints**

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

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

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

This Landscape and Visual Impact Assessment (LVIA) uses methodology as prescribed in the following guidance documents:

- Environmental Protection Agency publication 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports (2022) the accompanying Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (Draft 2015).
- Landscape Institute and the Institute of Environmental Management and Assessment publication entitled Guidelines for Landscape and Visual Impact Assessment (GLVIA) – Third Edition (2013).
- Scottish Natural Heritage Guidance Note: Cumulative Effect of Wind Farms (2012).
- Department of the Environment, Heritage and Local Government Wind Energy Development Guidelines (2006).
- Scottish Natural Heritage Visual representation of wind farms: Best Practice Guidelines (version 2.2 - 2017).

12.1.1 Statement of Authority

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

12.1.2 Description of the Proposed Development

The full description of the development assessed hereunder is contained in Chapter 2 of the EIAR Project Description.

12.1.3 Definition of Study Area

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

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

In the case of this project, the blade tips will range between 179m and 185m high. Thus, the minimum ZTV radius recommended is 20km from the outermost turbines of the scheme. There are not considered to be any sites of national or international importance between 20 – 25km and thus, the radius of the study area is considered acceptable at 20km. Notwithstanding the full 20km extent of the LVIA study area, there will be a particular focus on receptors and effects within the central study where there is higher potential for significant impacts to occur due to closer proximity to the proposed wind farm. When referenced within this assessment, the 'central study area' is the landscape within 5km of the site.

12.1.4 Assessment Structure

In line with the aforementioned Guidelines for Landscape and Visual Assessment, the structure of this chapter will consist of separate considerations of landscape effects and visual effects in the following order:

- Assessment of landscape value and sensitivity
- Assessment of the magnitude of landscape effects
- Assessment of the significance of landscape impacts
- Assessment of visual receptor sensitivity
- Assessment of visual impact magnitude at representative viewpoint locations (using photomontages)
- Assessment of visual impact significance
- Assessment of cumulative landscape and visual impacts

12.2 ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

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

12.2.1 Desktop Study

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

12.2.2 Fieldwork

- Recording of a description of the landscape elements and characteristics within the Study Area.
- Selection of a refined set of viewpoints for assessment based on relevance and the degree of intervening screening. This includes the capture of reference images and grid reference coordinates for each VRP location for the visualisation specialist to prepare photomontages.

12.2.3 Appraisal

- Consideration of the receiving landscape with regard to overall landscape character as well as the salient features of the study area including landform, drainage, vegetation, land use and landscape designations.
- Consideration of the visual environment including receptor locations such as centres of population and houses; transport routes; public amenities and facilities and; designated and recognised views of scenic value.
- Consideration of design guidance and planning policies.
- Consideration of potentially significant effects and the mitigation measures that could be employed to reduce such effects.
- Consideration of the significance of residual landscape impacts.
- Consideration of the significance of residual visual impacts aided by photomontages prepared at all of the selected viewpoint locations.
- Consideration of cumulative landscape and visual effects in combination with other surrounding developments that are existing, permitted or proposed (in planning awaiting a decision or pre-planning/concept – where information is publicly available).

12.2.4 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 criteria derived for the Guidelines for Landscape and Visual Impact Assessment in **Table 12.1**.

Table 12.1: Landscape Value and Sensitivity

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

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, as outlined in **Table 12.2** below derived for the Guidelines for Landscape and Visual Impact Assessment.

Table 12.2: Magnitude of Landscape Impacts

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

Sensitivity	Description
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 **Table 12.3** below.

Table 12.3: Impact Significance Matrix

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

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

12.2.5 Assessment Criteria for Visual Impact

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.

12.2.5.1 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 ('Strong Association' to 'Negligible Association') to indicate how strongly the viewer/view is associated with each of the criterion. Susceptibility criteria is extracted directly from the IEMA Guidelines for Landscape and Visual Assessment (2013), whilst the value criteria relate to various aspects of a view that might typically be related to high amenity including, but not limited to, scenic designations. These are set out below.

Susceptibility of receptor group to changes in view. This is one of the most important criteria to consider in determining overall visual sensitivity because it is the single category dealing with viewer susceptibility. In accordance with the IEMA Guidelines for Landscape and Visual Assessment (3rd edition 2013) visual receptors most susceptible to changes in views and visual amenity are:

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

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

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

Recognised scenic value of the view (County Development Plan designations, guidebooks, touring maps, postcards etc). These represent a consensus in terms of which scenic views and routes within an area are strongly valued by the population because in the case of County Development Plans, at least, a public consultation process is required;

Views from within highly sensitive landscape areas. Again, highly sensitive landscape designations are usually part of a county's Landscape Character Assessment, which is then incorporated with the County Development Plan and is therefore subject to the public consultation process. Viewers within such areas are likely to be highly attuned to the landscape around them;

Intensity of use, popularity. Whilst not reflective of the amenity value of a view, this criterion relates to the number of viewers likely to experience a view on a regular basis and whether this is significant at county or regional scale;

Connection with the landscape. This considers whether or not receptors are likely to be highly attuned to views of the landscape i.e., commuters hurriedly driving on busy national route versus hill walkers directly engaged with the landscape enjoying changing sequential views over it;

Provision of elevated panoramic views. This relates to the extent of the view on offer and the tendency for receptors to become more attuned to the surrounding landscape at locations that afford broad vistas;

Sense of remoteness and/or tranquillity. Remote and tranquil viewing locations are more likely to heighten the amenity value of a view and have a lower intensity of development in comparison to dynamic viewing locations such as a busy street scene, for example;

Degree of perceived naturalness. Where a view is valued for the sense of naturalness of the surrounding landscape it is likely to be highly sensitive to visual intrusion by obvious human interventions;

Presence of striking or noteworthy features. A view might be strongly valued because it contains a distinctive and memorable landscape feature such as a promontory headland, lough or castle;

Historical, cultural or spiritual value. Such attributes may be evident or sensed at certain viewing locations that attract visitors for the purposes of contemplation or reflection heightening the sense of their surroundings;

Rarity or uniqueness of the view. This might include the noteworthy representativeness of a certain landscape type and considers whether other similar views might be afforded in the local or the national context;

Integrity of the landscape character in view. This criterion considers the condition and intactness of the landscape in view and whether the landscape pattern is a regular one of few strongly related components or an irregular one containing a variety of disparate components;

Sense of place. This criterion considers whether there is special sense of wholeness and harmony at the viewing location; 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.

12.2.5.2 Visual Impact Magnitude

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

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

For wind energy developments, a strong visual presence is not necessarily synonymous with adverse impact. Instead, the 2012 Fáilte Ireland survey entitled 'Visitor Attitudes On The Environment – Wind Farms' found that *"Compared with other types of development in*

the Irish landscape, wind farms elicited a positive response when compared to telecommunication masts and steel electricity pylons"…. and that *"most* (tourists) *felt that their presence did not detract from the quality of their sightseeing, with the largest proportion (45%) saying that the presence of the wind farm had a positive impact on their enjoyment of sightseeing…*".

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

It should be noted that as a result of this two-sided analysis, a high order visual presence can be moderated by a low level of effect on visual amenity and vice versa. Given that wind turbines do not represent significant bulk, visual impacts result almost entirely from visual 'intrusion' rather than visual 'obstruction' (the blocking of a view). The magnitude of visual impacts classified in **Table 12.4** derived from the Guidelines for Landscape and Visual Impact Assessment:

Table 12.4: Magnitude of Visual Impacts

Sensitivity	Description
Very High	The proposal intrudes into a large proportion or critical part of the available vista and is without question the most noticeable element. A high degree of visual clutter or disharmony is also generated, strongly reducing the visual amenity of the scene
High	The proposal 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 clutter or disharmony is also likely to be generated, appreciably reducing the visual amenity of the scene
Medium	The proposal represents a moderate intrusion into the available vista, is a readily noticeable element and/or it may generate a degree of visual clutter or disharmony, thereby reducing the visual amenity of the scene. Alternatively, it may represent a balance of higher and lower order estimates in relation to visual presence and visual amenity

Sensitivity	Description
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 detract from, and may even enhance, the visual amenity of the scene

12.2.6 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 **Error! Reference source not found.**

12.2.7 Quality of Effects

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

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

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

12.2.8 Assessment Criteria for Cumulative Effects

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

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

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

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

Table 12.5 provides Macro Works' criteria for assessing the magnitude of cumulative impacts, which are based on the SNH Guidelines (2012).

Table 12.5: Magnitude of Cumulative Impacts

Magnitude of Impact	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.

Magnitude of Impact	Description
	• Adverse visual effects might be generated by the proposed turbines in relation to other turbines.
Low	• The proposed wind farm will be one of only a few wind farms in the surrounding area and will be viewed in isolation from most receptors. • It might contribute to wind farm development becoming a familiar feature within the surrounding landscape. • The design characteristics of the proposed wind farm accord with other schemes within the surrounding landscape and adverse visual effects are not likely to occur in relation to these.
Negligible	• The proposed wind farm will most often be viewed in isolation or occasionally in conjunction with other distant wind energy developments. • Wind energy development will remain an uncommon landscape feature in the surrounding landscape. • No adverse visual effects will be generated by the proposed turbines in relation to other turbines.

12.3 BASELINE DESCRIPTION

12.3.1 Landscape Baseline

The landscape baseline represents the existing landscape context and is the scenario against which any changes to the landscape brought about by the 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. Additional descriptions of the landscape, as viewed from each of the selected viewpoints, are provided under the detailed assessments later using a similar structure. Although this description forms part of the landscape baseline, many of the landscape elements identified also relate to visual receptors i.e. places and transport routes from which viewers can potentially see the proposed development. The visual resource will be described in greater detail in **Section 12.4** below.

12.3.1.1 Landform & Drainage

In broad brushstrokes, the study area is characterised by a notable variance of landform, which arises from wide, lowland valleys less than 100m AOD, to mountain tops over 800m AOD; ranges mostly angled in a north-east/south-west direction. In terms of drainage, there is an abundance of rivers, streams and, to a lesser extent, loughs and lakes throughout the study area.

The Site

Landform within the site is notably upland and sloping, with considerable variance in elevation, although most of the site rests above the 300m AOD mark. Terrain is broadly angled in a north-east to south-west direction, within the site peaking at Carrigalougha in the south-west (see **Plate 12.1** below), at 423m AOD, with the lowest terrain of the site dropping to approx. 220m AOD, along the eastern boundary of the site. Near the centre of the site, a small stream flows to the north-east, through an upland tributary valley, which will eventually feed into the River Douglas and, in turn, the Sullane River.

Plate 12.1: Carrigalougha (on skyline to the west/left of the view) in the south-west of the site, when viewed from a third class road partially within the south of the site.

Central study area:

The central study area is characterised by mountains and hillscapes with relatively narrow, visually enclosed valleys between these elevations. Within 2km west of the Gortyrahilly site is Mweelin (487m AOD), while to the north are the lower slopes of the Derrynasaggart Mountains. However, landform to the south, south-east, east and north-east tends to be lower than 300m AOD, particularly along the wider, U-shaped valley carved out by the Sullane River. In the north of the central study area is the Sullane, Owengarve and Aughaboy Rivers, while to the south is the Aghnakinneith Stream and the Bunsheelin River.

5-10km away:

The most apparent landform within 10km of the site is that of the Derrynasaggart Mountains that align a section of the mid Cork-Kerry border, and which reach 694m AOD at their highest point. Between 5-10km from the site, there are several notable mountains, including Coomagearlahy (506m AOD) in the north-west, Mullaghanish (649m AOD) in the north-east and Doughill in the south-west (471m AOD). However, again in the south, south-east, east and north-east, the landform is less dramatic and lower (i.e. typically less than 250m AOD) with wider, gentler valleys between hills. The Sullane River is dominant in this eastern section, fed by its tributary, the River Douglas. Other rivers of note 5-10km from the site include the Lee (south-east), the Roughty (west/south-west) and the Clydagh (north). There is also the presence of larger loughs/lakes evident, with Lough Allua in the south (see **Plate 12.3,** below**)** and Gougane Barra in the south-west, with the latter (and its associated forest park) being particularly well known and visited.

10-20km away:

Between 10-20km from the site, there is considerably greater diversity in landform. Among the mountains in the north is Crohane (656m AOD), Caherbamagh (681mAOD) and the Paps, a pair of similarly-shaped mountains adjacent to each other, both between 690-694m AOD. In terms of scale, the most apparent is Mangerton (843m AOD), approx. 19km north-west of the site. Along or near such ridgelines are multiple corrie lakes and/or small mountain loughs. To the south-west there can be found Carran (604m AOD), Barrerneen (637m AOD) and Knockboy (706m AOD) and to the south is Carrigmount (546m AOD), Douce (476m AOD) and Nowen Hill (535m AOD), although terrain is considerably lower in the south-eastern quadrant. Beyond 15km to the north and north-east, terrain drops from the Paps, rarely lifting above 200m.

In terms of watercourses, more than 10km from the site is the Owneyskeagh, Beheenagh and Awnaskirtaun Rivers in the north and north-west, as well as the Laney and Awboy Rivers in the east of the study area. The Bandon, Caha and Lee Rivers are found in the south, with the Slaheny and the Roughty Rivers in the south-west. In addition, the largest lake in the study area resides in the north-west: Lough Guitane, over 17km from the site, while in the far south-east is a section of the River Lee reservoir.

Plate 12.2: Landform near the northern boundary of the site

Plate 12.3: Lough Allua 6-7km south of the site

12.3.1.2 Vegetation & Land Use

There is considerable variance of vegetation and land use across the study area, ranging from intensive pastoral agriculture upon the lowlands, to more marginal agriculture and commercial forestry in more elevated, yet accessible lands, to unmanaged upland and mountain heath and bog.

The Site:

The site spans approx. 4km in a north-east-south-west direction, covering a variety of land uses with an evident anthropocentric imprint. While occupying a minority of the site, commercial conifer plantations at various stages of the maturation/harvesting cycle are evident. Marginal pastoral agriculture can be found in very localised areas along the lower slopes of the south-eastern and the north-western boundary. Although an upland, marginal context, there is evidence of a strong anthropocentric imprint along these upland slopes, mostly in the form of drainage excavations and private forestry tracks. Upland heath dominates the upper slopes to the north-east, north and south-west of the site.

Central study area:

While pastoral agriculture is prevalent in the east of the central study area, most other areas of agriculture tend to be marginal pasture in small, sometimes poorly drained fields. More patent is the uplands/mountains that share a combination of commercial conifer plantations and upland/mountain heath, with evidence of multiple wind farms along or below ridgelines within, or close to, the central study area (see **Plate 12.3,** above and **12.5**, below). Within the relatively narrow, visually enclosed, lowland valleys between the high hills and mountains, there is some evidence of intensive pastoral practises in medium-sized fields. The only roads found in the central study area are local, while there are just two settlements: the small villages of Ballingeary, in the south, and Coolea (see **Plate 12.4** below), in the central north.

Plate 12.4: Coolea village within the north central study area

Plate 12.5: Wind farms across ridgelines within or close to the study area

Wider study area (i.e. 5-20km away):

The variance of vegetation and land use in the wider study area broadly mirrors that of the central study area. However, more than 10km east and south-east of the site, intensive, lowland agricultural practises are dominant, in medium-sized fields with often low or mid-height hedgerows serving as field boundaries (see **Plate 12.6**). Representative of land uses in such elevated terrain across the province and country, the multiple mountains and high hillscapes found throughout the wider study area are mostly a mix of commercial conifer plantations with upland/mountain heath (see **Plate 12.8**).

Plate 12.6: Intensive agricultural practises in the south-eastern quadrant of the study area

Much of these mountains are publicly accessible, and host numerous walking/hiking trails across them, and exhibit some of the most aesthetic landscape on the island of Ireland. This includes Killarney National Park in the north-west (see **Plate 12.7** below) and Gougane Barra Forest Park in the south-west, as well as mountains such as Mangerton or the Paps. While wind energy developments are visible across much of the study area, they are not as apparent within or close to the central study area. There is also some evidence of quarrying and/or extractive land use in the north and north-east. Lastly, there are numerous settlements, residences and roads in the study area, as well as lakes/loughs, particularly in the north-western quadrant.

Plate 12.7: The ridgelines above Killarney National Park, in the north-east of the study area

Plate 12.8: Commercial conifer plantations across a hillscape of the study area

12.3.2 Planning Policy Context

12.3.2.1 Department of Environment, Heritage and Local Government Wind Energy Development Guidelines (current 2006, Draft Revised 2019)

In December 2019 the Department of Housing, Planning and Local Government issued the Draft Revised Wind Energy Development Guidelines. Following consultation and review, these draft revised guidelines intend to supersede the current 2006 Wind Energy Development Guidelines, once fully adopted. With regards to LVIA, the one difference between the Draft Revised Wind Energy Development Guidelines (2019) and the current 2006 Wind Energy Development Guidelines, is the incorporation of minimum residential 'Setback', which is not contained in the current 2006 Wind Energy Development Guidelines.

'Setback'

Section 6.18 of the 2019 Draft Revised Guidelines refers to "siting in relation to individual properties," which is colloquially known as "setback." This is understood to be the only landscape and visual related change to the 2006 guidelines that is of potential relevance to the proposed development. The only SPPR (Specific Planning Policy Requirement) that applies to "setback" in the revised Guidelines is:

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

There are no inhabited dwellings contained within the specified setback distance of 740m from the Draft Revised Wind Energy Development Guidelines (2019) for the tip height of the proposed turbines. The closest inhabited dwelling (H1) is located 753m from the nearest turbine. There is an uninhabited dwelling located 225m from T123, However,

based on written agreement with the landowner, this will remain uninhabited for the operation of the development and is not, therefore, considered to be a sensitive receptor.

The current 2006 and Draft Revised Wind Energy Development Guidelines (2019) both provide the same guidance on wind farm siting and design criteria for a number of different landscapes types. It is not considered that the proposed development is contained wholly within one of these particular landscape types. Rather, there are three landscape types that would appear most applicable:

- 'Mountain Moorland';
- 'Transitional Marginal landscape'
- 'Hilly & flat farmland'

Mountain Moorland:

Location – *"It may be acceptable to locate wind energy developments on ridges and peaks. They may also be appropriate, in certain instances, in a saddle between two peaks where they will be partially contained or "framed." A third acceptable location is lower down on sweeping mountainside."*

Spatial extent - *"Given the typical extensive areas of continuous unenclosed ground, larger wind energy developments can generally be accommodated because they correspond in terms of scale..."*

Spacing - *"All spacing options are usually acceptable. Where a wind energy development is clearly visible on a crest or ridge there is considerable scope to vary the rhythm, though on simple ridges, regular spacing may be more appropriate."*

Layout - *"All layout options are usually acceptable. However, the best solutions would either be a random layout, and clustered where located on hills and ridges … or a grid layout on sweeping and continuously even areas of moorland or plateaux…"*

Height - *"There would generally be no height restrictions on mountain moorlands as the scale of landscape is so great…"*

Cumulative - *"The open expanse of such landscapes can absorb a number of wind energy developments, depending on their proximity. The cumulative impact will also depend on the actual visual complexity of landform, whether steeply rolling, undulating or gently sweeping. The more varied and undulating an area is topographically, the greater its ability to absorb and screen wind energy developments. The aesthetic effect of wind energy developments in these landscapes is acceptable where each one is discrete, standing in relative isolation."*

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. However, wind energy developments might also be located at lower levels in extensive areas of this landscape type, where they will be perceived against a relatively complex backdrop. In these situations it is important to minimise visual confusion such as the crossing by blade sets of skylines, buildings, utility lines and varied landcover."

Spatial Extent - *"Wind energy developments in these landscapes should be relatively small in terms of spatial extent. It is important that they do not dominate but achieve a balance with their surrounds, especially considering that small fields and houses are prevalent."*

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. In terms of perceived height, the profile can be even or uneven, depending on the profile and visual complexity of the terrain involved. The more rugged and undulating, the greater the acceptability of an uneven profile provided it does not result in significant visual confusion and conflict."*

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

Hilly and Flat Farmland:

Location *- "Location on ridges and plateaux is preferred … Elevated locations are also more likely to achieve optimum aesthetic effect."*

Spatial extent *- "This can be expected to be quite limited in response to the scale of fields and such topographic features as hills and knolls."*

Spacing *-"The optimum spacing pattern is likely to be regular, responding to the underlying field pattern."*

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

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

and conflict."

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

It is considered that there is a fairly mixed combination of guidance outlined above for the various landscape types, which make up the setting of the proposed development. However, all of it promotes a site-specific design response.

In terms of location, the combined guidance suggests suitability for elevated/hilltop ridges or peaks that are considered sufficiently distant to ensure a distinct autonomy from villages and towns in the study area.

In terms of spatial extent, the combined guidance leads towards larger wind energy developments that can be accommodated, but which achieve a balance with their surrounds. However, on lower slopes development is expected to be more limited, in relation to topographic features.

The combined guidance in relation to turbine spacing and layout leads towards the summation that all design options are generally acceptable.

Various turbine height options may be acceptable according to the combined guidance, though taller turbines may be more appropriate. At an overall height of between 179m and 185m inclusive, the proposed turbines are typical of current trends for recent planning applications and permissions.

In terms of cumulative effect, the combined guidance suggests that while some reasonable caution should be expressed, the undulating nature of this landscape can absorb a number of wind energy developments as long as that development is not perceived to visually dominate. Crucially, such a topographically varied and undulating area has a greater ability to absorb and/or screen wind energy developments; a critical reason as to why there are several wind farms contained within, and in the vicinity of, the central study area.

Overall, it is considered that the proposed development design is largely in accordance with the guidance for this varied landscape setting and does not ostensibly conflict with it.

12.3.2.2 Cork County Development Plan 2022-2028

Cork County Council recently adopted a new County Development Plan for the period 2022-2028. It should be noted that the same Landscape Character Assessment prepared for County Cork in 2007 (Appendix FI) remains the basis of landscape policy and the same scenic designations have carried over from the 2014-2020 Plan into the 2022-2028 Plan.

The Development Plan includes Chapter 14 'Green Infrastructure and Recreation', within which, sub-section 14.7 relates to landscape. A number of general objectives relating to landscape are noted within this chapter and are included below.

GI 14-9: Landscape:

a) *Protect the visual and scenic amenities of County Cork's built and natural environment.*
b) *Landscape issues will be an important factor in all land-use proposals, ensuring that a pro-active view of development is undertaken while maintaining respect for the environment and heritage generally in line with the principle of sustainability.*
c) *Ensure that new developments meet high standards of siting and design.*
d) *Protect skylines and ridgelines from development.*
e) *Discourage proposals necessitating the removal of extensive amounts of trees, hedgerows and historic walls or other distinctive boundary treatments.*

GI 14-10: Draft Landscape Strategy:

"Ensure that the management of development throughout the County will have regard for the value of the landscape, its character, distinctiveness and sensitivity as recognised in the Cork County Draft Landscape Strategy and its recommendations, in order to minimize the visual and environmental impact of development, particularly in areas designated as High Value Landscapes where higher development standards (layout, design, landscaping, materials used) will be required."

A Landscape Character Assessment was undertaken as part of the Draft Cork Landscape Strategy (2007). This has been incorporated within the current Development Plan and divides the county into 16 No. Landscape Character Types (LCTs). The site consists of three different LCTs. The majority of the area of the site is within the LCT12a 'Rolling Marginal and Forested Middleground.' However, the north/north-west of the site enters within LCT16c 'Glaciated Cradle Valleys,' while a very small section in the south-west corner of the site enters into LCT15a 'Ridged and Peaked Upland' (see **Figure 12.1**).

LCT12a 'Rolling Marginal and Forested Middleground':

Within the Draft Cork Landscape Strategy (2007), LCT12a 'Rolling Marginal and Forested Middleground' is described as having:

- Landscape Value: High
- Landscape Sensitivity: High
- Landscape Importance: Local

Its 'Landscape Description' entails:

"…This is a middleground landscape comprising rolling topography with rugged rocky ridges and knolls of old red sandstone spread across shallow river basins formed by low hills… Soils include peaty podzols and a thin layer of blanket peat on higher ground which supports a patchy moorland vegetation of semi-natural grassland and heather and also swaths of bracken on slightly more fertile areas.

"…Farmsteads and houses are sparsely located on lower ground. Farm related buildings such as sheds are generally small and limited in extent. Roads are also limited in width and wind through the rugged terrain … There is a strong presence of the untamed and naturalistic throughout this landscape but this is held in balance by the small pockets of farmland with its relatively ordered field pattern."

Its 'Key Characteristics' entails:

- *"It comprises rolling topography with rugged rocky ridges and Sullane River basin.*
- *Hills forming these two basins are gently sloping, becoming somewhat steeper at lower levels and generally comprised of patchy moorland vegetation of semi-natural grassland and heather.*
- *A mixture of small irregularly shaped fertile fields located on lower ground between scrub and rocky outcrops.*
- *The landscape is mottled in terms of both colour and texture due to the diverse landcover, involving a mix of scrub and cultivated patches.*
- *On wetter ground and along streams at lower altitudes willow is more prevalent and rush is common in fields of marginal agricultural quality.*
- *Broad swaths of coniferous plantations skirt the hills mostly at lower altitudes but also on some hilltops. Extensive felling has taken place.*
- *Field boundaries consist hedgerows, post and wire fencing and some stonewalls."*

Within 'Socio economic factors' in this LCT (i.e. Page 88 of the Draft Cork Landscape Strategy 2007):

"This landscape is valued for its scenic amenity and its expansive views and scenic routes, including the Cousane Gap."

Within 'Pressure for change' in this LCT (i.e. Page 117 of the Draft Cork Landscape Strategy 2007):

"This area is not regarded as a "Strategic Search Area" or a "Strategically Unsuitable Area" for windfarm developments. The low rolling topography of this landscape would not lend itself to windfarm development and such developments would dominate the surrounding landscape. There are views of wind farms to the west from this landscape type on the Kerry side of the Cork Kerry boundary."[1]

The stated 'Recommendations' that are of relevance to the site include:

- *"Protect the high ridges and mountainous peaks, which are predominant components of this landscape type, particularly surrounding the villages of Ballyvourney, Coolea and Ballmakeery.*
- *"Ensure that the approach roads, particularly the scenic routes, to Ballyvourney, Coolea and Ballymakeery are protected from inappropriate development which would detract from the setting of these settlements."*

<u>LCT16c 'Glaciated Cradle Valleys':</u>

Within the Draft Cork Landscape Strategy (2007), LCT16c 'Glaciated Cradle Valleys' is described as having:

- Landscape Value: Medium
- Landscape Sensitivity: Medium
- Landscape Importance: Local

Its 'Landscape Description' entails:

"This is a landscape formed by intensive glacial erosion, leaving armchair–like forms gouged out of the mountainside. The mountainsides are steeply scarped, falling to a flat but limited valley floor which typically accommodates a small lake and/or river.

"The predominance of blanket peat … result in poor growing conditions and limited vegetation. This is particularly evident on ridges, peaks and scarp slopes where heather, bracken and wild grasses interweave with clumps of scrub between jagged rocky

[1] It should be noted that since this comment was made in the 2007 draft Cork Landscape Character Assessment, both the adjacent Derragh and Cleanrath wind farms have been permitted and constructed in the same LCA.

outcrops, giving a mottled appearance. At lower levels scrub typically comprises gorse as well as stunted broadleaf trees and shrubs. Rush and willow are quite common on lower wetter areas, especially in small patches of previously improved land and along watercourses. Coniferous plantations occupy a significant portion of these valleys, introducing a patchwork land cover. In certain instances small groups of conifers are strung out as they ascend to the ridge tops."

Its 'Key Characteristics' entails:

- *"There are few field boundaries mostly post and wire.*
- *There are rocky outcrops on the hillside*
- *There is some commercial forestry and evidence of extensive felling."*

The stated 'Recommendations' that are of relevance to the site include:

- *"Respect the remote character and existing low-density development in this LCT."*

LCT15a 'Ridged and Peaked Upland':

Within the Draft Cork Landscape Strategy (2007), LCT15a 'Ridged and Peaked Upland' is described as having:

- Landscape Value: High
- Landscape Sensitivity: High
- Landscape Importance: County

Its 'Landscape Description' entails:

"This landscape type has been glaciated and comprises a fairly rugged and rolling mountainous topography at a relatively high elevation … The landscape, with its rapid and steep rising and falling, seems to tumble down along the valleys. The rugged and diverse landcover, involving moorland, heath and scrub, lends a strong sense of the naturalistic."

Its 'Key Characteristics' include:

- *"Rolling mountainous topography at a relatively high elevation*
- *Isolated or clusters of fields, are scattered along lower slopes, giving this landscape type a small scale dimension, to the otherwise open moorland*
- *Large tracks of coniferous forestry evident particularly in upland areas*
- *Patches of fertile land within the landscape*
- *Field boundaries are mainly stonewalls and lowland hedges"*

The stated 'Pressures for change' that are of relevance to the site include:

"Windfarms can be seen off in the distance from certain elevated views within this landscape type. While their presence is noted, their visual impact is not major but an accumulation of more windfarms could have a more intolerable visual impact in the future."

There are no stated 'Recommendations' that are of relevance to the proposed development.

As well as the Site consisting of three Landscape Character Types (LCTs), there are also three Landscape Character Areas within the Site. The majority of the area of the Site is within the (LCA No. 23) Ballyvourney Landscape Character Area, which is described as being a "Composite Middle Valley of Rugged Scrub and Marginal Land." However, the north/north-west of the Site enters within the (LCA No. 57) Foilanumera Landscape Character Area, which is described as being a "Glaciated Cradle and Forested Valley." Lastly, a very small section in the south-west corner of the Site enters into the (LCA No. 33) Lough Allua Landscape Character Area, which is described as being a "Composite Middle Valley of Rugged Scrub, Mosaic and Marginal Land."

Scenic Designations

According to Section 14.9.1 of the CDP:

"The County contains many vantage points from which views and prospects of great natural beauty may be obtained over both seascape and rural landscape. This scenery and landscape is of enormous amenity value to residents and tourists and constitutes a valuable economic asset. The protection of this asset is therefore of primary importance in developing the potential of the County. Therefore, the plan identifies specific Scenic Routes consisting of important and valued views and prospects within the County."

According to Section 14.9.2 of the CDP:

"It is important to protect the character and quality of those particular stretches of scenic routes that have special views and prospects particularly those associated with High Value Landscapes."

According to GI 14-11[2] of the CDP:

"Whilst advocating the protection of such scenic resources the plan also recognises the fact that all landscapes are living and changing, and therefore in principle it is not

[2] The following scenic route text appears to have been misplaced from the previous CDP into a landscape related objective (GI 14-11)

proposed that this should give rise to the prohibition of development along these routes, but development, where permitted, should not hinder or obstruct these views and prospects and should be designed and located to minimise their impact."

According to Section 14.9.3 of the CDP:
"All proposals should be assessed on their merits taking into account the overall character of the scenic route including the elements listed in Volume 2 Heritage and Amenity Chapter 5 Scenic Routes of the plan and the Landscape Character Type through which the route passes…"

With regards to the "elements listed in Volume 2 Heritage and Amenity Chapter 5 Scenic Routes," please note that the relevant designated scenic routes within the study area will be addressed later in this chapter in **Section 12.4.3.1**, in relation to visual receptors. Within the study area there are 17 No. County Cork designated scenic routes (**see Figure 12.2**).

In the central study area, there are six Co. Cork scenic routes, one of which traverses the south-western corner of the Site:

- "Scenic Route S24: Road between Coolea and Coom," located within approx. 2.2km north-west of the location of the nearest turbine.
- "Scenic Route S25: Winding road joining Coolea - Coom road to Lissacresig road," which dissects the south-western corner of the Site and comes within approx. 160m of the nearest proposed turbine.
- "Scenic Route S26: Road between Lissacresig and the Mouth of the Glen," which aligns the southern Site boundary as well as dissecting a small section of the south-western corner of the Site, while coming within approx. 320m of the nearest proposed turbine.
- "Scenic Route 27: Road between Gougane Barra and the Mouth of the Glen," coming within approx. 2.6km of the nearest proposed turbine.
- "Scenic Route S32: South Lake Road - Inchigeela and Ballingeary to Keimaneigh," coming within approx. 4.8km of the nearest proposed turbine.
- "Scenic Route S34: Road between Inchigeela and Ballingeary to Keimaneigh" coming within approx. 4.0km of the nearest proposed turbine.

5-10km from the Site, there are a further five additional Co. Cork scenic routes:

- "Scenic Route S22: Road from Ballyvourney to Mullaghanish to Caherdowney."
- "Scenic Route S23: Road between Macroom and Derrynasaggart Mountains."

- "Scenic Route S28: Scenic road at the Pass of Keimaneig to Gougane Barra."
- "Scenic Route S33: Road between Ballingeary - branch off S. Lake Road and Kealvaugh."
- "Scenic Route S35: Road Between Dromcarra and Rossmore."

10-20km from the Site, there are a further six *additional* Co. Cork scenic routes:

- "Scenic Route S20: Roads at Mushera in the boggeragh Mountains and roads from Mushera to Ballynagree, Lackdoha and Rylane Cross."
- "Scenic Route S21: Road at Carriganima."
- "Scenic Route S29: Road to Kealkill via Cousane Gap to Togher."
- "Scenic route S30: Road between Dunmanway and Coolkellure,Castledonovan and Bantry."
- "Scenic Route S36: Roads adjoining Tarelton."
- "Scenic route S37: Road between Leemount and Macroom via Coachford."

Relevant objectives relating to 'Landscape Views and Prospects' within this chapter entail:

GI 14-12: General Views and Prospects:
"Preserve the character of all important views and prospects, particularly sea views, river or lake views, views of unspoilt mountains, upland or coastal landscapes, views of historical or cultural significance (including buildings and townscapes) and views of natural beauty as recognized in the Draft Landscape Strategy."

GI 14-13: Scenic Routes:
"Protect the character of those views and prospects obtainable from scenic routes and in particular stretches of scenic routes that have very special views and prospects identified in this plan."

GI 14-14: Development on Scenic Routes:
"a) Require those seeking to carry out development in the environs of a scenic route and/or an area with important views and prospects, to demonstrate that there will be no adverse obstruction or degradation of the views towards and from vulnerable landscape features. In such areas, the appropriateness of the design, site layout, and landscaping of the proposed development must be demonstrated along with mitigation measures to prevent significant alterations to the appearance or character of the area."

High Value Landscapes

There are three Co. Cork designated 'High Value Landscapes' within the study area, however, none are within the central study area (see **Figure 12.1**).

Wind Energy Strategy

In relation to Cork County's Wind Energy Strategy, the Site is within a broad area that is deemed to be 'Open to consideration' (i.e. neither 'Normally discouraged' nor 'Acceptable in principle' nor an 'Urban Area'). According to the strategy:

"This area comprises almost 50% of the County area. Within these areas there are locations that may have potential for wind farm developments but there are also some environmental issues to be considered. This area has variable wind speeds and some access to the grid…"

ET 13-7: Open to Consideration (CDP Objective)

"Commercial wind energy development is open to consideration in these areas where proposals can avoid adverse impacts on:

- *Residential amenity particularly in respect of […] visual impact;*
- *Visual quality of the landscape and the degree to which impacts are highly visible over wider areas."*

12.3.2.3 Kerry County Development Plan 2022-2028

Entering to within 2.5km of the nearest proposed turbine on the Site, County Kerry occupies a small segment of the central study area and at least one third of the wider study area. It is, therefore, important to consider landscape designations in the current Kerry County Development Plan (CDP). It is understood that the Kerry County Development 2022-2028 has just been adopted and will be published within the next month. This recent update is therefore the relevant Kerry County Development Plan.

A landscape review has been included as part of the Kerry County Development Plan 2022-2028. Within this, the landscape is classified by landscape types and landscape character areas. The parts of County Kerry located within the study area are predominantly contained within the landscape 'Type A – Mountains', 'Type B – Pasture with Drystone Walls and Hedgebanks' and 'Type D - Coniferous Plantation'. The nearest and most relevant landscape character areas are 'LCA 27 – Clydagh River, The Paps and the Derrynasaggart Mountains' and 'LCA 40 Bonane and Sheen River Valley'. Both of these landscape character areas have been classified with an overall sensitivity of 'medium / high'.

Chapter 11 Environment' of the Kerry CDP contains two relevant objectives under the heading 'Landscape Sensitivity'.

KCDP 11-70: *Protect the landscape of the County as a major economic asset and an invaluable amenity which contributes to the quality of people's lives.*

KCDP 11-71*: Protect the landscapes of the County by ensuring that any new developments do not detrimentally impact on the character, integrity, distinctiveness or scenic value of their area. Any development which could unduly impact upon such landscapes will not be permitted*

The entirety of the landscape within County Kerry that falls within the central study area has been designated as 'Visually Sensitive Area'. This designation, which appears to have collated the Rural Prime and Rural Secondary Amenity Areas from the previous CDP, covers much of the upland and coastal rural landscapes of the County. The remainder of the County is designated 'Rural General'.

Views & Prospects

There are numerous Co. Kerry scenic designations within the study area (see **Figure 12.2**). Section 11.6.5 of the current Kerry CDP pertains to Views and prospects. It states: *"County Kerry contains areas of outstanding natural beauty which are recognised internationally. There is a need to protect and conserve views and prospects adjoining public roads throughout the County. These views and prospects are important to the amenity of the County and to its tourist industry...*

Relevant objectives relating to views and prospects include:

KCDP 11-72 - *Preserve the views and prospects as defined on Maps contained in Volume 4.*

KCDP 11-74 - *Prohibit developments that have a material effect on views designated in this plan from the public road or greenways towards scenic features and/or public areas*

The scenic designation maps clearly indicate the presence and exact location of these Co. Kerry designated views and prospects, as well as which ones have designated views in both directions (of the route) and which have designated views in just one direction, as

well as the orientation of that view. However, they do not identify the name or code number for these views and prospects, or any further information. Be that as it may, the mapping reveals that:

- In the central study area, there are no Co. Kerry designated view/prospects.
- 5-10km from the Site, there is one Co. Kerry designated view/prospect more than 7km, at its closest point, north of the location of the nearest turbine.
- 10-20km from the Site, there are four further Co. Kerry designated views/prospects, ranging from 11-19km from the location of the nearest turbine.

Wind Energy Strategy:

The Wind Energy Strategy in the closest portion of County Kerry to the site has been altered in the recently adopted 2022-2028 CDP. Areas that had previously not been subject to a specific wind deployment zone (and therefore defaulted to 'Unsuitable for Wind Energy Development') have now been designated as 'Open to Consideration' for wind energy development. These sit adjacent to existing wind energy areas that have been designated for 'Repowering'.

12.3.2.4 International and National Ecological Designations

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

In this instance, there are only two overlapping ecological designations within the central study area. These are:

- St. Gobnet's Wood SAC & pNHA, located more than 4km north-east of the location of the nearest turbine.

However, in the wider study area it should be noted that there are multiple, distinct designations, including venerated sites such as the Killarney National Park, as well as the SAC & pNHA: Killarney National Park, Macgillycuddy's Reeks And Caragh River Catchment.

12.3.3 Visual Baseline

Only those parts of the Study Area that potentially afford views of the 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.

12.3.3.1 Zone of Theoretical Visibility (ZTV)

Computer generated Zone of Theoretical Visibility (ZTV) maps have been prepared to illustrate where the proposed development is potentially visible from. These are produced for a tip height of 179m and 185m in order to cover the range of potential turbines being assessed (the difference is fractional). The ZTV maps are based solely on terrain data (bare ground visibility), and ignore features such as trees, hedges or buildings, which may screen views. Given the complex vegetation patterns within the Study Area, the main value of this form of ZTV mapping is to determine those parts of the landscape from which the Development will definitely not be visible, due to terrain screening within the 20km Study Area (see **Figure 12.3**).

The following considerations can be derived from the ZTV mapping:

- At a broad level, the majority of theoretical visibility relating to both extent and numbers of turbines visible, occurs within the central and eastern portions of the study area. It is most comprehensive immediately to the east, down-valley from the Site and also across south facing slopes in the valley that lies to the north of the Site.

- Beyond 4-5km from the Site in nearly all directions, the ZTV pattern breaks up and becomes sporadic as intervening ridges and hill tops begins to screen the increasingly more distant turbines. This is particularly the case to the west where a spine of high ground limits visibility to only the highest peaks and ridges beyond.

- A band of visibility in the outer north-western quarter of the study area corresponds to the upper slopes and ridges of the Mangerton and Derrynasaggart ranges, but with relatively little potential for visibility within the intervening valley as well as the landscape beyond.

- Piecemeal visibility within the outer south-eastern portions of the study area, which correspond with lowland farming areas is likely to be very limited in reality as the hedgerow pattern within such landscape tends to contradict the bare-ground visibility indicated on the ZTV map.

12.3.3.2 Scenic Designations

Views of recognised scenic value are primarily indicated within County Development Plans in the context of scenic views/routes designations, but they might also be indicated on touring maps, guidebooks, roadside rest stops or on post cards that represent the area. Those contained within the relevant County Development Plans are detailed in **Section 12.3.2** – Planning Context and have been combined into a single map of scenic routes for the study area (see **Figure 12.2**)

All of the scenic routes where the ZTV indicates potential visibility were investigated during fieldwork to determine whether actual views of the development might be afforded. Where visibility may occur, a viewpoint has been selected for use in the visual impact appraisal later in this chapter (see **Figure 12.9**).

12.3.3.3 Centres of Population and houses

This is not a heavily populated study area and there are few settlements within close proximity to the Site. The nearest include the village of Coolea around 2.5km to the north and the dispersed rural settlement of Renanerree a similar distance to the east. The nearest substantial sized settlement to the Site is Ballyvourney, which hugs the N22 around 5.5km to the north-east. The elevated village of Kilnamartyra is around 8km to the east of the Site and has potential for visibility of the proposed development. The settlements of Inchigeelagh and Ballingeary lie on the R584 to the south of the Site (9km and 5km away respectively) but have little potential for visibility of proposed turbines as they lie in the base of a valley.

Macroom is a relatively large settlement on the N22 near the eastern edge of the study area, whilst Kilgarvan and the eastern outskirts of Killarney are in the outer western and north-western portions of the study area respectively, albeit the ZTV pattern indicates no potential for visibility of the proposed development.

12.3.3.4 Transport Routes

The main transport route in relation to the proposed development is the N22 national road that runs between Cork and Killarney. Much of it is designated as a scenic route and is at its nearest to the Development as it passes through Ballyvourney around 5.5km to the north-east. The R584 regional road runs through the southern portion of the study area and is around 5km from the Site at its nearest point. There are several other regional roads within the outer study area, but the ZTV pattern indicates little or no potential for visibility.

Within and around the central study area, the road network consists of narrow local roads, private driveways and forest tracks.

12.3.3.5 Tourism Amenity and Heritage Features

Whilst not as synonymous with tourism heritage and recreation as the area around Killarney Lakes and the MacGillycuddy Reeks (to the west / north-west) or along the coastline of west Cork (to the south), there are some notable draws for tourists and recreationalists contained within the study area. Chief among these is the enclosed setting of Gougane Barra, which hosts St Finbarr's Oratory in the middle of Gougane Barra Lake in a strikingly scenic setting. The head of the Gougane Barra valley has also been extensively developed for forest / hill walking by Coillte. The 'Slí Gaeltacht Mhúscraí (Beara Breifne Way) is a long distance way marked trail that also passes through the Gougane Barra valley on its winding south-west to north-east route through the study area. Indeed, it passes right through the middle of the Site. The Beara Gougane Barra Cycling route from Cork City to Gougane Barra also passes through the study area and the Sheeps Head Way enters briefly into the southwestern corner of the study area.

The Kerry Way – another long distance waymarked trail runs along the northern slopes of the Derrynasaggart Mountains in an east-west orientation, where views are obscured by the mountains, as can be seen in the ZTV. Other shorter trails and loop walks include, Rossacroo Wood - Millennium Park Trail, which is a short Coillte Recreational Trail situated just over 10km north of the Site, but it lies outside of the ZTV pattern. Danú Mountain Trail is a route to the summit of Danu Mountain / The Paps. Only the upper part of the route, close to the summit, lies within the ZTV pattern. The 'Paps of Anu' are twin peaks with Iron Age cairns at their summits.

Killarney Lakes National Park lies just beyond the edge of the study area and surrounds the popular tourist centre of Killarney. Aside from being just outside of the study area, these features are also screened from the proposed development by the Mangerton mountain range. The Mangerton Range itself has several notable peaks such as Mangerton Mountain and Crohane and is a popular destination for hill walkers. The most renowned walking route, the Devil's Punchbowl Loop, begins on the Killarney side and circumnavigates a corrie lough taking in Mangerton Mountain.

The Gearagh Meadowlands and associated walking loop are located within the 'LCT 8-Hilly River and Reservoir Valleys' and its associated High Value Landscape zoning. However, this is near the south-eastern outskirts of the study area where the ZTV maps indicate no potential for turbine visibility.

Likewise, Lough Guitane is a highly scenic setting in the north-western extremities of the study area, but it too is shown not to have any potential for turbine visibility by the ZTV maps.

12.3.4 Route Screening Analysis (RSA)

Whilst the standard ZTV map outlines baseline theoretical visibility within the study area, it can considerably overestimate the actual degree of visibility as it does not take existing hedgerows, woodland and large areas of forestry into account, which, in this case will offer a notable degree of screening in the direction of the proposed development.

Route Screening Analysis, as its name suggests, considers actual visibility of the proposed wind farm from surrounding roads using recently captured, highly accurate Digital Surface Model (DSM) data that includes for all existing forms of land cover including vegetation. Route Screening Analysis bridges the gap between the bare-ground theoretical visibility modelling (e.g., ZTV maps) and the actual nature of visibility in a given area. In order to get a clearer understanding of visibility within the central study area, Route Screening Analysis (RSA) was undertaken for every public road within a 5km radius of the proposed turbines using a Digital Surface Model (DSM) and sample points every 25m along each public road/waymarked route.

The RSA consists of three visibility scenarios: open visibility; partial visibility; and fully screened. In this instance, 'open visibility' is very conservatively judged to occur if the view of a full blade rotation of any one single turbine is afforded. 'Partial visibility' occurs when there is view of less than a full blade rotation of any particular turbine/s occurs. For analysis purposes, the RSA data is broken down into concentric 1km distance bands i.e., 0 to 1km, 1km to 2km and so on out to 5km. See Standard RSA Map (**Figure 12.4**)

12.3.4.1 RSA Results

The RSA map (**Figure 12.4**) and associated analysis graph illustrates a notable degree of wind farm screening from the surrounding local road network. Beyond 2-3km fully screened views dominate by a considerable margin, whilst up to 2km from the proposed turbines open views predominate, but only marginally and remaining at less than 50% of the road sections. Interestingly, within 1km partial views (less than 1 full blade set) almost match open view (around 38% and 45% respectively), whereas in the 1 – 2km band visibility is more categoric (open or screened). The RSA map indicates that much of the partial visibility inside 1km arises from the roads immediately south of the Site, which are designated scenic routes. They are likely afforded steep uphill views to the north of the partial blade sets of only a couple of turbines over the near ridge

The most notable point to make is that beyond 2km, the rolling terrain combined with intervening layers of vegetation tend to restrict open and even partial views, with full screening tending to be more common than both open and partial views combined (between 50% and 67%). There is a distinct inverse relationship between 'Screened Views' and 'Open Views' across the distance bands as is typical of other RSA studies. This relates to the scale of the proposed turbines relative to intervening terrain and vegetation over distance, Whilst the turbines are tall enough to rise above just about any vegetation within the nearest 2km, it becomes increasingly more likely that terrain and vegetation local to the viewer will screen or partially screen the diminishing scale of the turbines thereafter. Whilst this is a common pattern for RSA studies, what tends to differ from study area to study area is the threshold distance where full screening becomes more prevalent than the other two categories. In this instance 'Open Views' are still the most prevalent in the 1-2km band, but by the 2-3km band there is a distinct reversal with screened views accounting for 60% of road sections and Open visibility accounting for less than 20%. Thus, the reversal threshold is likely to be around 2km, which is slightly closer to the Site than might be found in a flat midlands site where the same threshold tends to be closer to 3km.

In terms of receptors, it is clear that there little or no visibility from the villages of Coolea and Ballingeary and also in the vicinity of Ballyvourney, which is just outside of the RSA study area. There is also very limited visibility from the small settlement of Reanerree to the east of the Site.

12.3.4.2 Additional 'Open View' analysis

As the methodology used for the RSA requires only a view of the full blade set of one turbine to record an 'open view' of the project, it is useful to analyse the 'open view' set in more detail to establish how many turbines are actually visible in each instance (see the 'Open View' Refinement map - **Figure 12.5**)

The results for the finer grained analysis of the 'Open View' RSA class are intriguing as it appears that the closer the viewer is to the wind farm the fewer turbines, they are likely to see. In the nearest 1km to the wind farm site, where there is a view of turbines, for more than 90% of the road sections this relates to a view of less than 5 turbines. This drops to around 67% of road sections in the 1-2km distance band before rising again to nearly 80% in the 2-3km band and it doesn't drop below 50% for the more distant bands. Whilst it is typical for wind farms of more than 10 turbines that the lowest proportion of visible turbines (0-5 turbines) is the most common category throughout the distance bands, it

usually increases over distance rather than starting very high and decreasing as it does in this case. This can only be due to the rugged nature of the terrain surrounding the Site where the turbines straddle across a broad ridge allowing only partial views of the fringe turbines from the valleys below, which is where the roads typically run and dwellings are located. The fact that the potential to see more of the proposed turbines increases across the distance bands highlights that there are also elevated road sections within this undulating terrain that are afforded clearer views across the landscape generally.

12.3.5 Identification of Viewshed Reference Points as a Basis for Assessment

The results of the ZTV analysis provide a basis for the selection of Viewshed Reference Points (more commonly abbreviated to viewpoints or VPs), which are the locations used to study the landscape and visual impact of the proposed wind farm in detail. It is not warranted to include each and every location that provides a view of this development as this would result in an unwieldy report and make it extremely difficult to draw out the key impacts arising from the project. Instead, a variety of receptor locations was selected that are likely to provide views of the proposed wind farm from different distances, different angles and different contexts. The final VP set was informed by public consultation and consultation with the Planning Authorities.

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

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

Where a viewpoint 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 viewpoints 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. In this instance the Paps of Anu could be considered a key receptor under this category, but do not attract a high number of visitors. They have been included as a 'heritage and amenity' feature in the visual impact conclusions and this has no bearing on the assessment itself.

Designated Scenic Routes and Designated Views

Due to their identification in the County Development Plan this type of viewpoint 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 viewpoint represents those people who live and/or work in the locality of the proposed EIA Development, usually within a 5km radius of the Site. Although the viewpoints are generally located on local level roads, they also represent similar views that may be available from adjacent houses. The precise location of this viewpoint 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 viewpoints is necessary in order to sample the spectrum of views that would be available from surrounding dwellings.

Centres of Population

Viewpoints 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 viewpoint 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 viewpoint locations due to the number of viewers potentially impacted by the proposed development. The precise location of this category of viewpoint 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.

Amenity and Heritage Features

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

The Viewshed Reference Points selected in this instance are set out in **Table 12.6** and shown on the VP selection Map at **Figure 12.6**.

Table 12.6: Viewpoint Selection

VP No.	Location	Receptor	Direction of View
VP1	Local Road at Gortnagross	• Local Community Views	SW
VP2	Local Road north of Coolea Village	• Local Community Views	S
VP3	Local road at Fuhirees	• Local Community Views	S
VP4	Local road at Lumnagh Beg	• Designated Scenic Route • Local Community Views	SE
VP5	Local road intersection at Derrylahan	• Designated Scenic Route • Local Community Views	E
VP6	Local road at Laharan East	• Designated Scenic Route • Local Community Views	SE

VP No.	Location	Receptor	Direction of View
VP7	Local road at Caraghnacaha	• Designated Scenic Route • Local Community Views	E
VP8	Local road intersection at Gorteenakilla	• Designated Scenic Route • The Beara to Breifne Way • Local Community Views	NNE
VP9	Local road south of Ballingeary	• Designated Scenic Route • Centre of Population	N
VP10	Summit of Crohane Mountain	• An Amenity Feature	SE
VP11	N22 at Derrynasaggart	• Designated Scenic Route • Major route	S
VP12	Local road at Coomnagire	• Designated Scenic Route	SW
VP13	Western Summit of 'the Paps of Anu'	• An Amenity and Heritage Feature	S
VP14	Summit of Mangerton Mountain	• An Amenity Feature	SE
VP15a	Gougane Barra (Lakeside – St Finbarrs Oratory)	• An iconic heritage, tourism and amenity feature	NE
VP15b	Beara to Breifne Way (southern slopes above Gouganebarra)	• A heritage and Amenity Feature • A national Way-marked trail	NE
VP16	Local road at Threegneeves	• Designated Scenic Route	NE
VP17	Beara to Breifne Cycle Route at Gortnacarriga	• A way-marked cycling route	N
VP18	Local road above lough Allua	• Designated Scenic Route	NW

VP No.	Location	Receptor	Direction of View
VP19	Local road at Gortnahoughtee	• Designated Scenic Route	NW
VP20	Local road at Kilbarry	• Designated Scenic Route	NW
VP21	Rossnakilla	• Designated Scenic Route • Centre of population	NW
VP22	N22 at Toonlane	• Designated Scenic Route • Major route	SW
VP23	N22 at Inchinlinane	• Designated Scenic Route • Major route	W
VP24	Local road at Gortyrahilly	• Local Community Views	SW
VP25	Local road at Gortnabinna	• Designated Scenic Route • The Beara to Breifne Way • Local Community Views	N
VP26	Local road near Kilnamartyra	• Centre of population	W
VP27	Local road at Coolea South	• Local Community Views	S
VP28	Local road at Derryfineen	• Designated Scenic Route • Local Community Views	W
VP29	Local road at Gortnabinna	• Designated Scenic Route Local Community Views	N
VP30	N22 Bypass above Ballyvourney	• Major route • Centre of Population	S

12.4 ASSESSMENT OF POTENTIAL EFFECTS

12.4.1 Do Nothing Effects

In this instance, the existing forestry plantations contained within the Site would continue to be planted and felled in rotation in the do-nothing scenario. As this aligns with the current scenario, no additional landscape or visual impacts are likely to occur.

12.4.2 Landscape Effects

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

12.4.2.1 Landscape Character, Value and Sensitivity

Central Study Area (<5km from the Development)

The site and central study area are contained within a rugged and marginal landscape that serves as something of a threshold or transition between a gently rolling and settled farming landscape to the south-east and the taller moorland covered peaks and ridges of the Derrynasaggart range to the north and the Mangerton range to the north-west. The central study area is sparsely populated with farmsteads and rural dwellings and small and dispersed villages such as Coolea, Ballingeary and Reananerree. The landcover is a consistent combination of improved and marginal grazing in the valley floors and lower slopes, with scrub and scrubby woodland emerging on steeper slopes along with broad tracts of coniferous plantation forestry. The turbines of the Derragh and Cleanrath Wind Farms are also a recent, but characteristic feature of the south-central study area. This is a productive rural landscape but characterised by extensive and low intensity land uses and despite consisting of tall moving structures, wind energy development is included in this characterisation.

There is some scenic amenity within the central study area, which is reinforced by a number of scenic route designations. Some of these clearly relate to broad elevated vistas, whereas others are more tranquil and enclosed or were designated at a time when forestry plantations were at the beginning of a rotation. In terms of landscape designations, the Site straddles the junction of three Landscape Character Types identified in the Cork Development Plan, which emphasises why this area is considered to be a transitional landscape generally. Two of the identified landscape character types

(12a – 'Rolling Marginal and Forested Middleground' and 15a – 'Ridged and Peaked Upland') are classified as having 'High' value and 'High' sensitivity, but only with a 'Local' level of importance. Whereas, the other relevant character type, 16c – 'Glaciated Cradle Valleys' is assigned Medium value and sensitivity and also a 'Local' level of importance. Notably, none of these Landscape Character Types is considered to achieve the separate and distinct status of a High Value Landscape (HVL). According to the Cork CDP this designation is only assigned to Landscape Character Types that have *"a very high or high landscape value and high or very high landscape sensitivity and are of county or national importance are considered to be our most valuable landscapes and therefore it is proposed to designate them as High Value Landscapes"*.

It is considered that the central study area has landscape values that are relatively evenly balanced between productivity and sustaining the rural lifestyle in this area as well as a sense of remoteness and tranquillity and a rugged sense of scenic amenity. On balance and for these reasons, the Site and central study area (within 5km) is deemed to have a landscape sensitivity of **Medium-low**.

Wider Study Area (5km – 20km from the Development)

For the wider study area there is a broader diversity of landscape character types and equally broad set of landscape values associated with them. The upland area to the south-west becomes more rugged and remote than the central study area and contains the highly sensitive landscape setting of Gougane Barra with its associated sense of heritage and wealth of recreational amenity. This area includes the High Value Landscape designations associated with both LCT '16a – Glaciated Cradle Valleys' and a small inland portion of LCT '4 – Rugged Ridge Peninsulas'.

To the south-east is a lower and more gently rolling landscape that is contained in productive farming. However, it also contains the elongated and naturalistic Lough Allua and the associated corridor of the River Lee. The High Value Landscape designation associated with LCT 8 – Hilly River and Reservoir Valleys' is also contained in this portion of the outer study area.

The northern portion of the wider study area is dominated in the first instance by the mountainous spine of the Derrynasaggart and Mangerton ranges. This forms a northern backdrop to the central study area as well as physically, visually and perceptually dividing it from the lower lying landscape around the important tourist centre of Killarney and the Killarney Lakes National Park.

To the northeast in the foothills of the Derrynasagart range and to the west of the central study area in the direction of Kilgarvan are similar landscape types to the central study area. This transitional east to west band across the study area is characterised by the same combination of marginal upland farming, forestry and wind energy developments and is considered to be generally robust.

Overall, it is considered that the wider study area is more diverse than the central study area and has areas and features that of high or even very high landscape sensitivity, but also areas that are of a similar nature and sensitivity. Thus, it is also considered to have a general **Medium-low** sensitivity but with the acknowledgment that the mountain ranges to the north have a **High** sensitivity and Gougane Barra to the south-west has a **Very High** sensitivity, particularly within the heart of the valley in the vicinity of St Finbarr's Oratory.

12.4.2.2 Magnitude of Landscape Effect

The physical landscape as well as the character of the proposed development and its central study area (<5km) is affected by the proposed wind turbines as well as ancillary development such as access and circulation roads, areas of hard standing for the turbines, borrow pits, grid connection and the substation compounds. By contrast, for the wider landscape of the study area, landscape impacts relate exclusively to the influence of the proposed turbines on landscape character. The aspects of the proposed development that are likely to have an impact on the physical landscape and landscape character are described in **Chapter 2: Project Description** with construction processes described in the Construction and Environmental Management Plan (CEMP) at **Appendix 2.1**.

Construction Stage

It is considered that the proposed wind farm development will have a modest physical impact on the landscape within the Site as none of the proposed development features have a large 'footprint' and land disturbance/vegetation clearing will be relatively limited and dispersed across a wide area. These effects are similar in nature and scale to forest harvesting activities with hardstand areas being akin to forestry skid/landing sites ie where the logs are hauled to for processing and collection. The topography and land cover of the 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, proposed met masts and borrow pits. Excavations will tie into existing ground levels and will be the minimum required for efficient working. Any temporary excavations or stockpiles of material will be re-graded to marry into existing site levels and reseeded appropriately in conjunction with advice from the project ecologist as detailed in **Section 5.9.1 of Chapter 5: Terrestrial Ecology**.

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

There will be one 110kV Onsite Substation and Control Building constructed to collect the generated power from the proposed development before distributing it to the existing network substation at Ballyvouskill. The 110kV on-site substation will be located in an area of scrubby upland land cover and will have a footprint of 10,890m^2. The proposed sub-station compound will comprise of two single storey buildings with pitched roofs and will have a concrete render finish. The proposed substation compound, which will be enclosed by a 2.5-metre-high steel palisade fence, will be heavily screened by the surrounding terrain to the north and west and will only be visible from within the quiet head of an upland valley to the east. The most notable construction stage landscape impacts resulting from the proposed on-site substation relate to the levelling of the Site using a balance of cut and fill to form a level platform. There will also be construction of concrete foundations to facilitate the substation building. Overall, these construction stage effects are relatively minor and compare to the construction of an industrial farm shed and yard, albeit on sloping ground requiring cut and fill earthworks.

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. Some forest felling will be necessary to accommodate the construction of some turbines, hardstands, crane pads, access tracks and the proposed onsite substation. All forestry that is permanently removed will be subject to forest replanting provisions.

A permanent meteorological (Met) mast will b erected on site and will comprise of a 100m high lattice steel mast and 4m lightening rod with a shallow concrete foundation The most notable construction stage effects will relate to the minor amount of ground excavation

required to facilitate the shallow foundations for the steel mast structure. The proposed project also includes the upgrade of 2.8km of existing forest tracks and paths that shall be used for construction and ongoing operational and maintenance activities.

The 110kV grid 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. The proposed grid connection route will include for directional drilling at 5 no. locations to cross existing watercourses and local roads. 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 ground excavation laying of cables and subsequent reinstatement of trenches, and will result in minor and very localised construction stage landscape effects.

Site activity will be at its greatest during the construction phase due to the operation of machinery on site and movement of heavy vehicles to and from site. This phase will have a more significant impact on the character of the Site 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 12-18 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 borrow pits. At decommissioning it is proposed to remove windfarm structures including, turbines, cabling and monitoring mast, but to leave roads and associated drainage works in place. Hardstanding areas will be allowed to regenerate naturally, as will turbine foundations once the plinths have been removed. 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 in **Appendix 2.2**). 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 within the site and its immediate surrounds and reducing with distance from the site.

Operation and Decommissioning 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 a characteristic feature of the immediate and wider study area, most notably to the south of the Site where two existing commercial-scale wind energy developments are located at Derragh and Cleanrath (see locations on **Figure 12.7**). Considerable existing wind energy development is also located to the west of the Site at distances between 5 and 10km, where there is in the order of 100 turbines spread between eight developments. The effect, therefore, is one of intensification and extension of an established land use in this landscape and not the introduction of a new and unfamiliar feature.

In terms of scale and function, the proposed wind farm is well assimilated within the context of the central study area. This is due to the broad scale of the landform, landscape elements and land use patterns. These attributes prevent the height and extent of the proposed wind farm causing the type of scale conflict that can occur in more intricate landscape areas. The rugged hills and ridges in the immediate surrounds of the Site have a notable utilitarian character due to the presence of the existing wind energy developments, in addition to extensive tracts of commercial conifer plantation. Although the proposed development represents a stronger human presence and level of built development than currently exists on the Site, it will not detract significantly from its productive upland rural character, which wind turbines are already a key component of.

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 35 years, after which time the turbines will be dismantled and the landscape reinstated / allowed to regenerate to prevailing conditions. Within 2-3 years of decommissioning there will be little evidence that a wind farm ever existed on the Site, albeit the proposed on-site substation will remain in perpetuity as part of the national grid infrastructure, in addition to access tracks.

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 project. It is expected that the decommissioning phase would be completed

within a period of 3-6 months. During this temporary period, landscape impacts are deemed to be High-medium within the site and its immediate surrounds, but reducing with distance from the site.

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

12.4.2.3 Significance of Landscape Effects

The significance of landscape impacts is a function of landscape sensitivity weighed against the magnitude of the landscape impact. This is derived from the significance matrix (**Table12.3**) used in combination with professional judgement. Based on the assessment in **Section 12.3**, the significance of landscape impact is considered to be **Substantial-moderate** within the Site and its immediate environs reducing to **Moderate** throughout the remainder of the Central Study Area. This is deemed to be the same for the construction stage, operational stage and decommissioning.

For the wider study area (beyond 5km from the Site), landscape impact significance is not considered to exceed **Slight** at any of the stages of the development and will reduce to Slight and Imperceptible at increasing distances as the project becomes a progressively smaller component of the wider landscape fabric even in the context of higher sensitivity landscape units / features.

12.4.3 Visual Effects

In the interests of brevity and so that this chapter remains focussed on the outcome of the visual assessment (rather than a full documentation of it), the visual impact assessment at each of the 30 selected representative viewpoint locations has been placed into **Appendix 12.1**. This section should be read in conjunction with both **Appendix 12.1** and the associated photomontage set contained in **Volume III**. A summary table is provided

below, which collates the assessment of visual impacts (**Table 12.7**). A discussion of the results is provided thereafter.

Table 12.7: Summary of Visual Impact Assessment at Representative Viewpoint Locations (Appendix 12.1)

VP no.	Distance to nearest turbine (km)	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of effect
VP1	3.5	Medium	Medium	Moderate
VP2	2.8	Medium-low	Medium-low	Moderate-slight
VP3	1.2	Medium-low	High-medium	Moderate
VP4	2.2	High-medium	Medium	Moderate
VP5	N/A	High medium	Negligible	Imperceptible
VP6	1.1	Medium-low	Medium-low	Moderate-slight
VP7	0.6	High-medium	High-medium	Substantial-moderate
VP8	3.4	High-medium	Medium low	Moderate-slight
VP9	5.1	Medium	Medium low	Moderate-slight
VP10	14.4	Very High	Low-negligible	Moderate-slight
VP11	6.2	High medium	Medium low	Moderate
VP12	7.4	High	Medium-low	Moderate-slight
VP13	12.6	Very high	Low	Moderate
VP14	19	Very High	Low-negligible	Moderate-slight
VP15a	N/A	Very High	Negligible	Imperceptible
VP15b	8.3	High	Low	Moderate-slight
VP16	N/A	Medium	Negligible	Imperceptible
VP17	8.3	Medium	Medium low	Moderate slight
VP18	7.2	High-medium	Low	Moderate-slight
VP19	9.5	High	Medium-low	Moderate

VP no.	Distance to nearest turbine (km)	Visual Receptor Sensitivity	Visual Impact Magnitude	Significance of effect
VP20	10.7	High	Medium-low	Moderate
VP21	16	High	Low	Moderate-slight
VP22	5.9	Medium	Medium low	Moderate-slight
VP23	10.3	Medium	Low	Slight
VP24	1.1	Medium-low	Medium	Moderate slight
VP25	0.6	Medium	Medium	Moderate
VP26	8.2	Medium	Low	Slight
VP27	1.4	Medium-low	High-medium	Moderate
VP28	1.1	Medium	High	Substantial-moderate
VP29	0.6	High-medium	Medium-low	Moderate
VP30	5.9	Medium-low	Low	Slight

12.4.3.1 Impacts on Designated View

There is a series of designated scenic routes in close proximity to the Development and these wrap around the northern (S24), western (S25) and southern quarters (S26). These have been well covered by representative viewpoints in the visual impact assessment including 'illustrative views' where the absence of effect is what is being illustrated.

Scenic Route S24 is covered by VP4 and VP5 and it should also be noted that much of this route between the village of Coolea and the townland of Derrylahan is outside of ZTV coverage indicating no potential for visibility of the proposed turbines. Whereas VP4 is afforded a partial view of around half of the blades sets of the proposed wind farm above a nearby forested ridge (Moderate significance), there is no potential for visibility from VP5.

Scenic route S25 runs immediately west of the Site and is represented by VP6, VP7 and VP25. At VP6, which is strongly contained by commercial conifer forest that is likely not to have existed when this section of scenic route was designated, there will be a close but heavily obscured view of one full and two partial blade sets (Moderate-slight significance). VP7 is from a location where a south travelling viewer has just emerged from the forest

that obscures VP6. The VP7 viewpoint affords close and clear views of turbines rising above both the forest plantation and a nearby moorland knoll. Whilst the significance of impact is deemed to be Substantial-moderate at this location it is important to note that the proposed turbines will not obstruct the vast southerly views, which are the most valued component of this view and likely reason for its designation as a scenic route. Of a similar nature is the view from VP25 slightly further down the same road to the south-east. In this case there is a short distance uphill view of several blades sets and partial blades sets rising prominently above the nearby forested ridge to the north. However, nearly all of the visual amenity in this instance comes from the vast elevated southerly views in the opposite direction, so the significance of impact was deemed to be 'Moderate'.

Scenic route S26 runs immediately south of the Site and is represented in the visual impact assessment by VP28 and VP29, which are distinctly different viewing scenarios albeit with their main visual amenity deriving from down-valley views to the east. From VP28 the proposed turbines will be prominently visible rising above the ridge to the righthand side of the road alignment and will join turbines from the Derragh and Cleanrath Wind Farms which line the enclosing ridges to the west and south respectively. Whilst the proposed turbines, in combination with the existing turbines, contribute to a high intensity of built development within this upland scene ('Substantial-moderate' significance) the more open, down-valley, views are not intruded upon. This scenario is even more pronounced from the elevated VP29 near the saddle at the head of the valley. This long distance down-valley view to the east is already backed and framed by turbines from the Derragh and Cleanrath wind farms, but without intruding on the key aspect of the vista. The existing turbines will be joined by one of the proposed turbines on the opposite side of the vale and whilst it contributes to the framing of the vista it does not unduly impose on the main easterly vista (Moderate significance).

Another scenic route (S27) is located in reasonably close proximity to the south-west of the Site and links with the S26 scenic route. It runs in a south-westerly direction towards Gougane Barra and is represented by VP8 and VP16 in the visual impact assessment. VP8 is an uphill view to the north where the proposed turbines are seen adjacent to the left of the Derragh turbines appearing to line the same skyline ridge (Moderate slight significance). From VP16 further to the west, there is no visibility of the proposed turbines due to intervening screening predominantly by terrain (Imperceptible significance). The visual amenity is also highest for those travelling west (opposite direction to the Site) as they approach the steeply sided vale of Gougane Barra.

Further south again is the S32 scenic route in the vicinity of the village of Ballingeary and overlooking Lough Allua. It also rises into the hills to the south of Lough Allua. This scenic route is represented herein by VP9, VP18 and VP19. From VP9 near Ballingeary, the view of the proposed wind farm is uphill across a wooded foreground and like with VP8, the proposed turbines are seen predominantly to the left and also overlapping with some of the turbines from the Derragh Wind Farm. They will appear as a single development occupying the same / adjacent skyline ridge section (Moderate-slight significance). VP18 is more representative of views over Lough Allua ion the lower foreground and in this more distant context the proposed turbines are a background skyline feature that is less prominent than the turbines from the nearer Cleanrath Wind Farm seen more directly above the Lough. Owing to the higher sensitivity attribute to VP18 the significance is deemed to be that same as for VP9 – 'Moderate-slight'. VP19 is an elevated location affording vast panoramic views to the south of Lough Allua where the road also lies adjacent to a large ringfort. From here the proposed turbines are seen immediately beyond the Derragh turbines and at a larger scale, which causes a degree of scale confusion. They are also closely associated with the Cleanrath turbines a short distance to the south-east and together these developments represent a much stronger concentration of wind energy development in this section of the views than is currently present (moderate significance).

It should be noted that the S34 scenic route occurs on the northern side of Lough Allua, but due predominantly to terrain and also vegetation screening there will not be any notable views of the proposed wind farm from this designation. This is confirmed by the ZTV map (**Figure 12.3**).

In the more distant south-eastern quarter of the study area are the S35 and S36 scenic route designations, which are represented herein by VP20 and VP21 respectively. Both afford vast panoramic views within which the proposed wind farm will be seen within an aligned cluster of developments that also includes the Derragh and Cleanrath Wind Farms. This will generate an intensity of wind turbines within this section of the view along with some minor visual clutter and scale confusion due to the relative distance and dimensional heights of the various turbines. From the nearer VP20, the significance of effect is deemed to be Moderate, whereas from the more distant VP21 the effects are more diluted (Moderate-slight significance).

Moving northward within the study area, the S23 scenic route aligns with the N22 national road all the way from Macroom to the Derrynasaggart Mountains. It is represented by

VP11, VP22 and VP23 in the visual impact assessment. VP11 is the most elevated of these and affords a clear, but legible middle distance view of the proposed turbines to the south, in the context of broad down-valley views to the south-east (Moderate significance). At both VP22 and VP23, which are located in lower sections of a river valley to the north-east of the Site, the views of the proposed turbines is much more restricted by a combination of terrain and vegetation screening, albeit the visible turbine blade sets are tightly clustered from this angle (Moderate-slight and Slight significance respectively).

It should be noted that the S23 scenic route adjoins a scenic route lining the N22 as it crosses the county border into Kerry. However, the Kerry section of scenic route is outside of ZTV pattern, indicating no visibility of the proposed turbines.

The northernmost relevant scenic route designation is S22, or at least the south-western portion of it, which has potential visibility of the proposed turbines. This is represented by VP12 in the visual impact assessment, which is afforded a clear and legible view of the proposed turbines to the fore and to the right of the Derragh and Cleanrath Wind Farms. This view typifies the productive, but rugged upland character of the receiving landscape, especially given the presence of other wind farms and the significance of impact is deemed to be Moderate-slight.

12.4.3.2 Impacts on Local Community Views

This is a relatively sparsely populated area with small dispersed rural villages and a scattering of farmsteads and rural dwellings that tend to be well contained and sheltered within the upland valleys. There are also some more elevated road sections (often designated scenic views) with the local dwellings that align them enjoying more extensive views. Local community views are generally considered to be those which represent the people who live, work and move around the area within 5km of the wind farm site. In this instance there were 13 such views used for the visual impact assessment (VP1 to VP8 and VP24, VP25, VP27, VP28 and VP29). Eight of these are contained on scenic routes and have already been discussed in **Section 12.4.3.1** above. The remainder will be summarised below.

Of the local community views that are not also within the scenic designation set, VP1 is the most elevated and extensive view. It has many of the attributes of the other scenic views (more than some) and has duly been accorded a Medium receptor sensitivity rating, whereas most of the other more enclosed local community views are attributed Medium-low sensitivity. From VP1, all of the proposed turbines are clearly visible at a prominent

scale, but in a legible manner that assimilates with the scale and nature of the underlying terrain and land use pattern. The proposed wind farm is also seen to the fore and to the right of the Derragh and Cleanrath turbines, but the clear scale differential is interpreted more as a function of separation distance rather than dimensional difference in this scenario (Moderate significance). It should be noted that there are no dwellings afforded this particular view as the nearest houses are located on more sheltered lower slopes below the viewpoint.

For VP2, VP3, VP24 and VP27 the viewing scenario is more typical of the settled valley context of the central study area. In these views, some but not all of the proposed turbines tend to be visible as blade sets and blade tips rising above the enclosing forested ridgelines. Whilst the visible components are seen at a prominent scale, they are not out of keeping with the productive upland settings and do not appear over-scaled relative to the underlying landform and land cover patterns. Depending on the degree of screening and the lateral extent of visible turbines, the significance of impact is deemed to be either Moderate (VP3, VP27) or Moderate-slight (VP2, VP24). The nature of visibility from within the local area is well represented in the Route Screening Assessment particularly **Figure 12.4**. This indicates that when turbines are fully visible from roads within 1km of the Site, it is most likely (92% of road sections) that it will be a view of fewer than five turbines. This trend continues, albeit at a reduced average of about 70% of road section out to 5km.

12.4.3.3 Impacts on Centres of Population

There are few substantial centres of population within the study area and even fewer that will be notably impacted by views of the proposed wind farm. There are no views from Coolea village to the north and a nearby viewpoint VP2 (discussed in **Section 12.4.3.2** above) from the northern slopes above the settlement was selected as representative of worst-case views from its hinterland. Similarly, there are no clear views afforded from Ballingeary to the south, so a scenic route further south across the lake was used as a worst-case hinterland view (VP9 – discussed in **Section 12.4.3.1**). Ballyvourney in the N22 to the north-east of the Site has no potential for visibility and Reanerree to the east is loosely represented by VP28 on the scenic route closer to the Site.

The clearest views of the proposed development from settlements are those from Rossnakilla around 16km to the south-east, which is also on a designated scenic route (VP21 – discussed in **Section 12.4.3.1**) and from close to the village of Kilnamartyra around 8km to the east (VP26). From the latter a clear view of the turbines is afforded albeit at a modest scale. From this location the close by discreetly clustered layout of the

proposed turbines and those of the nearby Derragh and Cleanrath turbines is most apparent, which aids the cumulative legibility (Slight significance).

12.4.3.4 Impacts on Major Routes

The only major route within the study area with any reasonable potential for visual impacts is the N22 national road from Macroom to Killarney. This is a designated scenic for the entire portion of the study area where effects could be experienced and hence it has been discussed in the contest of scenic designations (**Section 12.4.3.1** above) specifically in respect of VP11, VP22 and VP23.

Of particular note is that the N22 Ballyvourney Bypass is currently under construction and it will run upslope to north of the settlement. In early-stage consultation with Cork County Council it was recommended that potential views from the new road alignment should also be considered. VP30 was selected for this purpose and illustrates that the proposed turbines will be partially visible above the forested ridge to the south, albeit partially screened and at a modest scale from what will be a highly engineered road corridor rather than a quiet upland rural setting (Slight significance).

12.4.3.5 Impacts on Tourism, Heritage and Amenity Features

There are two particular viewing contexts of particular relevance to this category of receptor, which tend to be of High or Very High Sensitivity. These include summit views from the Derrynasaggart / Mangerton mountain ranges and tourist views from Gougane Barra. The 'Beara to Breifne Way', a long distance way-marked walking route, also passes though the Gougane Barra and through the heart of the Site on its northward journey.

From the Derrynasaggart / Mangerton mountain ranges, three summit viewpoints were selected; VP13 – The Paps of Anu; VP10 Crohane Mountain; and VP14 Mangerton Mountain. The nature of the view is very similar from all of these highly elevated vantage points, which are generally obtained by only fit and experienced hill walkers as opposed to attracting high numbers of visitors and tourists. The vast 360° views take in a range of dramatic and naturalist mountain areas and lakes, including the Derrynasaggart and Mangerton ranges themselves, the McGillycuddy Reeks, Lough Guitane and the Killarney Lakes. They also take in views of more settled and productive landscapes. In the direction of the Site, the landscape is a consistent mix of upland farming, conifer plantations, scrubby woodland and moorland with a generous scattering of wind turbines in concentrated, but contiguous groups. The main body of these are contained between 5km

and 10km west of the Site with just the Derragh and Cleanrath wind farms in close proximity to the south / south-east of the Site.

The proposed turbines will be clearly and legibly visible from all of these locations in clear viewing conditions, albeit as small scale distant features of vast 360 views. However, it is not the view of the proposed turbines in their own right that is the key issue here. It is the cumulative effect and whether the proposed turbines cause the absorptive capacity threshold of this landscape for wind turbines, to be crossed. i.e., does this go from a rural upland area where wind turbines are one of a balanced few characteristic features to becoming a landscape that is principally defined by wind energy development. It is these elevated contextual views from which the cumulative effect is most noticeable, as it is far less noticeable from in and around the enclosed setting of the central study area. Whilst it is considered that the proposed wind farm makes a noticeable contribution to the quantum and extent of wind energy development in this area, it is contained on the lesser developed eastern side of an upland spine that generally divides wind farm developments in this area. It is therefore not considered to push the threshold of significant cumulative effects from these mountain top views and the significance is considered to range between Moderate (VP13) and Moderate slight (VP10, VP14).

Two viewpoints were selected (VP15a and VP15b) to represent the varied setting and viewing context at Gougane Barra. VP15a represents the lakeside viewing context looking across to St Finbarr's Oratory on an island within the lake, which is the main heritage / tourist feature associated with Gougane Barra. The particular location and orientation of this view is intended to illustrate the potential for turbines to be visible in the same viewing context / arc beyond the Oratory itself. None will be visible due to terrain screening and thus the visual impact at this important receptor location is Imperceptible by default.

Viewpoint 15b is from the Beara to Breifne Way as it enters / exits the Gougane Barra valley on partly wooded slopes high above the lake and oratory. Within the peripheral north-easterly views across the moraine farmland at the mouth of the valley, most of the blade sets of the proposed turbines will rise into view adjacent to the left of the Derragh turbines around 8.5km away. As this is not considered to be an iconic Gougane Barra vista and the distant wind farm is contained within the least sensitive aspect of it, the significance is considered to be Moderate-slight.

The Beara to Breifne Way, like all national way-marked routes, passes through a diverse range of landscapes and includes road sections, forest tracks and trails. Such routes are

designed to be accessible to a broad spectrum of the population and seldom entail difficult or dangerous upland sections. They represent and explorative journey through the landscape of a region showcasing not only naturalistic and scenic areas, but productive working landscapes and even townscapes. As can be seen from the likes of VP8, VP25, VP24, VP27 and VP1, which all lie on road sections of the Beara to Breifne Way in relatively close proximity to the Site, the proposed turbines will be a prominent, even dramatic feature for a short portion of the journey (approximately 4-5km). However, it is just one feature amongst a vast array of other natural and man-made features that walkers will encounter along the way and it is a familiar form of development in this area without being a relentless one for this walking route.

Whilst the proposed turbines will have a dominant visual presence along the section of this waymarked trail that passes through the wind farm, they will not obstruct views afforded of neighbouring ridges or distant mountains. Views of turbines at a near distance are also commonplace along sections of waymarked trails within County Cork and the rest of the country. The closest examples of turbines being permitted in close proximity to way marked walking trails include the nearby Derragh and Cleanrath Wind Farms. Furthermore, with reference to the permitted Boggeragh II Wind Farm around 20km to the east of the Site (Planning Ref: 10/08067 – ABP ref.PL04.239775), the Inspectors Report stated in relation to the Duhallow Way;

> *"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."*

12.4.3.6 Summary of Visual Effects

The proposed wind farm will give rise to an interesting range of effects when considered in relation to receptor types as has been done above. There are very few notable impacts at centres of population and along major routes, which are the receptor types that usually harbour the greatest numbers of receptors (people). Compared to many other wind energy developments, the effects on local community views, one of the more susceptible receptor types and closest to the development, are generally in the mid-range (Moderate and Moderate-slight) rather than highest end of the spectrum. This is less to do with the low population density and more to do with the enclosed nature of the rugged landscape

in the central study area. It is also to do with the point that when broad elevated views are presented they tend to be oriented away from high ground towards lower lying areas with the wind farm peripheral or even behind the viewer.

The most impacted receptor types were designated scenic routes, but for similar reasons as local community views, which were often represented by the same viewpoints in this assessment, the turbines may be close, but they are generally not in the direction of most amenity. Instead, they tend to frame or lie in the opposite direction to these down-valley views to the east and south.

Another receptor type that was proportionately more impacted than others in this study was the tourism, heritage and amenity views set. The mountain views from the Derrynasaggart and Mangerton ranges to the north and north-west were the most impacted in a cumulative sense even though the proposed wind farm itself was only a minor contributor to the overall effect. Although there are partial and distant views of the proposed turbines adjacent to existing turbines when viewed for the ridge above Gougane Barra, there are no views of turbines from the iconic lakeshore in the heart of valley overlooking the island of St Finbarr's Oratory.

For the reasons summarised above and detailed through this chapter, it is considered that the proposed Gortyrahilly Wind Farm will give not give rise to any significant impacts.

12.5 CONSIDERATION OF TURBINE DIMENSION RANGE

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

A viewer who can see a hub rising above a skyline ridge is likely to feel they are seeing more of the turbine than when the hub is screened from view (i.e. in the case of a lower hub / longer blade combination). That premise is based on the hub being perceived as the key and central component of a turbine in a figurative sense. However, there is also some merit to the argument that a larger rotor diameter / lower hub balances out the higher hub / shorter blade scenario, especially as there is a trend towards rotor diameters getting proportionately greater over recent years. In order to ensure this was considered in the assessment an approach was taken where the specimen turbine used for the photomontages that informed the visual impact assessment employed the maximum tip height dimension of 185m with a median hub height of 107.5m and maximum rotor

diameter of 155m. The reason for this approach is that any variation from this specimen turbine, in the form of an adjusted rotor diameter / hub height ratio, will see a minimal departure from the specimen turbine dimensions and an immaterial impact on the results of the visual impact assessment.

In order to examine the full range of potential turbine dimensions and to illustrate the corresponding immaterial impact, Macro Works prepared comparative photomontages at three of the previously selected viewpoints (VP1, VP26 and VP27) to represent short and mid-distance views of the development in differing contexts. It was not considered necessary to use long distance views (10km+) for this comparative exercise as any variation in turbine dimensions are even less likely to be read at longer distances. The comparative scenarios used include:

- Specimen Turbine – 107.5m hub, 155m rotor diameter, 185m tip height (as used for the visual impact assessment herein)
- Alternative Scenario 1 – 102.5m hub, 155m rotor diameter, 180m tip height (lowest hub height, longest rotor diameter)
- Alternative Scenario 2 – 110.5m hub, 149m rotor diameter, 185m tip height (highest hub height, shortest rotor diameter)

As can be seen from the comparative photomontages (contained at the end of the Photomontage Volume) the variation in turbine dimensions is very difficult to discern across the three scenarios even with considerable scrutiny. This is unsurprising as the variation in hub height is 5m or less from the specimen turbine position. There is also a potential 5m departure from the specimen turbine in terms of tip height, but this would result in a reduction in overall height (i.e. the visual impact would not increase). Whilst the variation in rotor dimeter is 6m between the specimen turbine and Alternative scenario 2, this only translates as a variation of 3m in blade length.

Regardless of whether the difference between the alternative turbine dimensions presented in the comparative photomontages can be discerned or not, it is clear that there is not a material difference in the level of visual impact between them and certainly not a higher impact than the base-case used for the submitted LVIA. 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 within the range.

12.6 CUMULATIVE EFFECTS WITH WIND FARMS IN THE CENTRAL STUDY AREA

There are two other existing wind farms contained within the central study area and these include the six turbine Derragh Wind Farm, which extends south-eastwards from approximately 1km to the south of the Development. The other is Cleanrath Wind Farm, which is located approximately 4km to the south-east of the Site and consists of eight turbines. Together with the proposed turbines these wrap around the enclosing ridges at the head of an east draining valley. It is important to note that because these other two central study area developments are existing, they have been integral to the landscape and visual impact assessment documented throughout this chapter thus far. In essence the cumulative impact assessment is not wholly consigned to this and the following section. It should be noted that the cumulative impact assessment will not vary due to the ranges of the turbine parameters proposed, as set out in **Section 12.5**.

12.6.1 Cumulative Landscape Effects – Central Study Area

From a landscape fabric / landscape character perspective, the proposed turbines will make a considerable contribution to the number of turbines contained within the central study area (effectively double the number) as well as broadening the extent of such development. The turbine clusters will be relatively concentrated, but due to the rugged nature of the terrain and the fact that the proposed turbines are situated on something of a dividing ridge, they are not as commonly visible together as a map view of the developments might suggest. The proposed turbines will contribute to wind energy development becoming a more characteristic feature of the central study area, but far from the defining one.

12.6.2 Cumulative Visual Effects – Central Study Area

From a cumulative visual perspective, the three developments are most commonly seen together from within the head of the valley they encircle (VP28 and VP29) as well as from the south-east especially in open and elevated views (VP17 – VP21 and VP26). From the south-west the proposed development in most likely to be visible in conjunction with just the Derragh Wind Farm (VP8, VP15b). From the northern quarters of the central study area the proposed development is more likely to be visible on its own from within the enclosed upland valley settings except for the more elevated VP1 where both Derragh and Cleanrath turbines are also visible. From VP7 immediately west of the Site, the westernmost proposed turbines and the Derragh turbines serve to frame the long distance view to the south at close quarters.

There are instances such as from VP26 where the individual clusters of turbines from the three central developments are seen in a clear and discrete manner, but it is more common that when they are all openly visible together, there is some degree of turbine overlap between the schemes and also some scale confusion. Visual overlap of turbines generally occurs between the two nearest developments - Proposed Gortyrahilly and Derragh and this in most likely in views from the south and south-east. In such scenarios the proposed turbines are often seen to be separated slightly on higher ground, which eases the sense of stacking. The blade sets are also less likely to overlap because of the fact that the proposed turbines are also taller. The counter effect is that the proposed turbines which are slightly further away appear taller and potentially closer, which can cause a degree of scale / distance confusion form the likes of VP17 and VP19. Interestingly, from the likes of VP1 to the north-east where the proposed turbines are to the fore, the scale differential is even greater but the effect is reversed and visual relationship between the wind farms appears more legible. That occurs because the smaller turbines are read as being even further away than they actually are thereby promoting the sense of scale and distance within the broad upland landscape and generating a stronger sense of separation distance between the developments.

On the basis of the reasons outline above the cumulative impact within the central study area is deemed to be Medium in accordance with the criteria contained in **Table 12.5**.

12.7 CUMULATIVE EFFECTS WITH WIND FARMS IN THE WIDER STUDY AREA

There are 31 separate wind farm developments within the wider study area that are either existing or permitted along with two pre planning developments – Inchamore and Cummeenabuddoge Wind Farms, which are being designed and developed by the same developers as the proposed Gortyrahilly Wind Farm (See **Figure 12.7** and the **Appendix 2.3**). Again, it is important to note that because many of the other developments are existing, they have already been integral to the landscape and visual impact assessment contained within the preceding sections of this chapter.

Whilst the **Figure 12.7** map view of cumulative wind farms within the study area implies a dense accumulation of turbines in some portions of the landscape, the rugged nature of this landscape generally has the ability to absorb developments within discrete visual catchments. The exception to this is when the landscape is viewed from elevated locations within the Derrynasaggart and Mangerton mountain ranges to the north.

The nature of cumulative visibility is indicated on the Cumulative ZTV map (**Figure 12.7**). This indicates the following key points:

- There is only a fractional proportion of the study area (0.2%) that will have a theoretical 'bare-ground' view of the proposed Gortyrahilly turbines in isolation. These areas occur within the enclosed valley just to the north of the Site. It is important to reiterate that the cumulative ZTV map does not account for the considerable vegetation screening that also occurs within much of the study area making the reality of cumulative visibly much less.

- The main areas of combined visibility of the proposed development in conjunction with other developments contained within the study area (purple ZTV pattern) is within the central study area and then extending eastwards to around 10km from the Site where cumulative visibility becomes more sporadic corresponding with higher ground only. There is also a sporadic band of combined visibility that runs along the peaks of the Mangerton and Derrynasaggart ranges to the north and north-west. It is notable that these areas generally have the lowest stocking of wind energy developments within the study area.

- In terms of the areas that will not have combined visibility with the proposed development it is interesting to note that outside of the Derragh and Cleanrath developments within the central study area, the largest clusters of developments to the west, to the north-east and to the south have relatively little intervisibility with the proposed development (contained in green ZTV pattern).

12.7.1 Cumulative Landscape Effects – Wider Study Area

Similar to the central study area, the proposed turbines will make a notable contribution to the number of turbines contained within the wider study area, but proportionately much less. The proposed turbines will serve to disseminate wind energy development throughout the study area to a greater degree. However, they do this by clustering with two modest scale developments (Derragh and Cleanrath), whilst avoiding further concentration of turbines into areas that are already subject to a high intensity of wind energy development (the 'Millstreet cluster' of developments to the north east (including pre-planning Cummeenabuddoge) and the 'Kilgarvan Cluster' of developments to the west (see **Figure 12.8** discussed below). This is also in the context of large areas of the outer west, north-west, south-west and east of the study area being devoid of wind energy development. It should be noted that although the pre-planning Inchamore development is close to the western Kilgarvan cluster of developments it is slightly discrete from them in a

separate visual catchment on the Cork side of the county border. Overall, it can be considered that the proposed development contributes to the intensity and extent of wind energy development within the central study area and even emphasising that as a new cluster of developments. However, such clustering of developments within the context of the overall study area reads as a strategic, policy led, evolution that avoids the most sensitive landscape and instead concentrates wind energy development in lesser sensitive areas in a consolidated manner.

12.7.2 Cumulative Visual Effects – Wider Study Area

Within broad southerly views across the central and western study area from the Derrynasaggart and Mangerton mountain top views (VP10, VP13 and VP14), extensive cumulative visibility with the 'Kilgarvan Cluster' of developments is afforded. Despite the considerable viewing distances involved particularly to the proposed development, the significance of visual effects (essentially cumulative judgements) ranged between Moderate and Moderate-slight for these viewpoints. With the exception of these views, the proposed development is contained within a subtly divided viewshed shared mainly with the Derragh and Cleanrath developments. This divide relates to a spine of north – south running high ground that unsurprisingly also defines the border between County Cork and County Kerry. The highest concentration of wind farm developments within the study area, the 'Kilgarvan Cluster' of developments, occurs just to the west of this divide and is very rarely seen in combination with the proposed development from any of the viewpoints save the Derrynasaggart / Mangerton Mountain views described above.

To illustrate this point, a 'Delta ZTV' map was produced to compare the visibility of the central study area cluster (including proposed Gortyrahilly) and the 'Kilgarvan Cluster' just to the west of the central study area (**Figure 12.8**) This shows that the 'Kilgarvan Cluster' of developments is substantially contained within its own viewshed (Green pattern), whilst the majority of the central cluster is contained in its own discrete viewshed (Blue patten). Based on the photomontage set, even where intervisibility between these two clusters of developments does occur (orange pattern), it is likely to relate to only a handful of turbines from the other development cluster and / or partial visibility of blade sets.

In relation to the other main clusters of developments in the outer north-eastern and southern extents of the study area, not only is separation distance an ameliorating factor, so is physical intervisibility. The ZTV map shows very little intervisibility with the north-eastern 'Millstreet' cluster of developments and they are in the opposite direction to the views used for the visual impact assessment. Aside from Shehy More Wind farm, which

may form a distant background feature of south-westerly views from the central study area, the other developments in this area are all substantially outside of the combined ZTV pattern.

For the reasons outlined above, the contribution of the proposed development to the magnitude of cumulative impact within the wider study area is generally deemed to be **Low**.

12.8 CUMULATIVE IMPACT SUMMARY

The proposed development has been considered in relation to other wind farms within both the central study area and wider study. This includes existing permitted and even the proposed Inchamore and Cummeenabuddogge developments which have not yet been applied for. It is assessed that within the central study area where effects predominantly relate to the relationship with the existing Derragh and Cleanrath developments, there is an increased influence of wind energy on the local landscape character, but without it becoming the defining feature of this upland rural area. There will also be some potential instances of scale / distance confusion in relation to the smaller existing turbines. Overall, the cumulative impact is deemed to be Medium in the central study area.

Within the context of the wider study area the proposed development is perceived as part of the Derragh and Cleanrath cluster which is physically and visually discrete from the other main clusters of wind farm developments within the study area (described as the Milllstreet Cluster and Kilgarvan cluster herein). Within this wider context, the cumulative effect is deemed to be Low.

12.9 MITIGATION MEASURES AND RESIDUAL EFFECTS

Macro Works have been involved with this project since undertaking a feasibility study for it in 2018, wherein potential constraints were defined and design optimisation measures were recommended. At that initial feasibility stage, the Gortyrahilly project consisted of 25 turbines centred around the currently proposed cluster of 14 turbines, but with at least seven turbines located in groups, pairs and singles that were physically and/or visually isolated from that main cluster.

The east-west extent of the initial array was around 5.3km and its north-south extent was just over 2km. For the currently proposed development those same dimensions are c. 3km and 1.6km respectively. Furthermore, the majority of isolated turbines trailed to the west where they would have been potentially visible at close quarters on both sides of the

S25 designated scenic route and closer to the S24 Scenic route. They also linked towards the considerable number of cumulative developments just over the dividing ridge and county border in Kerry, thereby creating potential cumulative impacts from and uninterrupted trail of turbines running for many kilometres. Finally, the northernmost turbines were potentially visible in an awkward manner from the nearest settlement of Coolea. Landscape and visual design recommendations were provided in relation to these issues and several subsequent revisions to the layout have seen it become the considerably more consolidated array that is currently proposed. Aside from these design iterations, 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 12.4 and 12.5** are the equivalent of residual impacts in this instance.

12.9.1 Decommissioning Phase

The decommissioning phase will see a similar nature of effects to the construction stage due to the movement of heavy machinery within the Site and to and from the Site removing turbine components. However, such effects will be temporary in duration and decreasing in scale as turbines are removed from view and the landscape is substantially reinstated to former uses (with the likely exception of the Substation infrastructure). Structures and cabling will be removed and hardstands and turbine foundations will be allowed to regenerate naturally. Roads and associated drainage will remain in place. As with construction stage landscape and visual impacts, decommissioning stage effects are not considered to be significant.

12.10 SUMMARY OF SIGNIFICANT EFFECTS

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

12.11 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 Gortyrahilly Wind Farm